Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-13
Location: 456 Prior St
Sampler: NL / WBL

Project #/Name: 12349-314
Client: Crombie Ventures

WELL INFORMATION

Well Cover Type Flush ☒ Stick-up ☐ ____ m above grade
Lock ☐ No-lock ☒
Well Casing 2-inch (51 mm) ☒ Diameter or other: ____
Screened Interval (m): ____ *Well Head Vapour Reading* 2.8 ppm or %LEL ☐ RKI Eagle ☐ MiniRae ☒ Other ____

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: March 13/15 Weather: cloudy 10°C

Depth to Bottom of Well from TOC (X) 2.035 metres
Depth to Water from Top of Casing (Y) 1.505 metres
Depth to Product (if applicable) ____ metres
Length of Water Column (X-Y) 0.532 metres
Volume of Water in Well = (X - Y) * 2 1.06 litres
*Minimum Volume = 6 * well volume* ~6.5 litres
Total Volume Developed 14+ litres

Development Method
Waterra Pump ☒
Surge Block (time: ____ ____) ☒
Bailer ☐
Other (specify) ____

Turbidity Ratings *
Before Dev. 9
After Dev. 6

PURGING INFORMATION AND OBSERVATIONS

Purge Date March 14/15 Weather: Rain, 8°C

*Minimum Volume = 3 * well volume* ____ *litres*

Purge/Sample Method
Waterra Pump ☐
Peristaltic (tubing size ____) ☒
Bailer ☐
Other (specify): ____

Turbidity Ratings *
Purging ____
Sampling ____

Well volume Purged (L)	pH	Conductivity (uS/cm) or (mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC) (low-flow sampling only)	Rate (mL/min) (low-flow sampling only)
0						11:05	1.505	0.1
0.5	6.5	344	11.5	176		11:10	1.6[illegible]	0.1
1.0	6.4	341	11.5	171		11:15	1.65	0.1
1.5	6.4	341	11.5	168		11:20	1.7[illegible]	0.1
	[illegible]							

Odour Yes ☐ No ☒ Description: ____
Sheen Yes ☐ No ☒ Description: ____

Colour (initial) ____ (stable) Clear
Recovery ** Slow ☐ Moderate ☐ Fast ☐

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units); Temperature (±0.2 °C); Specific Conductance (±3%); Oxidation-Reduction Potential (±10mV); and if applicable, Dissolved Oxygen (±10%).
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown; Moderate: slightly lower than 10 cm drawdown; Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION

(A) Date and Time: March 14/15
(B) Date and Time: ____
(C) Date and Time: ____
(D) Date and Time: ____
Analytical Laboratory: Maxxam

VOC/VPH ☒
EPH corrected (i.e. LEPH/HEPH) ☒
Non-Chlorinated Phenol ☐
Dissolved Metals ☒
Pesticides ☐ dissolved metals

BTEX/VPH/MTBE ☐
PAHs ☒
Chlorinated Phenols ☐
Field Filter & Preserved? ☒
pH ☐

EPH ☐
Glycols ☐
PCBs ☐
Total Metals ☐
Other ____ ☐

Duplicate Sample ID: ____
Duplicate Sample Parameters: ____

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: ____

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-14
Location: 456 [illegible] St.
Sampler: MC / [illegible]

Project #/Name: 12349-[illegible]
Client: [illegible]

WELL INFORMATION

Well Cover Type: Flush ☑ Stick-up ☐ ____ m above grade
Lock ☐ No-lock ☑
Well Casing: 2-inch (51 mm) ☑ Diameter or other: ____
Screened (interval m): ____ Well Head Vapour Reading 4.1 ppm or %LEL ☐ RKI Eagle ☑ MiniRae ☐ Other ____

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: March 18/15 Weather: Cloudy 10°C

Depth to Bottom of Well from TOC (X): 2.359 metres
Depth to Water from Top of Casing (Y): 1.718 metres
Depth to Product (if applicable): — metres
Length of Water Column (X-Y): 0.641 metres
Volume of Water in Well = (X - Y) × 2: 1.3 litres
Minimum Volume = 6 × well volume: 8 litres
Total Volume Developed: [illegible] litres

Development Method
Waterra Pump ☑
Surge Block (time ____) ☑
Bailer ☐
Other (specify) ____

Turbidity Ratings *
Before Dev. 5
After Dev. 3

PURGING INFORMATION AND OBSERVATIONS

Purge Date: March 19/15 Weather: Rain 9°C

Minimum Volume = 3 × well volume ____ litres 1.9 L

Purge/Sample Method
Waterra Pump ☐
Peristaltic (tubing size: ____) ☑
Bailer ☐
Other (specify) ____

Turbidity Ratings *
Purging 1
Sampling ____

Well volume Purged (L)	pH	Conductivity (µS/cm or mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC)	Rate (mL/min.)
0						12:35	1.70 L	0.1
0.5	6.3	541	12	8		12:40	1.82	"
1.0	6.1	495	12	5		12:45	1.83	"
1.5	6.2	490	12	3		12:50	1.75	"

Odour Yes ☐ No ☑ Description: ____
Sheen Yes ☐ No ☑ Description: ____

Colour (initial) ____ (stable) Clear
Recovery ** Slow ☑ Moderate ☐ Fast ☐

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units); Temperature (±0.2 °C); Specific Conductance (±3%); Oxidation-Reduction Potential (±10mV); and if applicable: Dissolved Oxygen (±10%)
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown Moderate: slightly lower than 10 cm drawdown Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION

(A) Date and Time: March 19/15
(B) Date and Time: ____
(C) Date and Time: ____
(D) Date and Time: ____
Analytical Laboratory: Maxxam

VOC/VPH	☑	BTEX/VPH/MTBE	☐	EPP	☐
EPH corrected (i.e. LEPH/HEPH)	☑	PAHs	☑	Glycols	☐
Non Chlorinated Phenol	☐	Chlorinated Phenols	☐	PCBs	☐
Dissolved Metals	☑	Field Filter & Preserved?	☑	Total Metals	☐
Pesticides	☐	pH	☐	Other ____	☐

diss. Lead

Duplicate Sample ID: ____ Duplicate Sample Parameters ____

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: ____

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-15
Location: 456 [illegible] St.
Sampler: MF / WBL
Project #/Name: 12349-[illegible]/14
Client: [illegible]

WELL INFORMATION
Well Cover Type: Flush ☒ Slick-up ☐ ___ m above grade
Lock ☐ No-lock ☒
Well Casing: 2 inch (51 mm) ☒ Diameter or other: ___
Screened Interval (m): ___ Well Head Vapour Reading 60[illegible] ppm or %LEL ☐ RKI Eagle ☒ MiniRae ☐ Other: ___

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: March 18/15 Weather: cloudy, 10 C

Depth to Bottom of Well from TOC (X): 2.353 metres
Depth to Water from Top of Casing (Y): 1.829 metres
Depth to Product (if applicable): ___ metres
Length of Water Column (X-Y): 0.524 metres
Volume of Water in Well = (X - Y) * 2: 1.05 litres
Minimum Volume = 6 * well volume: ~6 litres
Total Volume Developed: [illegible] litres

Development Method
Waterra Pump ☒
Surge Block (name: ___) ☒
Bailer ☐
Other (specify) ___

Turbidity Ratings *
Before Dev. 9
After Dev. 7

[illegible] Carbon Odour

PURGING INFORMATION AND OBSERVATIONS

Purge Date: March 19/15 Weather: Rain [illegible]

Minimum Volume = 3 * well volume ___ litres
~ 1.[illegible]

Purge/Sample Method
Waterra Pump ☐
Peristaltic (using ___) ☒
Bailer ☐
Other (specify) ___

Turbidity Ratings *
Purging 4
Sampling 3

Well volume Purged (L)	pH	Conductivity (µS/cm or mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC)	Rate (mL/min)
0						11:55 AM	1.82	0.1
1	6.5	521	12.1	1		[illegible]	[illegible]	[illegible]
1.5	6.47	535	12.1	0		[illegible]	[illegible]	[illegible]
2.0	6.1	534	12.1	1				

(Time, DTW, Rate: Low flow sampling only)

Odour Yes ☐ No ☒ Description: ___
Sheen Yes ☐ No ☒ Description: ___
Colour (initial) [illegible] (stable) ___
Recovery ** Slow ☒ Moderate ☐ Fast ☐

NOTES: Field Parameter and Stability Guidance - pH (±0.1 standard units); Temperature (±0.2°C); Specific Conductance (±3%); Oxidation-Reduction Potential (±10mV); and if applicable: Dissolved Oxygen (±10%)
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown Moderate: slightly lower than 10 cm drawdown Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION
(A) Date and Time: March 19/15
(B) Date and Time: ___
(C) Date and Time: ___
(D) Date and Time: ___
Analytical Laboratory: [illegible]

VOC/VPH ☒
EPH corrected i.e. LEPH/HEPH ☒
Non-Chlorinated Phenol ☐
Dissolved Metals ☒ Lead
Pesticides ☐
BTEX/VPH/MTBE ☐
PAHs ☒
Chlorinated Phenols ☐
Field Filter & Preserved? ☒
pH ☐
EPH ☐
Glycols ☐
PCBs ☐
Total Metals ☐
Other ___ ☐

Duplicate Sample ID: ___
Duplicate Sample Parameters: ___

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: ___

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-17
Location: 956 Prior St
Sampler: RHM
Project #/Name: 12349
Client:

WELL INFORMATION

Well Cover Type: Flush ☒ Stick-up ☐ ___ in above grade
Lock ☐ No lock ☒
Well Casing: 2-inch (51 mm) ☒ Diameter or other: ___
Screened Interval (m): ___
Well Head Vapour Reading: 20 ppm or %LEL ☐ RKI Eagle ☒ MiniRae ☐ Other: ___

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: May 14/15 Weather: Sun 28°

Depth to Bottom of Well from TOC (X): 6.014 metres
Depth to Water from Top of Casing (Y): 1.521 metres
Depth to Product (if applicable): — metres
Length of Water Column (X-Y): 4.5 metres
Volume of Water in Well = (X - Y) × 2: 9 litres
Minimum Volume = 6 × well volume: 54 litres
Total Volume Developed: 15 L/4 ~~4~~ 44 L litres

Development Method
Waterra Pump ☒
Surge Block (time 5 min) ☒
Bailer ☐
Other (specify) ___

*Turbidity Ratings **
Before Dev. 10
After Dev. 10

PURGING INFORMATION AND OBSERVATIONS

Purge Date: May 15/15 Weather: cloud 20°C

Minimum Volume = 3 × well volume ___ litres

Purge/Sample Method
Waterra Pump ☒
Peristaltic pump (rpm 2.1) ☒
Bailer ☐
Other (specify) ___

*Turbidity Ratings **
Purging: 1
Sampling: 1

Well volume Purged (L)	pH	Conductivity (µS/cm) or (mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time (low flow sampling only)	DTW (mBTOC)	Rate (mL/min)
0	–	–	–	–	–		1.569	
1	7.2	300	14.6	58	–		1.609	–
2	7.1	304	14.1	72	–		1.79	
3	7.1	304	14.1	75	–		–	–

Odour: Yes ☐ No ☒ Description: ___
Sheen: Yes ☐ No ☒ Description: ___
Colour (initial) lt brown (stable) –
Recovery **: Slow ☐ Moderate ☒ Fast ☒

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units); Temperature (±0.2 °C); Specific Conductance (±3%), Oxidation-Reduction Potential (±10mV); and if applicable: Dissolved Oxygen (±10%)
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown Moderate: slightly lower than 10 cm drawdown Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION

(A) Date and Time: May 15/15
(B) Date and Time: ___
(C) Date and Time: ___
Analytical Laboratory: Maxxam
(D) Date and Time: ___

VOC/VPH	☒	BTEX/VPH/MTBE	☐	EPH	☐
EPH corrected (i.e. LEPH+HEPH)	☒	PAHs	☒	Glycols	☐
Non-Chlorinated Phenol	☐	Chlorinated Phenols	☐	PCBs	☐
Dissolved Metals	☐	Field Filter & Preserved?	☒	Total Metals	☐
Pesticides	☐	pH	☐	Other ___	☐

Duplicate Sample ID: ___
Duplicate Sample Parameters: ___

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: ___

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-18 Project #/Name: 12349
Location: Client:
Sampler: RPM

WELL INFORMATION

Well Cover Type: Flush ☑ Stick-up ☐ Lock ☐ No-lock ☑ Well Casing: 2-inch (51 mm) ☑ Diameter or other
Screened Interval (m): Well Head Vapour Reading: 10 ppm or %LEL ☐ RKI Eagle ☐ MiniRae ☑ Other

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: June 16/15 Weather: Sunny

Depth to Bottom of Well from TOC (X): 5.355 metres
Depth to Water from Top of Casing (Y): 1.756 metres
Depth to Product (if applicable): n/a metres
Length of Water Column (X-Y): 3.599 metres
Volume of Water in Well = (X - Y) × 2: 7.2 litres
Maximum Volume = 6 × well volume: 43 litres
Total Volume Developed: 43 litres
23 + 14 + 13 ≈

Development Method
Waterra Pump ☑
Surge Block (time 5 min) ☑
Bailer ☐
Other (specify)

*Turbidity Ratings **
Before Dev. 10
After Dev. 10

PURGING INFORMATION AND OBSERVATIONS

Purge Date: June 17/15 Weather: Sunny

Minimum Volume = 3 × well volume: litres

Purge/Sample Method
Waterra Pump ☐
Peristaltic (tubing set to: ~4.9 mBTOC) ☑
Bailer ☐
Other (specify)

*Turbidity Ratings **
Purging: 0
Sampling: 0

Well volume Purged (L)	pH	Conductivity (uS/cm) or (mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC)	Rate (mL/min)
0	—	—	—	—	—	10:35	1.756	~100
2	7.1	618	15.8	42	n/a	11:00	2.02	↓
3	7.3	625	15.7	49	n/a	11:12	2.02	
4	7.4	610	15.7	59	n/a		2.02	↓

Low flow sampling only (Time, DTW, Rate)

Odour Yes ☐ No ☑ Description:
Sheen Yes ☐ No ☑ Description:
Colour (initial): clear (stable):
Recovery ** Slow ☑ Moderate ☐ Fast ☐

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units), Temperature (±0.2 °C), Specific Conductance (±3%), Oxidation-Reduction Potential (±10mV); and if applicable Dissolved Oxygen (±10%)
* Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque
** Recovery Estimate - Slow: greater than 10 cm drawdown; Moderate: slightly lower than 10 cm drawdown; Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION

(A) Date and Time: June 17 @ 11:30 Analytical Laboratory: Maxxam
(B) Date and Time: (C) Date and Time: (D) Date and Time:

VOC-VPH	☐	BTEX/VPH/MTBE	☑	EPH	☐
EPH corrected (i.e. LEPH/HEPH)	☑	PAHs	☐	Glycols	☐
Non-Chlorinated Phenol	☐	Chlorinated Phenols	☐	PCBs	☐
Dissolved Metals	☐	Field Filter & Preserved?	☐	Total Metals	☐
Pesticides	☐	pH	☐	Other: Dis. Lead, Naphthalene	☑

Duplicate Sample ID: Duplicate Sample Parameters: MW15-AA

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: 23L @ dry @ 9:30 / 17L dry @ 10:30 / 13L dry @ 11:30

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.C

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-18
Project #/Name: 12349
Location:
Client:
Sampler: FOH

WELL INFORMATION
Well Cover Type Flush ☑ Stick-up ☐ ____ m above grade Lock ☐ No-lock ☑ *Well Casing* 2-inch (51 mm) ☑ *Diameter or other:* ____

Screened interval (m) ____ Well Head Vapour Reading ____ ppm or %LEL ☐ RKI Eagle ☐ MiniRae ☐ Other: ____

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: ____ Weather ____

Depth to Bottom of Well from TOC (X) ____ metres
Depth to Water from Top of Casing (Y) 1.776 metres
Depth to Product (if applicable) ____ metres
Length of Water Column (X-Y) ____ metres
Volume of Water in Well = (X - Y) * 2 ____ litres
Minimum Volume = 6 * well volume ____ litres
Total Volume Developed ____ litres

Development Method
Waterra Pump ☐
Surge Block (time: ____) ☐
Bailer ☐
Other (specify) ____

*Turbidity Ratings **
Before Dev. ____
After Dev. ____

PURGING INFORMATION AND OBSERVATIONS

Purge Date: June 25/15 Weather: sunny

*Minimum Volume = 3 * well volume* ____ litres

Purge/Sample Method
Waterra Pump ☐
Peristaltic pump per m ____ ☑
Bailer ☐
Other (specify) ____

*Turbidity Ratings **
Purging 0
Sampling 0

Well volume Purged (L)	pH	Conductivity (uS/cm) or (mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC)	Rate (mL/min)
0		8				~~9:50~~	1.776	~200
1	6.63	529	14.9	110.8	1.5	9:50	2.25	~100
2	6.81	529	14.7	115.5	0.84	10:00	2.37	~100
3	6.82	532	15.1	~~109.2~~ 109.2	0.96	10:10	2.37	~100

(Low flow sampling only: Time, DTW, Rate)

Odour Yes ☐ No ☑ Description: ____
Sheen Yes ☐ No ☑ Description: ____
Colour (initial) clear (stable) ____
Recovery ** Slow ☐ Moderate ☑ Fast ☐

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units), Temperature (±0.2 °C); Specific Conductance (±3%); Oxidation-Reduction Potential (±10mV); and if applicable: Dissolved Oxygen (±10%)
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown Moderate: slightly lower than 10 cm drawdown Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION (A) Date and Time: June 25/06/2015 Analytical Laboratory: Maxxam
(B) Date and Time: ____ (C) Date and Time: ____ (D) Date and Time: ____

VOC/VPH	☐	BTEX/VPH/MTBE	☑	EPH	☐
EPH corrected (i.e. LEPH/HEPH)	☑	PAHs	☐	Glycols	☐
Non-Chlorinated Phenol	☐	Chlorinated Phenols	☐	PCBs	☐
Dissolved Metals 9 & ...	☑	Field Filter & Preserved?	☐	Total Metals	☐
Pesticides	☐	pH	☐	Other ____	☐

Duplicate Sample ID: ____ Duplicate Sample Parameters: ____

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: ____

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-19 Project #/Name: 12349
Location: ______ Client: ______
Sampler: TDM

WELL INFORMATION

Well Cover Type: Flush ☒ Stick-up ☐ ______ Lock ☐ No-lock ☒ Well Casing: 2-inch (51 mm) ☒ Diameter or other: ______

Screened Interval (m): ___ - ___ Well Head Vapour Reading ______ ppm or %LEL ☐ RKI Eagle ☐ MiniRae ☐ Other: ______

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: ______ Weather: ______

Depth to Bottom of Well from TOC (X) ______ metres
Depth to Water from Top of Casing (Y) ______ metres
Depth to Product (if applicable) ______ metres
Length of Water Column (X-Y) ______ metres
Volume of Water in Well = (X - Y) × 2 ______ litres
Minimum Volume = 5 × well volume ______ litres
Total Volume Developed ______ litres

Development Method
Waterra Pump ☐
Surge Block (time ______) ☐
Bailer ☐
Other (specify) ______

Turbidity Ratings *
Before Dev. ______
After Dev. ______

PURGING INFORMATION AND OBSERVATIONS

Purge Date: June 25/15 Weather: Sunny

Minimum Volume = 3 × well volume ______ litres

Purge/Sample Method
Waterra Pump ☐
Peristaltic pump (specify ______) ☐
Bailer ☐
Other (specify) ______

Turbidity Ratings *
Purging ______
Sampling ______

Well volume Purged (L)	pH	Conductivity (uS/cm) or (mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC)	Rate (mL/min.)
0	—	—	—	—	—	1.876 Arm	11.15	~200
1	7.17	686	16.3	86	0.21	11:21	2.26	~100 *
2	7.20	669	15.9	61.2	0.14	11:30	2.81	~100 *
4	7.12	628	15.8	41.9	0.15	11:50	3.45	"
6	7.13	630	16.0	45.6	0.13	12:10	3.77	~150

Time, DTW and Rate: Low flow sampling only

Odour Yes ☐ No ☒ Description: ______
Sheen Yes ☐ No ☒ Description: ______
Colour (initial) clear (stable) ______
Recovery ** Slow ☒ Moderate ☒ Fast ☐

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units), Temperature (±0.2 °C), Specific Conductance (±3%), Oxidation-Reduction Potential (±10mV); and if applicable Dissolved Oxygen (±10%).
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown Moderate: slightly lower than 10 cm drawdown Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION

(A) Date and Time: June 25/15 Analytical Laboratory: Maxxam
(B) Date and Time: ______ (C) Date and Time: " @ 12:10 (D) Date and Time: ______

VOC/VPH	☐	BTEX/VPH/MTBE	☒	EPH	☐
EPH corrected (i.e. LEPH/HEPH)	☒	PAHs	☐	Glycols	☐
Non-Chlorinated Phenol	☐	Chlorinated Phenols	☐	PCBs	☐
Dissolved Metals Lead	☒	Field Filter & Preserved?	☐	Total Metals	☐
Pesticides	☐	pH	☐	Other ______	☐

Duplicate Sample ID: ______ Duplicate Sample Parameters: ______

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: * geopump doesn't go slower than 100ml/min

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-19
Location: Pot-remedial
Sampler: FOM

Project #/Name: 12349
Client:

WELL INFORMATION

Well Cover Type: Flush ☑ Stick-up ☐ ____ m above grade; Lock ☐ No-lock ☑

Well Casing: 2-inch (51 mm) ☑ Diameter or other: ____

Screened Interval (m): ____ Well Head Vapour Reading 2.6 ppm or %LEL ☐ RKI Eagle ☐ MiniRae ☑ Other: ____

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: June 12/15 Weather: Sunny

Depth to Bottom of Well from TOC (X): 5.585 metres
Depth to Water from Top of Casing (Y): 1.839 metres
Depth to Product (if applicable): — metres
Length of Water Column (X-Y): 3.746 metres
Volume of Water in Well = (X - Y) * 2: 7.5 litres
Minimum Volume = 6 × well volume: 45 litres
Total Volume Developed: 37 litres
17L + 6L + 6 + 4 + 14

Development Method
Waterra Pump ☑
Surge Block (time: ____) ☐
Bailer ☐
Other (specify) ____

*Turbidity Ratings **
Before Dev: 10
After Dev: 6

PURGING INFORMATION AND OBSERVATIONS

Purge Date: June 17/15 Weather: sunny

Minimum Volume = 3 × well volume ____ litres

Purge/Sample Method
Waterra Pump ☐
Peristaltic (tubing set to: ~5 m bTOC) ☑
Bailer ☐
Other (specify) ____

*Turbidity Ratings **
Purging: 8
Sampling: 8

DTW @ start = 1.826

Well volume Purged (L)	pH	Conductivity (µS/cm) or (mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC)	Rate (mL/min)
2	7.4	1054	17.2	140	n/a	9.25	2.43	~250 ↓
3	7.8	716	17.2	-19	n/a	9.30	2.65	~200 ↓
4	7.8	726	16.8	-31	n/a	9.40	2.80	~200
5	7.2	732	17.2	-16	n/a	9.50	2.95	~100 ↓
6	7.4	736	17.4	-26	n/a	10.15	3.01	~50

(Time, DTW and Rate: Low flow sampling only)

Odour: Yes ☐ No ☑ Description: ____
Sheen: Yes ☐ No ☑ Description: ____

Colour (initial): colourless (stable): colourless
Recovery **: Slow ☑ Moderate ☐ Fast ☐

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units); Temperature (±0.2 °C); Specific Conductance (±3%); Oxidation-Reduction Potential (±10mV); and if applicable: Dissolved Oxygen (±10%).
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown; Moderate: slightly lower than 10 cm drawdown; Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION (A) Date and Time: June 17/15 @ 10:20 Analytical Laboratory: Maxxam
(B) Date and Time: ____ (C) Date and Time: ____ (D) Date and Time: ____

VOC/VPH	☐	BTEX/VPH/MTBE	☑	EPH	☐
EPH corrected (i.e. LEPH/HEPH)	☑	PAHs	☐	Glycols	☐
Non-Chlorinated Phenol	☐	Chlorinated Phenols	☐	PCBs	☐
Dissolved Metals	☐	Field Filter & Preserved?	☐	Total Metals	☐
Pesticides	☐	pH	☐	Other: Naphthalene	☑

Duplicate Sample ID ____ Duplicate Sample Parameters: ____

NOTES: Bottle and Preservative Requirements Correspond to Laboratory Standards

COMMENTS: dry after 17L; waited 30 m & got 6L, waited 1h & 6L again; after 2h 14L; then purged 5x dry

Keystone Environmental Ltd.
Groundwater Developing, Purging and Sampling Record
Version 2.0

Keystone Environmental

GENERAL INFORMATION

Monitoring Well ID: MW15-20
Location:
Sampler: FOM

Project #/Name: 12349
Client:

WELL INFORMATION

Well Cover Type: Flush ☒ Stick-up ☐ mm above grade
Lock ☐ No-lock ☒
Well Casing: 2-inch (51 mm) ☒ Diameter or other:

Screened Interval (m): ______ Well Head Vapour Reading 3.5 ppm or %LEL ☐ RKI Eagle ☒ MiniRae ☐ Other: ______

DEVELOPMENT INFORMATION AND OBSERVATIONS

Dev. Date: June 16/15 Weather: sunny

Depth to Bottom of Well from TOC (X)	6.610	metres
Depth to Water from Top of Casing (Y)	1.726	metres
Depth to Product (if applicable)	n/a	metres
Length of Water Column (X-Y)	4.884	metres
Volume of Water in Well = (X - Y) * 2	9.8	litres
Minimum Volume = 6 * well volume	58.6	litres
Total Volume Developed	62	litres

18+26+18

Development Method
Waterra Pump ☒
Surge Block (time: 5 min) ☒
Bailer ☐
Other (specify) ______

Turbidity Ratings *
Before Dev. 10
After Dev. 6

PURGING INFORMATION AND OBSERVATIONS

Purge Date: June 17/15 Weather: sunny

Minimum Volume = 3 * well volume ______ litres

Purge/Sample Method
Waterra Pump ☐
Peristaltic (tubing set to: ~6 mbTOC) ☒
Bailer ☐
Other (specify) ______

Turbidity Ratings *
Purging 0
Sampling ______

Well volume Purged (L)	pH	Conductivity (uS/cm or mS/cm)	Temperature (°C)	ORP (mV)	DO (mg/L)	Time	DTW (mBTOC)	Rate (mL/min)
						Low flow sampling only		
0	–	–	–	–	–	12pm	1.726	–
2	7.0	1093	17.7	39	n/a	12:20	1.92	~160ml
3	7.1	1131	17.9	7	n/a	12:32	1.95	~100ml
4	7.1	1127	16.6	19	n/a	12:43	1.95	~100ml
5	6.9	1143	17.5	29	n/a	12:55	1.95	~100ml

Odour Yes ☐ No ☒ Description: ______
Sheen Yes ☐ No ☒ Description: ______

Colour (initial) pale (stable) ______
Recovery ** Slow ☐ Moderate ☒ Fast ☐

NOTES: Field Parameter and Stability Guidance: pH (±0.1 standard units), Temperature (±0.2 °C); Specific Conductance (±3%); Oxidation-Reduction Potential (±10mV); and if applicable: Dissolved Oxygen (±10%)
*Turbidity may be determined subjectively using a scale of 1 to 10, where 1 is clear, 10 is opaque.
**Recovery Estimate - Slow: greater than 10 cm drawdown Moderate: slightly lower than 10 cm drawdown Fast: within 10 cm drawdown

SAMPLING PARAMETER INFORMATION (A) Date and Time: June 17 @ 1300 Analytical Laboratory
(B) Date and Time: ______ (C) Date and Time: ______ (D) Date and Time: ______

VOC/VPH	☐	BTEX/VPH/MTBE	☐	EPH	☐
EPH corrected (i.e. LEPH/HEPH)	☐	PAHs	☐	Glycols	☐
Non-Chlorinated Phenol	☐	Chlorinated Phenols	☐	PCBs	☐
Dissolved Metals	☐	Field Filter & Preserved?	☐	Total Metals	☐
Pesticides	☐	pH	☐	Other: ethylene glycol	☒

Duplicate Sample ID: ______ Duplicate Sample Parameters: ______

NOTES: Bottle and Preservatives Requirements Correspond to Laboratory Standards

COMMENTS: 18L 6 dry @ 10:15; 26L dry @ 11:05 + 8L 80 dry @ 11:25

Keystone Environmental Ltd.
Soil Vapour Sampling Record
Version 1.0

Keystone Environmental

GENERAL INFORMATION

Vapour Well ID: SV15-18
Location: N end of EKC
Sampler: KLM
Project #/Name: 12349
Client:
Date: 2015 JUL 02

WEATHER

General Conditions: Sunny
Last rainfall date and volume (mm)*: [illegible]
T (°C): 34.1 PthPa: 1015.3 Wind Velocity (m/s)/Direction: 0.5 N Relative Humidity (%): 49.5
Other weather information and source:

* soil vapour samples should not be collected within 24h of a significant rainfall (over 10 mm)
Good source for weather data: http://www.wunderground.com/global/stations/71201.html. Select the City, the Station and go to "Today's Almanac" tab

LOCATION DETAILS

Area Surface Condition: Soil
Well Surface Seal: Concrete
Surface Preparation (if any): —

PURGING DETAILS

Pump Source/Lab Pump #: AirChek 003209 - Maxxam
Pump Make/Model/Serial Number: AirChek XR5000 Model 210-5000 Serial No 62275
Calibrated Flow Rate (L/min): 0.1
Calibrated/Checked by: KLM
Minimum Purging Time Required (5 minutes for wells < 3m deep + add 1 minute for each 3m increment): 5 min
Note: Minimum purge volume is three times the tubing/casing volume (V = πr^2 * h; r = h = in cm), then divide by 1000 for litre and multiplied by 3 to get the 3 well volumes
Purging Time Range/Rate (L/min)/Method: 7 min 0.1 L/min

LEAK TEST DETAILS

Previously completed: YES* ☐ NO ☑
*If yes, skip this step
Time:

Isopropanol
Total time (min).
38 min

Helium	
Concentration in Shroud (%):	
Concentration in Tedlar Bag (ppm):	
Percentage difference**:	

**Calculated by [] of He in Tedlar bag / [] of He in shroud * 100
See table beside for actions regarding % difference

% Diff.	MEANING	ACTION
0 - 1.99%	Not significant	Pass
2 - 5%	Possible leakage in the system	Check connections in the sampling train. Repeat test
> 5%	Significant leakage in the system	Check connections in the sampling train. Repeat test. Possible to fill 5% again

Comments:

SAMPLING DETAILS

If different pump than above, note source, pump #: —
Flow rate when hooked up to well (L/min): 0.1
Vacuum measurement stable at (inches H_2O)*: 4
* soil vapour samples should not be collected if vacuum is above 10 inches of H2O
Minimum Sample Volume (L)**: 4
Minimum Sampling Duration (min)**: 40
** Parameter and lab dependent (e.g. 5h sampling conditions for Volatile = 8L) ***Calculated by minimum sample volume / flow rate when hooked up well

Sample I.D.	Media Type/Serial #	Time Start***	Time End***	Total Time (min)	Constituents
SV15-18	TD Tube	1023	1103	40	

*** If using regular SKC pump you can get total time run display by pressing ↑ (to the left); ↑ (to the right), up, down; ↑ (to the left), ↑ (to the right)

Laboratory: Maxxam
Chain of Custody #: 460039-12-01
Submitted on: 2015 JUL 02

Additional Comments:

APPENDIX F

MAXXAM ANALYTICS LTD. CERTIFICATES OF ANALYSIS

Keystone Environmental
Knowledge-Driven Results

Success Through Science®

Your Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Your C.O.C. #: K015624

Attention:Nicole MacDonald

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/02/18
Report #: R1805380
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B511112
Received: 2015/02/11, 10:05

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH VH F1 in Soil - Field Pres.	2	N/A	2015/02/16	BBY8SOP-00010	EPA 8260c R3 m
Elements by ICPMS (total)	2	2015/02/12	2015/02/12	BBY7SOP-00001	EPA 6020a R1 m
Moisture	2	N/A	2015/02/13	BBY8SOP-00017	OMOE E3139 3.1 m
PAH in Soil by GC/MS (SIM)	1	2015/02/12	2015/02/17	BBY8SOP-00022	EPA 8270d R4 m
PAH in Soil by GC/MS (SIM)	1	2015/02/12	2015/02/18	BBY8SOP-00022	EPA 8270d R4 m
Total LMW, HMW, Total PAH Calc	2	N/A	2015/02/18	BBY WI-00033	Auto Calc
pH (2:1 DI Water Extract)	2	2015/02/12	2015/02/12	BBY6SOP-00028	BCMOE BCLM Mar2005 m
EPH less PAH in Soil By GC/FID	2	N/A	2015/02/18	BBY WI-00033	Auto Calc
BC Hydrocarbons in Soil by GC/FID	2	2015/02/12	2015/02/17	BBY8SOP-00029	BCMOE EPH s 07/99 m
Volatile HC-BTEX	2	N/A	2015/02/16	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
18 Feb 2015 17:04:34 -08:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B511112
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Sampler Initials: BL

PHYSICAL TESTING (SOIL)

Maxxam ID		LR2135	LR2138		
Sampling Date		2015/02/10	2015/02/10		
COC Number		K015624	K015624		
	Units	**MW15-9 (1.8)**	**MW15-10 (1.8)**	**RDL**	**QC Batch**
Physical Properties					
Moisture	%	37	26	0.30	7805943
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B511112
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Sampler Initials: BL

BCCSR BTEX/VPH IN SOIL - FIELD PRESERVED (SOIL)

Maxxam ID		LR2135		LR2138		
Sampling Date		2015/02/10		2015/02/10		
COC Number		K015624		K015624		
	Units	MW15-9 (1.8)	RDL	MW15-10 (1.8)	RDL	QC Batch
Volatiles						
VPH (VH6 to 10 - BTEX)	mg/kg	1800	100	<10	10	7805015
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	0.10	<0.10	0.10	7807037
Benzene	mg/kg	2.0	0.0050	0.31	0.0050	7807037
Toluene	mg/kg	0.97	0.020	0.075	0.020	7807037
Ethylbenzene	mg/kg	97 (1)	0.10	0.028	0.010	7807037
m & p-Xylene	mg/kg	320 (1)	0.40	0.75	0.040	7807037
o-Xylene	mg/kg	5.4	0.040	0.053	0.040	7807037
Styrene	mg/kg	<0.030	0.030	<0.030	0.030	7807037
Xylenes (Total)	mg/kg	330	0.40	0.81	0.040	7807037
VH C6-C10	mg/kg	2200 (1)	100	<10	10	7807037
Surrogate Recovery (%)						
1,4-Difluorobenzene (sur.)	%	88		99		7807037
4-Bromofluorobenzene (sur.)	%	104		98		7807037
D10-ETHYLBENZENE (sur.)	%	96		96		7807037
D4-1,2-Dichloroethane (sur.)	%	91		107		7807037

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

Maxxam

Maxxam Job #: B511112
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Sampler Initials: BL

LEPH & HEPH FOR CSR IN SOIL (SOIL)

Maxxam ID		LR2135		LR2138		
Sampling Date		2015/02/10		2015/02/10		
COC Number		K015624		K015624		
	Units	**MW15-9 (1.8)**	**RDL**	**MW15-10 (1.8)**	**RDL**	**QC Batch**
Polycyclic Aromatics						
Naphthalene	ug/g	20 (1)	0.25	0.17	0.050	7809508
2-Methylnaphthalene	ug/g	21 (1)	0.25	0.15	0.050	7809508
Acenaphthylene	ug/g	<0.050	0.050	<0.050	0.050	7809508
Acenaphthene	ug/g	0.073	0.050	<0.050	0.050	7809508
Fluorene	ug/g	0.097	0.050	<0.050	0.050	7809508
Phenanthrene	ug/g	0.24	0.050	0.13	0.050	7809508
Anthracene	ug/g	0.071	0.050	<0.050	0.050	7809508
Fluoranthene	ug/g	0.32	0.050	0.21	0.050	7809508
Pyrene	ug/g	0.29	0.050	0.20	0.050	7809508
Benzo(a)anthracene	ug/g	0.089	0.050	0.072	0.050	7809508
Chrysene	ug/g	0.099	0.050	0.084	0.050	7809508
Benzo(b&j)fluoranthene	ug/g	0.12	0.050	0.099	0.050	7809508
Benzo(b)fluoranthene	ug/g	0.067	0.050	0.057	0.050	7809508
Benzo(k)fluoranthene	ug/g	<0.050	0.050	<0.050	0.050	7809508
Benzo(a)pyrene	ug/g	0.082	0.050	0.063	0.050	7809508
Indeno(1,2,3-cd)pyrene	ug/g	<0.050	0.050	<0.050	0.050	7809508
Dibenz(a,h)anthracene	ug/g	<0.050	0.050	<0.050	0.050	7809508
Benzo(g,h,i)perylene	ug/g	0.059	0.050	<0.050	0.050	7809508
Low Molecular Weight PAH`s	ug/g	42	0.25	0.45	0.050	7805041
High Molecular Weight PAH`s	ug/g	1.1	0.050	0.73	0.050	7805041
Total PAH	ug/g	43	0.25	1.2	0.050	7805041
Calculated Parameters						
LEPH (C10-C19 less PAH)	mg/kg	1070	100	<100	100	7805044
HEPH (C19-C32 less PAH)	mg/kg	124	100	111	100	7805044
Hydrocarbons						
EPH (C10-C19)	mg/kg	1090	100	<100	100	7809509
EPH (C19-C32)	mg/kg	124	100	112	100	7809509
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	84		74		7809508
D8-ACENAPHTHYLENE (sur.)	%	79		70		7809508
D8-NAPHTHALENE (sur.)	%	89		86		7809508
TERPHENYL-D14 (sur.)	%	87		81		7809508
O-TERPHENYL (sur.)	%	90		83		7809509

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B511112
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Sampler Initials: BL

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		LR2135	LR2138		
Sampling Date		2015/02/10	2015/02/10		
COC Number		K015624	K015624		
	Units	**MW15-9 (1.8)**	**MW15-10 (1.8)**	**RDL**	**QC Batch**
Physical Properties					
Soluble (2:1) pH	pH	6.37	6.39	N/A	7806030
Total Metals by ICPMS					
Total Aluminum (Al)	mg/kg		10700	100	7806028
Total Antimony (Sb)	mg/kg		0.30	0.10	7806028
Total Arsenic (As)	mg/kg		2.71	0.50	7806028
Total Barium (Ba)	mg/kg		58.4	0.10	7806028
Total Beryllium (Be)	mg/kg		<0.40	0.40	7806028
Total Cadmium (Cd)	mg/kg		0.109	0.050	7806028
Total Chromium (Cr)	mg/kg		10.9	1.0	7806028
Total Cobalt (Co)	mg/kg		3.35	0.30	7806028
Total Copper (Cu)	mg/kg		12.3	0.50	7806028
Total Lead (Pb)	mg/kg	30.0	43.2	0.10	7806028
Total Manganese (Mn)	mg/kg		132	0.20	7806028
Total Mercury (Hg)	mg/kg		0.096	0.050	7806028
Total Molybdenum (Mo)	mg/kg		0.44	0.10	7806028
Total Nickel (Ni)	mg/kg		7.22	0.80	7806028
Total Selenium (Se)	mg/kg		<0.50	0.50	7806028
Total Silver (Ag)	mg/kg		0.127	0.050	7806028
Total Strontium (Sr)	mg/kg		37.9	0.10	7806028
Total Tin (Sn)	mg/kg		2.16	0.10	7806028
Total Titanium (Ti)	mg/kg		460	1.0	7806028
Total Vanadium (V)	mg/kg		29.7	2.0	7806028
Total Zinc (Zn)	mg/kg		41.3	1.0	7806028

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.3°C

Results relate only to the items tested.

Maxxam Job #: B511112
Report Date: 2015/02/18

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Sampler Initials: BL

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7807037	1,4-Difluorobenzene (sur.)	2015/02/13	98	70 - 130	98	70 - 130	102	%				
7807037	4-Bromofluorobenzene (sur.)	2015/02/13	99	70 - 130	100	70 - 130	96	%				
7807037	D10-ETHYLBENZENE (sur.)	2015/02/13	93	50 - 130	90	50 - 130	101	%				
7807037	D4-1,2-Dichloroethane (sur.)	2015/02/13	101	70 - 130	100	70 - 130	105	%				
7809508	D10-ANTHRACENE (sur.)	2015/02/17	97	60 - 130	92	60 - 130	86	%				
7809508	D8-ACENAPHTHYLENE (sur.)	2015/02/17	93	50 - 130	88	50 - 130	85	%				
7809508	D8-NAPHTHALENE (sur.)	2015/02/17	112	50 - 130	93	50 - 130	90	%				
7809508	TERPHENYL-D14 (sur.)	2015/02/17	105	60 - 130	96	60 - 130	89	%				
7809509	O-TERPHENYL (sur.)	2015/02/17	91	50 - 130	92	50 - 130	89	%				
7805943	Moisture	2015/02/13					<0.30	%	17	20		
7806028	Total Aluminum (Al)	2015/02/12					<100	mg/kg	4.8	35	92	70 - 130
7806028	Total Antimony (Sb)	2015/02/12	88	75 - 125	94	75 - 125	<0.10	mg/kg	NC	30	87	70 - 130
7806028	Total Arsenic (As)	2015/02/12	94	75 - 125	93	75 - 125	0.64, RDL=0.50	mg/kg	NC	30	91	70 - 130
7806028	Total Barium (Ba)	2015/02/12	NC	75 - 125	97	75 - 125	<0.10	mg/kg	2.0	35	92	70 - 130
7806028	Total Beryllium (Be)	2015/02/12	106	75 - 125	104	75 - 125	<0.40	mg/kg	NC	30		
7806028	Total Cadmium (Cd)	2015/02/12	102	75 - 125	101	75 - 125	<0.050	mg/kg	NC	30	96	70 - 130
7806028	Total Chromium (Cr)	2015/02/12	104	75 - 125	100	75 - 125	<1.0	mg/kg	2.5	30	101	70 - 130
7806028	Total Cobalt (Co)	2015/02/12	100	75 - 125	100	75 - 125	<0.30	mg/kg	0.97	30	89	70 - 130
7806028	Total Copper (Cu)	2015/02/12	99	75 - 125	99	75 - 125	<0.50	mg/kg	1.2	30	89	70 - 130
7806028	Total Lead (Pb)	2015/02/12	100	75 - 125	100	75 - 125	<0.10	mg/kg	2.1	35	93	70 - 130
7806028	Total Manganese (Mn)	2015/02/12	NC	75 - 125	102	75 - 125	<0.20	mg/kg	1.2	30	92	70 - 130
7806028	Total Mercury (Hg)	2015/02/12	98	75 - 125	97	75 - 125	<0.050	mg/kg	NC	35	84	70 - 130
7806028	Total Molybdenum (Mo)	2015/02/12	106	75 - 125	99	75 - 125	<0.10	mg/kg	NC	35	96	70 - 130
7806028	Total Nickel (Ni)	2015/02/12	99	75 - 125	97	75 - 125	<0.80	mg/kg	0.23	30	89	70 - 130
7806028	Total Selenium (Se)	2015/02/12	99	75 - 125	100	75 - 125	<0.50	mg/kg	NC	30		
7806028	Total Silver (Ag)	2015/02/12	100	75 - 125	99	75 - 125	<0.050	mg/kg	NC	35		
7806028	Total Strontium (Sr)	2015/02/12	NC	75 - 125	94	75 - 125	<0.10	mg/kg	0.098	35	94	70 - 130
7806028	Total Tin (Sn)	2015/02/12	94	75 - 125	92	75 - 125	<0.10	mg/kg	NC	35		
7806028	Total Titanium (Ti)	2015/02/12	NC	75 - 125	93	75 - 125	<1.0	mg/kg	0.014	35	94	70 - 130
7806028	Total Vanadium (V)	2015/02/12	NC	75 - 125	95	75 - 125	<2.0	mg/kg	1.6	30	93	70 - 130
7806028	Total Zinc (Zn)	2015/02/12	NC	75 - 125	106	75 - 125	<1.0	mg/kg	1.2	30	93	70 - 130

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7806030	Soluble (2:1) pH	2015/02/12			100	97 - 103			0.30	N/A		
7807037	Benzene	2015/02/13	106	60 - 140	99	60 - 140	<0.0050	mg/kg				
7807037	Ethylbenzene	2015/02/13	104	60 - 140	96	60 - 140	<0.010	mg/kg				
7807037	m & p-Xylene	2015/02/13	97	60 - 140	90	60 - 140	<0.040	mg/kg				
7807037	Methyl-tert-butylether (MTBE)	2015/02/13					<0.10	mg/kg				
7807037	o-Xylene	2015/02/13	101	60 - 140	94	60 - 140	<0.040	mg/kg				
7807037	Styrene	2015/02/13					<0.030	mg/kg				
7807037	Toluene	2015/02/13	98	60 - 140	91	60 - 140	<0.020	mg/kg				
7807037	VH C6-C10	2015/02/13			89	60 - 140	<10	mg/kg	NC	40		
7807037	Xylenes (Total)	2015/02/13					<0.040	mg/kg				
7809508	2-Methylnaphthalene	2015/02/17	104	50 - 130	92	50 - 130	<0.050	ug/g	NC	50		
7809508	Acenaphthene	2015/02/17	95	50 - 130	90	50 - 130	<0.050	ug/g	NC	50		
7809508	Acenaphthylene	2015/02/17	91	50 - 130	88	50 - 130	<0.050	ug/g	NC	50		
7809508	Anthracene	2015/02/17	96	60 - 130	89	60 - 130	<0.050	ug/g	NC	50		
7809508	Benzo(a)anthracene	2015/02/17	89	60 - 130	85	60 - 130	<0.050	ug/g	NC	50		
7809508	Benzo(a)pyrene	2015/02/17	90	60 - 130	90	60 - 130	<0.050	ug/g	NC	50		
7809508	Benzo(b&j)fluoranthene	2015/02/17	87	60 - 130	90	60 - 130	<0.050	ug/g	NC	50		
7809508	Benzo(b)fluoranthene	2015/02/17	87	60 - 130			<0.050	ug/g	NC	50		
7809508	Benzo(g,h,i)perylene	2015/02/17	88	60 - 130	87	60 - 130	<0.050	ug/g	NC	50		
7809508	Benzo(k)fluoranthene	2015/02/17	96	60 - 130	88	60 - 130	<0.050	ug/g	NC	50		
7809508	Chrysene	2015/02/17	89	60 - 130	85	60 - 130	<0.050	ug/g	NC	50		
7809508	Dibenz(a,h)anthracene	2015/02/17	89	60 - 130	89	60 - 130	<0.050	ug/g	NC	50		
7809508	Fluoranthene	2015/02/17	97	60 - 130	94	60 - 130	<0.050	ug/g	NC	50		
7809508	Fluorene	2015/02/17	91	50 - 130	89	50 - 130	<0.050	ug/g	NC	50		
7809508	Indeno(1,2,3-cd)pyrene	2015/02/17	92	60 - 130	88	60 - 130	<0.050	ug/g	NC	50		
7809508	Naphthalene	2015/02/17	109	50 - 130	89	50 - 130	<0.050	ug/g	NC	50		
7809508	Phenanthrene	2015/02/17	88	60 - 130	90	60 - 130	<0.050	ug/g	NC	50		
7809508	Pyrene	2015/02/17	98	60 - 130	95	60 - 130	<0.050	ug/g				
7809509	EPH (C10-C19)	2015/02/17	91	50 - 130	82	50 - 130	<100	mg/kg	NC	40		

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Sampler Initials: BL

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7809509	EPH (C19-C32)	2015/02/17	90	50 - 130	80	50 - 130	<100	mg/kg	NC	40		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B511112
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Sampler Initials: BL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B511112

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 015624

Invoice To: Require Report? Yes ✓ No

Company Name:	Keystone Environmental Ltd.
Contact Name:	Nicole McDonald/Brian Lennon
Address:	#320-4400 Dominion Street
	Burnaby, BC PC: V5G 4G3
Phone / Fax#:	Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail	

Report To:

Company Name:	
Contact Name:	
Address:	
PC:	
Phone / Fax#:	Ph: Fax:
E-mail	

PO #:	
Quotation #:	
Project #:	12349-14
Proj. Name:	Prior St.
Location:	456 Prior Street, Vancouver BC
Sampled By:	B. Lennon

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ✓ CSR
- CCME
- BC Water Quality
- Other
- DRINKING WATER

- ✓ Regular Turn Around Time (TAT) (5 days for most tests)
- RUSH (Please contact the lab)
- 1 Day / 2 Day / 3 Day
- Date Required:

Special Instructions:

Return Cooler **Ship Sample Bottles (please specify)**

ANALYSIS REQUESTED

Analysis columns: BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Field Acidified? Y N), Totals Metals Field Acidified? Y N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, # of containers, HOLD

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	# of containers	HOLD
1	MW15-8 (0.8)	LR2129	SOIL	Feb.10/15	3	✓
2	MW15-8 (1.8)	LR2130	↓	↓	3	✓
3	MW15-8 (2.4)	LR2131			2	✓
4	MW15-8 (3.0)	LR2132			3	✓
5	MW15-9 (0.8)	LR2133			3	✓
6	MW15-9 (1.5)	LR2134			3	✓
7	MW15-9 (1.8)	LR2135			3	✓
8	MW15-9 (2.7)	LR2136			3	✓
9	MW15-10 (0.8)	LR2137			3	✓
10	MW15-10 (1.8)	LR2138			3	✓
11	MW15-10 (2.4)	LR2139			3	✓
12	MW15-10 (3.0)	LR2140			3	✓

B511112

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:
Brian Lennon	15/02/11	10:04	[signature]	2015/02/11	10:05

Laboratory Use Only

Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
	1, 1, 2	Yes / No: N/A

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph 604 734 7276 Toll Free 1 800 665 8566 Fax 604 731 2386

CHAIN OF CUSTODY RECORD

Page 1 of 1

K 015624

Maxxam Job#: B511112

Invoice To: Require Report? Yes [✓] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Nicole McDonald/Brian Lennon
Address: #320-4400 Dominion Street
Burnaby, BC PC V5G 4G3
Phone / Fax#: Ph (604) 430-0671 Fax (604) 430-0672
E-mail:

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail:

PO #:
Quotation #:
Project #: 12347-01
Proj. Name:
Location: 456 [illegible] Street, Vancouver
Sampled By: B. Lennon

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [✓] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [✓] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab) [ ] 1 Day [ ] 2 Day [ ] 3 Day

Date Required:

Special Instructions:

Return Cooler [ ] Ship Sample Bottles (please specify) [ ]

ANALYSIS REQUESTED

VOC metals
Lead

#	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH	LEPH/HEPH	VOC metals / Lead		
1	MW15-8 (0.8)	LR2129	Soil	Feb 10/15				2	✓
2	MW15-8 (1.8)	LR2130						3	✓
3	MW15-8 (2.4)	LR2131						2	✓
4	MW15-8 (3.0)	LR2132						3	✓
5	MW15-9 (0.8)	LR2133						2	✓
6	MW15-9 (1.5)	LR2134						3	✓
7	MW15-9 (1.8)	LR2135			X	X	X	3	✓
8	MW15-9 (2.7)	LR2136						2	✓
9	MW15-10 (0.8)	LR2137						1	✓
10	MW15-10 (1.8)	LR2138			X	X	X	3	✓
11	MW15-10 (2.5)	LR2139						3	✓
12	MW15-10 (3.0)	LR2140						2	✓

Samples are from a Drinking Water Source? / Does source supply multiple households?

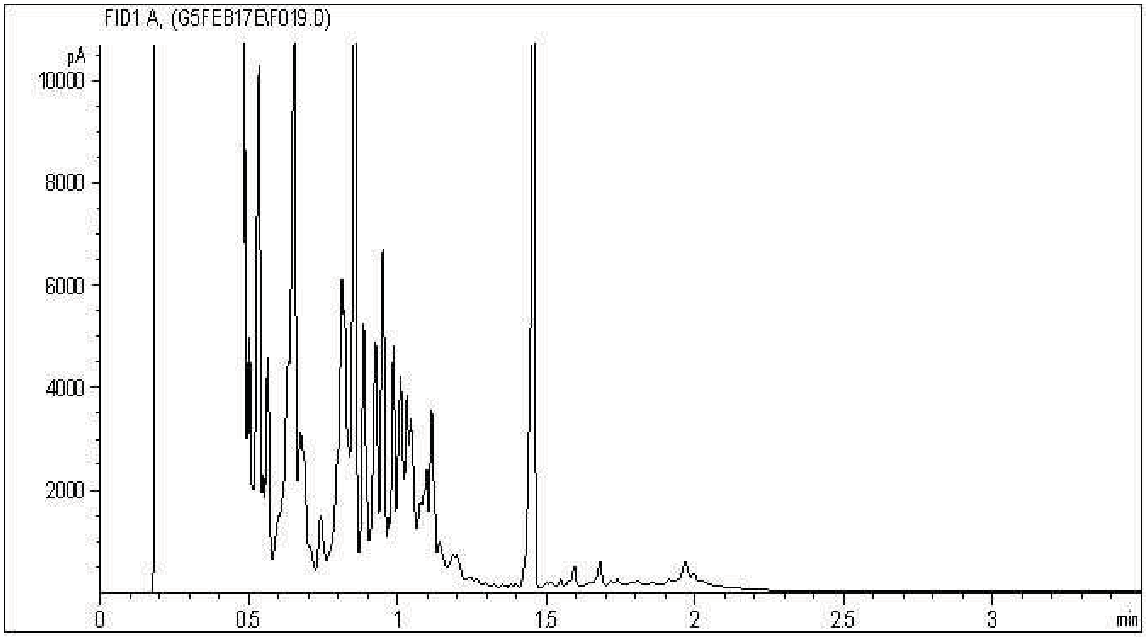
Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
Brian Lennon	15/Feb/11	14:04	[illegible]	2015/02/11	16:05	[ ]	1 1 2	Yes [ ] No [ ]

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

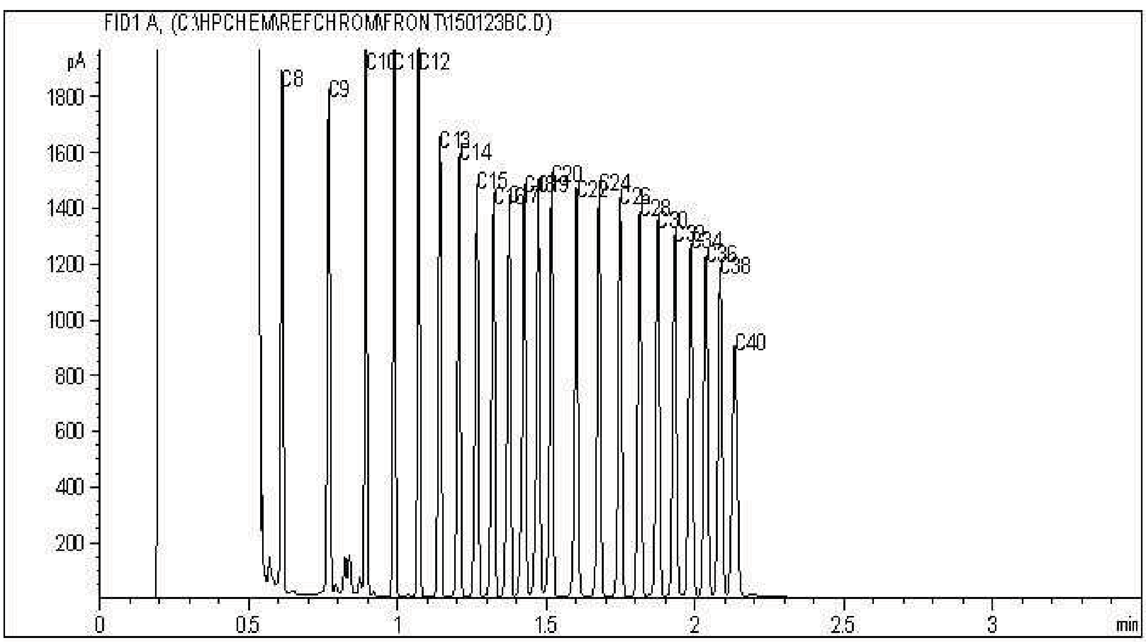
White: Maxxam Yellow: Client

Maxxam International Corporation o/a Maxxam Analytics

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram



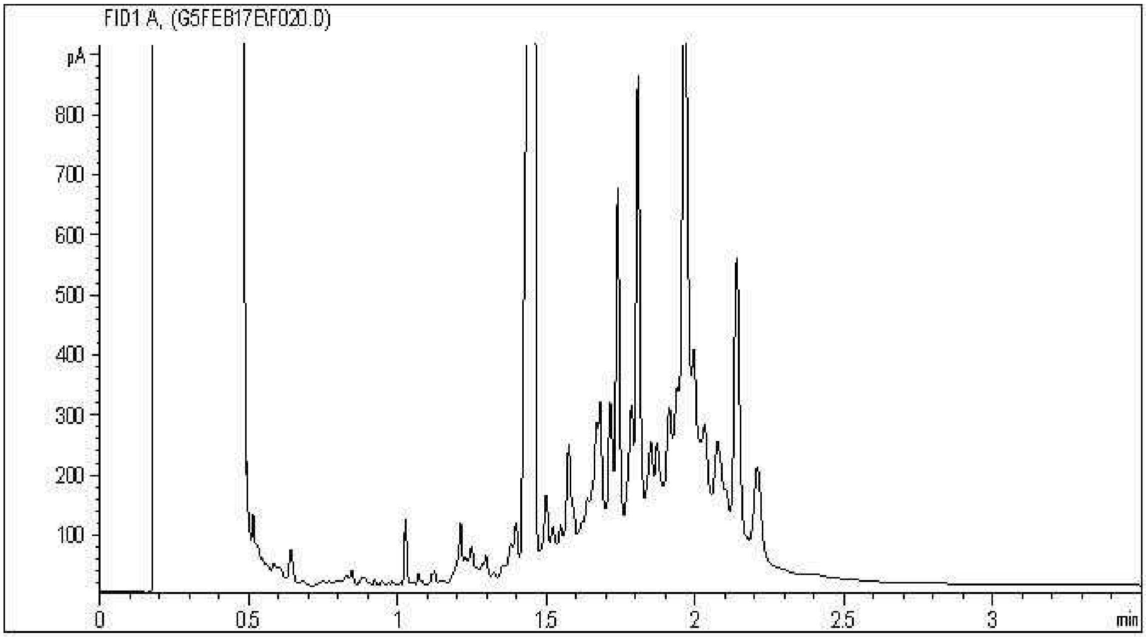
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

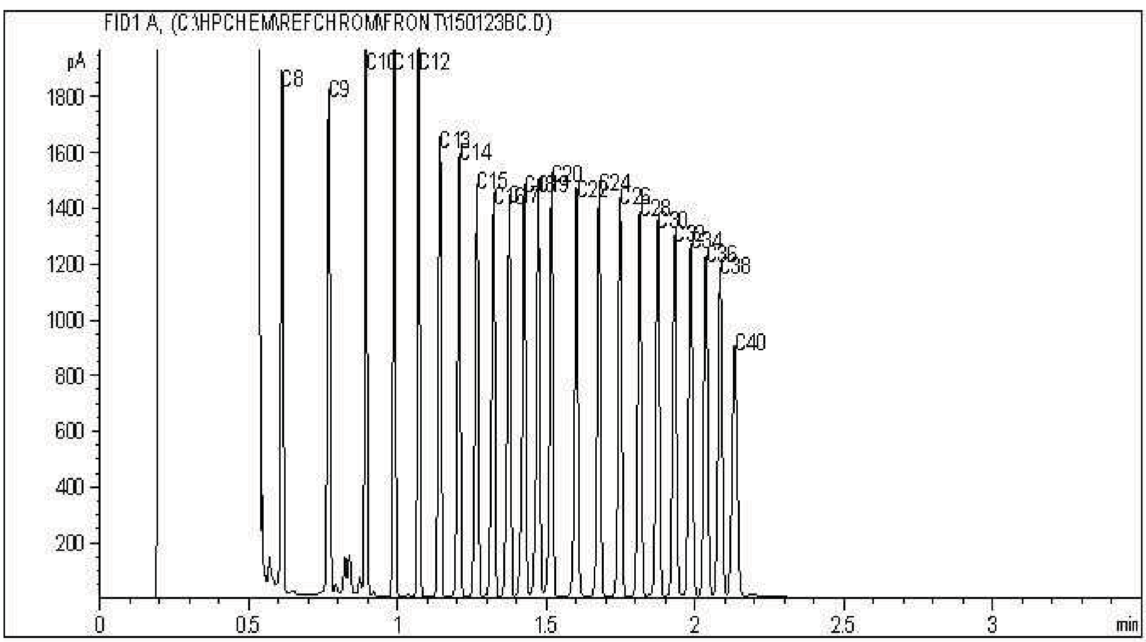
Maxxam Job #: B511112
Report Date: 2015/02/18
Maxxam Sample: LR2138

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: PRIOR ST 456 PRIOR ST, VANCOUVER, BC
Client ID: MW15-10 (1.8)

BC Hydrocarbons in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Success Through Science®

Your Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER, BC.
Your C.O.C. #: K015738, K015739, K015740

Attention:Nicole MacDonald

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/03/19
Report #: R1825251
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B521759
Received: 2015/03/17, 17:20

Sample Matrix: Soil
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH VH F1 in Soil - Field Pres.	5	N/A	2015/03/19	BBY8SOP-00010	EPA 8260c R3 m
Moisture	5	N/A	2015/03/19	BBY8SOP-00017	OMOE E3139 3.1 m
Volatile HC-BTEX	5	N/A	2015/03/19	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
19 Mar 2015 14:28:24 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B521759
Report Date: 2015/03/19

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER, BC.
Sampler Initials: BL

PHYSICAL TESTING (SOIL)

Maxxam ID		LW9624	LW9628	LW9632	LW9637	LW9642		
Sampling Date		2015/03/17	2015/03/17	2015/03/17	2015/03/17	2015/03/17		
COC Number		K015738	K015738	K015738	K015739	K015739		
	Units	**MW15-11 (1.2)**	**MW15-12 (1.2)**	**MW15-13 (1.2)**	**MW15-14 (1.2)**	**MW15-15 (1.8)**	**RDL**	**QC Batch**
Physical Properties								
Moisture	%	37	23	27	8.7	9.5	0.30	7839479
RDL = Reportable Detection Limit								

Maxxam Job #: B521759
Report Date: 2015/03/19

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER, BC.
Sampler Initials: BL

BCCSR BTEX/VPH IN SOIL - FIELD PRESERVED (SOIL)

Maxxam ID		LW9624	LW9628	LW9632	LW9637	LW9642		
Sampling Date		2015/03/17	2015/03/17	2015/03/17	2015/03/17	2015/03/17		
COC Number		K015738	K015738	K015738	K015739	K015739		
	Units	**MW15-11 (1.2)**	**MW15-12 (1.2)**	**MW15-13 (1.2)**	**MW15-14 (1.2)**	**MW15-15 (1.8)**	**RDL**	**QC Batch**
Volatiles								
VPH (VH6 to 10 - BTEX)	mg/kg	18	<10	<10	<10	<10	10	7839604
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	7840263
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.054	0.0050	7840263
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7840263
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	0.075	0.010	7840263
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	0.26	0.040	7840263
o-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7840263
Styrene	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030	0.030	7840263
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	0.26	0.040	7840263
VH C6-C10	mg/kg	18	<10	<10	<10	<10	10	7840263
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	107	102	115	104	113		7840263
4-Bromofluorobenzene (sur.)	%	102	102	102	97	104		7840263
D10-ETHYLBENZENE (sur.)	%	93	92	86	92	95		7840263
D4-1,2-Dichloroethane (sur.)	%	100	94	107	96	103		7840263
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B521759
Report Date: 2015/03/19

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER, BC.
Sampler Initials: BL

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	19.7°C

Results relate only to the items tested.

Success Through Science®

Maxxam Job #: B521759
Report Date: 2015/03/19

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER, BC.
Sampler Initials: BL

			Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7840263	1,4-Difluorobenzene (sur.)	2015/03/18	111	70 - 130	111	%		
7840263	4-Bromofluorobenzene (sur.)	2015/03/18	104	70 - 130	101	%		
7840263	D10-ETHYLBENZENE (sur.)	2015/03/18	82	50 - 130	87	%		
7840263	D4-1,2-Dichloroethane (sur.)	2015/03/18	100	70 - 130	101	%		
7839479	Moisture	2015/03/19			<0.30	%	3.2	20
7840263	Benzene	2015/03/18	95	60 - 140	<0.0050	mg/kg		
7840263	Ethylbenzene	2015/03/18	97	60 - 140	<0.010	mg/kg		
7840263	m & p-Xylene	2015/03/18	89	60 - 140	<0.040	mg/kg		
7840263	Methyl-tert-butylether (MTBE)	2015/03/18			<0.10	mg/kg		
7840263	o-Xylene	2015/03/18	95	60 - 140	<0.040	mg/kg		
7840263	Styrene	2015/03/18			<0.030	mg/kg		
7840263	Toluene	2015/03/18	85	60 - 140	<0.020	mg/kg		
7840263	VH C6-C10	2015/03/18	89	60 - 140	<10	mg/kg		
7840263	Xylenes (Total)	2015/03/18			<0.040	mg/kg		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B521759
Report Date: 2015/03/19

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER, BC.
Sampler Initials: BL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B521759

CHAIN OF CUSTODY RECORD

Page: 1 of 3

K 015738

Invoice To: Require Report? Yes ✓ No

Company Name: Keystone Environmental Ltd.
Contact Name: Nicole McDonald / Matt Cuddeford
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349-14
Proj. Name: 456 Prior Str.
Location: 456 Prior Str. Vancouver, BC
Sampled By: B. Lennon

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ✓ CSR
- CCME
- BC Water Quality
- Other
- DRINKING WATER

- ✓ Regular Turn Around Time (TAT) (5 days for most tests)
- RUSH (Please contact the lab) 1 Day 2 Day 3 Day
- Date Required:

Special Instructions:

Return Cooler Ship Sample Bottles (please specify)

ANALYSIS REQUESTED

BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (N / Y Field Filtered?), (N / Y Field Acidified?), Totals Metals (N / Y Field Acidified?), Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos

B521759

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	# of containers	HOLD
1	MW15-11 (0.6)	LW9623	Soil	Mar.17/15	3	✓
2	MW15-11 (1.2)	LW9624	↓	↓	3	✓
3	MW15-11 (1.8)	LW9625			3	✓
4	MW15-11 (2.7)	LW9626			3	✓
5	MW15-12 (0.6)	LW9627			3	✓
6	MW15-12 (1.2)	LW9628			3	✓
7	MW15-12 (1.8)	LW9629			3	✓
8	MW15-12 (2.7)	LW9630			3	✓
9	MW15-13 (0.6)	LW9631			3	✓
10	MW15-13 (1.2)	LW9632			3	✓
11	MW15-13 (1.8)	LW9633			3	✓
12	MW15-13 (2.4)	LW9634	↓	↓	3	✓

Samples are from a Drinking Water Source? YES ✓ NO
Does source supply multiple households? YES NO

Laboratory Use Only

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
B. Lennon	15/03/17	5:15pm	JWAHNVE ROY	2015/03/17	17:20		18, 20, 21 JS	N/A Yes No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B521759

CHAIN OF CUSTODY RECORD

Page: 2 of 3

K 015739

Invoice To: Require Report? Yes [✓] No [ ]

	Invoice To		Report To
Company Name:	Keystone Environmental Ltd.	Company Name:	
Contact Name:	Nicole McDonald / Matt Cuddeford	Contact Name:	
Address:	#320-4400 Dominion Street, Burnaby, BC PC: V5G 4G3	Address:	PC:
Phone / Fax#:	Ph: (604) 430-0671 Fax: (604) 430-0672	Phone / Fax#:	Ph: Fax:
E-mail		E-mail	

PO #:	
Quotation #:	
Project #:	12349-14
Proj. Name:	456 Prior Str.
Location:	456 Prior Str. Vancouver BC.
Sampled By:	B. Lonne.

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [✓] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- DRINKING WATER

- [✓] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required:

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

Analysis columns: MTBE / BTEX/VPH; VOC/VPH; TEH / EPH; LEPH/HEPH / PAH; CCME-PHC (Fractions 1-4 Plus BTEX); CCME-PHC (Fractions 2-4); CCME BTEX (Fraction 1 Plus BTEX); PCB; Phenols by GCMS / Phenols by 4AAP; SWOG / MOG / TOG; Dissolved Metals (N/Y, Field Filtered?); Field Acidified? (N/Y); Totals Metals Field Acidified? (N/Y); Ammonia / Nitrite / Nitrate; Sulphate / Fluoride / Chloride; TDS / Total Suspended Solids-TSS; Alkalinity / Conductivity / pH; BOD; COD; Fecal / Coliform, Total & E.coli; Asbestos

B521759

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	# of containers	HOLD
1	MW15-14 (0.6)	LW9636	Soil	Mar. 17/15	3	✓
2	MW15-14 (1.2)	LW9637			3	✓
3	MW15-14 (1.8)	LW9638			3	✓
4	MW15-14 (2.7)	LW9639			3	✓
5	MW15-15 (0.6)	LW9640			3	✓
6	MW15-15 (1.2)	LW9641			3	✓
7	MW15-15 (1.8)	LW9642			3	✓
8	MW15-15 (2.4)	LW9643			3	✓
9	MW15-15 (3.0)	LW9644			3	✓
10	MW15-15 (3.6)	LW9645			3	✓
11	BH15-16 (0.6)	LW9646			3	✓
12	BH15-16 (1.2)	LW9647			3	✓

Samples are from a Drinking Water Source? YES / NO [✓]

Does source supply multiple households? YES / NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:
B. Lonne	15/03/17	5:15pm	UVAHNNE ROY	2015/03/17	17:20

Laboratory Use Only

Time Sensitive [ ]

Temperature on Receipt (°C): 18, 20, 21 SS

Custody Seal Intact on Cooler? N/A Yes No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B521759

CHAIN OF CUSTODY RECORD

Page: 3 of 3

K 015740

Invoice To: Require Report? Yes ✓ No

Company Name: Keystone Environmental Ltd.
Contact Name: Nicole McDonald / Matt Calderbank
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349-14
Proj. Name: 456 Prior Str.
Location: 456 Prior Str., Vancouver, BC
Sampled By: B. Lennan

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ✓ CSR
- CCME
- BC Water Quality
- Other
- DRINKING WATER

✓ Regular Turn Around Time (TAT) (5 days for most tests)

RUSH (Please contact the lab) 1 Day 2 Day 3 Day

Date Required:

Special Instructions:

Return Cooler **Ship Sample Bottles (please specify)**

ANALYSIS REQUESTED

B521759

Analysis columns: MTBE, BTEX/VPH, VOC/VPH, TEH, EPH, LEPH/HEPH, PAH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by GCMS, Phenols by 4AAP, SWOG, MOG, TOG, N Y Field Filtered?, Dissolved Metals, N Y Field Acidified?, N Y Totals Metals Field Acidified?, Ammonia, Nitrite, Nitrate, Sulphate, Fluoride, Chloride, TDS, Total Suspended Solids-TSS, Alkalinity, Conductivity, pH, BOD, COD, Fecal, Coliform, Total & E.coli, Asbestos, # of containers, HOLD

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	# of containers	HOLD
1	BH15-16 (1.8)	LW9650	Soil	March 17/15	3	✓
2	BH15-16 (2.4)	LW9651	"	"	3	✓
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:
Brian Lennan	15/03/17	5:15pm	Suwapnne Roy	2015/03/17	17:20

Laboratory Use Only

Time Sensitive

Temperature on Receipt (°C): 18, 20, 21 JS

Custody Seal Intact on Cooler? N/A Yes No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B521759

CHAIN OF CUSTODY RECORD

Page: 1 of 3

K 015738

Invoice To: Require Report? Yes ✓ No

Company Name:	Keystone Environmental Ltd.
Contact Name:	Nicole McDonald / Matt Cuddeford
Address:	#320-4400 Dominion Street
	Burnaby, BC PC: V5G 4G3
Phone / Fax#:	Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail	

Report To:

Company Name:	
Contact Name:	
Address:	
	PC:
Phone / Fax#:	Ph: Fax:
E-mail	

PO #:	
Quotation #:	
Project #:	12349-14
Proj. Name:	456 Prior Str
Location:	456 Prior Str, Vancouver, BC
Sampled By:	B. Lennon

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [x] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [x] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required:

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH ☒ / MTBE ☒	VOC/VPH	EPH / TEH	PAH / LEPH/HEPH	CCME-PHC (Fractions 1-4 Plus BTEX)	CCME-PHC (Fractions 2-4)	CCME BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by 4AAP / Phenols by GCMS	TOG / MOG / SVOCs	Dissolved Metals: Field Filtered? Y N	Field Acidified? Y N	Totals Metals Field Acidified? Y N	Nitrate / Nitrite / Ammonia	Chloride / Fluoride / Sulphate	Total Suspended Solids-TSS / TDS	pH / Conductivity / Alkalinity	BOD	COD	Coliform, Total & E.coli / Fecal	Asbestos	# of containers	HOLD ☑
1	MW15-11 (0.6)		Soil	Mar. 17/15																						3	✓
2	MW15-11 (1.2)	LW9624			X																					3	✓
3	MW15-11 (1.8)																									3	✓
4	MW15-11 (2.7)																									3	✓
5	MW15-12 (0.6)																									3	✓
6	MW15-12 (1.2)	LW9628			X																					3	✓
7	MW15-12 (1.8)																									3	✓
8	MW15-12 (2.7)																									3	✓
9	MW15-13 (0.6)																									3	✓
10	MW15-13 (1.2)	LW9632			X																					3	✓
11	MW15-13 (1.8)																									3	✓
12	MW15-13 (2.4)																									3	✓

B521759

Laboratory Use Only

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
Brian Lennon	15/03/17					[ ]		Yes [ ] No [ ]

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B521759

CHAIN OF CUSTODY RECORD

Page: 2 of 3

K 015739

Invoice To: Require Report? Yes ✓ No

Company Name: Keystone Environmental Ltd.
Contact Name: Nicole McDonald / Matt Cuddeback
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349-14
Proj. Name: 456 Prior Str.
Location: 456 Prior Str. Vancouver BC,
Sampled By: B. Lonne.

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ✓ CSR
- CCME
- BC Water Quality
- Other
- DRINKING WATER

- ✓ Regular Turn Around Time (TAT) (5 days for most tests)
- RUSH (Please contact the lab)
- 1 Day
- 2 Day
- 3 Day
- Date Required:

Special Instructions:

Return Cooler **Ship Sample Bottles (please specify)**

ANALYSIS REQUESTED

BTEX/VPH (MTBE ☒), VOC/VPH, BPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N; Field Acidified? Y N), Total Metals Field Acidified? Y N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH	# of containers	HOLD
1	MW15-14 (0.6)		Soil	Nov. 17/15		3	✓
2	MW15-14 (1.2)	LW9637			X	3	✓
3	MW15-14 (1.8)					3	✓
4	MW15-14 (2.7)					3	✓
5	MW15-15 (0.6)					3	✓
6	MW15-15 (1.2)					3	✓
7	MW15-15 (1.8)	LW9642			X	3	✓
8	MW15-15 (2.4)					3	✓
9	MW15-15 (3.0)					3	✓
10	MW15-15 (3.6)					3	✓
11	BH15-16 (0.6)					3	✓
12	BH15-16 (1.2)					3	✓

Samples are from a Drinking Water Source? YES NO
Does source supply multiple households? YES NO

B521759

Laboratory Use Only

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
B. Lonne	15/11/17							Yes / No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B521759

CHAIN OF CUSTODY RECORD

Page: 3 of 3

K 015740

Invoice To: Require Report? Yes ✓ No

Company Name: Keystone Environmental Ltd.
Contact Name: Nicole McDonald/Matt Calder[illegible]
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349-14
Proj. Name: 456 Prior Str,
Location: 456 Prior Str, Vancouver, BC
Sampled By: B. Lannan

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ✓ CSR
- CCME
- BC Water Quality
- Other
- DRINKING WATER

- ✓ Regular Turn Around Time (TAT) (5 days for most tests)
- RUSH (Please contact the lab)
- 1 Day / 2 Day / 3 Day
- Date Required:

Special Instructions:

Return Cooler / Ship Sample Bottles (please specify)

ANALYSIS REQUESTED

Analyses listed: BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GC/MS, TOG, MOG, SWOG, Dissolved Metals, Field Filtered? Y N, Total Metals, Field Acidified? Y N, Field Acidified? Y N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos

#	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	# of containers	HOLD
1	BH15-16 (1.8)		Soil	March, 17/15	3	✓
2	BH15-16 (2.4)		"	"	3	✓
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Samples are from a Drinking Water Source? YES / NO

Does source supply multiple households? YES / NO

B521759

Laboratory Use Only

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
Brian Lannan	15/03/17							Yes / No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349
Site Location: VANCOUVER, BC
Your C.O.C. #: K016064

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/05/21
Report #: R1961148
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B540152
Received: 2015/05/14, 14:30

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH VH F1 in Soil - Field Pres.	1	N/A	2015/05/19	BBY8SOP-00010/11	EPA 8260c R3 m
BTEX/MTBE LH VH F1 in Soil - Field Pres.	1	N/A	2015/05/20	BBY8SOP-00010/11	EPA 8260c R3 m
Elements by ICPMS (total)	1	2015/05/19	2015/05/20	BBY7SOP-00001	EPA 6020a R1 m
Elements by ICPMS (total)	1	2015/05/20	2015/05/20	BBY7SOP-00001	EPA 6020a R1 m
Moisture	2	N/A	2015/05/19	BBY8SOP-00017	OMOE E3139 3.1 m
pH (2:1 DI Water Extract)	1	2015/05/19	2015/05/20	BBY6SOP-00028	BCMOE BCLM Mar2005 m
pH (2:1 DI Water Extract)	1	2015/05/20	2015/05/21	BBY6SOP-00028	BCMOE BCLM Mar2005 m
Volatile HC-BTEX	1	N/A	2015/05/20	BBY WI-00033	Auto Calc
Volatile HC-BTEX	1	N/A	2015/05/21	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
21 May 2015 14:28:29 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B540152
Report Date: 2015/05/21

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: VANCOUVER, BC
Sampler Initials: NB

PHYSICAL TESTING (SOIL)

Maxxam ID		MG1863	MG1865		
Sampling Date		2015/05/14 13:00	2015/05/14 13:00		
COC Number		K016064	K016064		
	Units	MW15-17 (1.5)	MW15-17 (2.7)	RDL	QC Batch
Physical Properties					
Moisture	%	13	15	0.30	7904163
RDL = Reportable Detection Limit					

Maxxam Job #: B540152
Report Date: 2015/05/21

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: VANCOUVER, BC
Sampler Initials: NB

BCCSR BTEX/VPH IN SOIL - FIELD PRESERVED (SOIL)

Maxxam ID		MG1863		MG1865		
Sampling Date		2015/05/14 13:00		2015/05/14 13:00		
COC Number		K016064		K016064		
	Units	**MW15-17 (1.5)**	**RDL**	**MW15-17 (2.7)**	**RDL**	**QC Batch**
Volatiles						
VPH (VH6 to 10 - BTEX)	mg/kg	860	50	<10	10	7903071
Benzene	mg/kg	0.41	0.0050	<0.0050	0.0050	7905287
Toluene	mg/kg	0.96	0.020	<0.020	0.020	7905287
Ethylbenzene	mg/kg	5.9	0.010	<0.010	0.010	7905287
m & p-Xylene	mg/kg	2.5	0.040	<0.040	0.040	7905287
o-Xylene	mg/kg	0.46	0.040	<0.040	0.040	7905287
Styrene	mg/kg	<0.030	0.030	<0.030	0.030	7905287
Xylenes (Total)	mg/kg	2.9	0.040	<0.040	0.040	7905287
VH C6-C10	mg/kg	870 (1)	50	<10	10	7905287
Surrogate Recovery (%)						
1,4-Difluorobenzene (sur.)	%	104		106		7905287
4-Bromofluorobenzene (sur.)	%	101		92		7905287
D10-ETHYLBENZENE (sur.)	%	104		105		7905287
D4-1,2-Dichloroethane (sur.)	%	102		107		7905287

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B540152
Report Date: 2015/05/21

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: VANCOUVER, BC
Sampler Initials: NB

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		MG1867	MG1867		MG1869		
Sampling Date		2015/05/14 13:00	2015/05/14 13:00		2015/05/14 13:00		
COC Number		K016064	K016064		K016064		
	Units	**BH15-18 (0.6)**	**BH15-18 (0.6) Lab-Dup**	**QC Batch**	**BH15-19 (0.6)**	**RDL**	**QC Batch**
Physical Properties							
Soluble (2:1) pH	pH	7.16	7.19	7905536	6.56	N/A	7906421
Total Metals by ICPMS							
Total Aluminum (Al)	mg/kg	9070	8980	7905534	11600	100	7906415
Total Antimony (Sb)	mg/kg	1.72	1.71	7905534	4.42	0.10	7906415
Total Arsenic (As)	mg/kg	2.04	2.18	7905534	2.16	0.50	7906415
Total Barium (Ba)	mg/kg	57.2	55.4	7905534	48.8	0.10	7906415
Total Beryllium (Be)	mg/kg	<0.40	<0.40	7905534	<0.40	0.40	7906415
Total Cadmium (Cd)	mg/kg	0.189	0.170	7905534	0.765	0.050	7906415
Total Chromium (Cr)	mg/kg	10.7	9.9	7905534	10.4	1.0	7906415
Total Cobalt (Co)	mg/kg	4.51	4.50	7905534	4.89	0.30	7906415
Total Copper (Cu)	mg/kg	18.3	19.1	7905534	2160	0.50	7906415
Total Lead (Pb)	mg/kg	33.0	33.1	7905534	13.6	0.10	7906415
Total Manganese (Mn)	mg/kg	158	163	7905534	166	0.20	7906415
Total Mercury (Hg)	mg/kg	<0.050	<0.050	7905534	0.247	0.050	7906415
Total Molybdenum (Mo)	mg/kg	0.30	0.29	7905534	1.36	0.10	7906415
Total Nickel (Ni)	mg/kg	8.12	8.25	7905534	16.4	0.80	7906415
Total Selenium (Se)	mg/kg	<0.50	<0.50	7905534	<0.50	0.50	7906415
Total Silver (Ag)	mg/kg	0.054	0.086	7905534	0.460	0.050	7906415
Total Strontium (Sr)	mg/kg	19.5	19.2	7905534	17.4	0.10	7906415
Total Tin (Sn)	mg/kg	1.96	1.54	7905534	0.49	0.10	7906415
Total Titanium (Ti)	mg/kg	425	412	7905534	550	1.0	7906415
Total Vanadium (V)	mg/kg	35.5	34.0	7905534	36.4	2.0	7906415
Total Zinc (Zn)	mg/kg	158	158	7905534	1210	1.0	7906415

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	27.3°C

Results relate only to the items tested.

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Maxxam Job #: B540152
Report Date: 2015/05/21

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: VANCOUVER, BC
Sampler Initials: NB

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7905287	1,4-Difluorobenzene (sur.)	2015/05/19	107	60 - 140	103	60 - 140	101	%				
7905287	4-Bromofluorobenzene (sur.)	2015/05/19	92	60 - 140	97	60 - 140	101	%				
7905287	D10-ETHYLBENZENE (sur.)	2015/05/19	106	60 - 130	90	60 - 130	103	%				
7905287	D4-1,2-Dichloroethane (sur.)	2015/05/19	109	60 - 140	105	60 - 140	108	%				
7904163	Moisture	2015/05/19					<0.30	%	3.6	20		
7905287	Benzene	2015/05/19	93	60 - 140	89	60 - 140	0.0091, RDL=0.0050	mg/kg	NC (1)	40		
7905287	Ethylbenzene	2015/05/19	103	60 - 140	95	60 - 140	<0.010	mg/kg	NC	40		
7905287	m & p-Xylene	2015/05/19	100	60 - 140	93	60 - 140	<0.040	mg/kg	NC	40		
7905287	o-Xylene	2015/05/19	93	60 - 140	87	60 - 140	<0.040	mg/kg	NC	40		
7905287	Styrene	2015/05/19					<0.030	mg/kg				
7905287	Toluene	2015/05/19	97	60 - 140	91	60 - 140	<0.020	mg/kg	NC	40		
7905287	VH C6-C10	2015/05/19			88	60 - 140	<10	mg/kg	NC	40		
7905287	Xylenes (Total)	2015/05/19					<0.040	mg/kg	NC	40		
7905534	Total Aluminum (Al)	2015/05/20					<100	mg/kg	0.96	35	95	70 - 130
7905534	Total Antimony (Sb)	2015/05/20	89	75 - 125	90	75 - 125	<0.10	mg/kg	0.36	30	91	70 - 130
7905534	Total Arsenic (As)	2015/05/20	92	75 - 125	90	75 - 125	<0.50	mg/kg	NC	30	94	70 - 130
7905534	Total Barium (Ba)	2015/05/20	NC	75 - 125	99	75 - 125	<0.10	mg/kg	3.1	35	100	70 - 130
7905534	Total Beryllium (Be)	2015/05/20	97	75 - 125	94	75 - 125	<0.40	mg/kg	NC	30		
7905534	Total Cadmium (Cd)	2015/05/20	96	75 - 125	93	75 - 125	<0.050	mg/kg	NC	30	95	70 - 130
7905534	Total Chromium (Cr)	2015/05/20	97	75 - 125	103	75 - 125	<1.0	mg/kg	7.8	30	102	70 - 130
7905534	Total Cobalt (Co)	2015/05/20	102	75 - 125	106	75 - 125	<0.30	mg/kg	0.053	30	93	70 - 130
7905534	Total Copper (Cu)	2015/05/20	96	75 - 125	103	75 - 125	<0.50	mg/kg	4.2	30	97	70 - 130
7905534	Total Lead (Pb)	2015/05/20	NC	75 - 125	101	75 - 125	<0.10	mg/kg	0.36	35	100	70 - 130
7905534	Total Manganese (Mn)	2015/05/20	NC	75 - 125	106	75 - 125	0.20, RDL=0.20	mg/kg	2.8	30	96	70 - 130
7905534	Total Mercury (Hg)	2015/05/20	95	75 - 125	91	75 - 125	<0.050	mg/kg	NC	35	88	70 - 130
7905534	Total Molybdenum (Mo)	2015/05/20	98	75 - 125	94	75 - 125	<0.10	mg/kg	NC	35	105	70 - 130
7905534	Total Nickel (Ni)	2015/05/20	100	75 - 125	102	75 - 125	<0.80	mg/kg	1.6	30	103	70 - 130
7905534	Total Selenium (Se)	2015/05/20	90	75 - 125	92	75 - 125	<0.50	mg/kg	NC	30		
7905534	Total Silver (Ag)	2015/05/20	91	75 - 125	92	75 - 125	<0.050	mg/kg	NC	35	89	60 - 140

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7905534	Total Strontium (Sr)	2015/05/20	99	75 - 125	101	75 - 125	<0.10	mg/kg	1.7	35	103	70 - 130
7905534	Total Tin (Sn)	2015/05/20	87	75 - 125	89	75 - 125	<0.10	mg/kg	24	35		
7905534	Total Titanium (Ti)	2015/05/20	NC	75 - 125	99	75 - 125	<1.0	mg/kg	3.3	35	103	70 - 130
7905534	Total Vanadium (V)	2015/05/20	NC	75 - 125	99	75 - 125	<2.0	mg/kg	4.3	30	98	70 - 130
7905534	Total Zinc (Zn)	2015/05/20	NC	75 - 125	91	75 - 125	<1.0	mg/kg	0.26	30	84	70 - 130
7905536	Soluble (2:1) pH	2015/05/20			100	97 - 103			0.42	N/A		
7906415	Total Aluminum (Al)	2015/05/20					<100	mg/kg	0.12	35	110	70 - 130
7906415	Total Antimony (Sb)	2015/05/20	93	75 - 125	93	75 - 125	<0.10	mg/kg	NC	30	96	70 - 130
7906415	Total Arsenic (As)	2015/05/20	100	75 - 125	98	75 - 125	<0.50	mg/kg	NC	30	100	70 - 130
7906415	Total Barium (Ba)	2015/05/20	NC	75 - 125	97	75 - 125	<0.10	mg/kg	5.1	35	100	70 - 130
7906415	Total Beryllium (Be)	2015/05/20	113	75 - 125	103	75 - 125	<0.40	mg/kg	NC	30		
7906415	Total Cadmium (Cd)	2015/05/20	103	75 - 125	102	75 - 125	<0.050	mg/kg	NC	30	109	70 - 130
7906415	Total Chromium (Cr)	2015/05/20	110	75 - 125	105	75 - 125	<1.0	mg/kg	5.0	30	105	70 - 130
7906415	Total Cobalt (Co)	2015/05/20	110	75 - 125	110	75 - 125	<0.30	mg/kg	4.4	30	98	70 - 130
7906415	Total Copper (Cu)	2015/05/20	102	75 - 125	101	75 - 125	<0.50	mg/kg	0.19	30	96	70 - 130
7906415	Total Lead (Pb)	2015/05/20	101	75 - 125	102	75 - 125	<0.10	mg/kg	0.13	35	99	70 - 130
7906415	Total Manganese (Mn)	2015/05/20	NC	75 - 125	111	75 - 125	<0.20	mg/kg	1.2	30	100	70 - 130
7906415	Total Mercury (Hg)	2015/05/20	103	75 - 125	105	75 - 125	<0.050	mg/kg	NC	35	98	70 - 130
7906415	Total Molybdenum (Mo)	2015/05/20	103	75 - 125	93	75 - 125	<0.10	mg/kg	NC	35	100	70 - 130
7906415	Total Nickel (Ni)	2015/05/20	99	75 - 125	97	75 - 125	<0.80	mg/kg	3.8	30	98	70 - 130
7906415	Total Selenium (Se)	2015/05/20	103	75 - 125	104	75 - 125	<0.50	mg/kg	NC	30		
7906415	Total Silver (Ag)	2015/05/20	93	75 - 125	89	75 - 125	<0.050	mg/kg	NC	35	86	60 - 140
7906415	Total Strontium (Sr)	2015/05/20	100	75 - 125	97	75 - 125	<0.10	mg/kg	0.68	35	98	70 - 130
7906415	Total Tin (Sn)	2015/05/20	93	75 - 125	89	75 - 125	<0.10	mg/kg	NC	35		
7906415	Total Titanium (Ti)	2015/05/20	NC	75 - 125	97	75 - 125	<1.0	mg/kg	1.9	35	107	70 - 130
7906415	Total Vanadium (V)	2015/05/20	NC	75 - 125	101	75 - 125	<2.0	mg/kg	2.7	30	103	70 - 130
7906415	Total Zinc (Zn)	2015/05/20	NC	75 - 125	104	75 - 125	<1.0	mg/kg	1.8	30	92	70 - 130

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	**Parameter**	**Date**	**% Recovery**	**QC Limits**	**% Recovery**	**QC Limits**	**Value**	**Units**	**Value (%)**	**QC Limits**	**% Recovery**	**QC Limits**
7906421	Soluble (2:1) pH	2015/05/21			100	97 - 103			0.28	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) RDL raised due to sample matrix interference.

Maxxam Job #: B540152
Report Date: 2015/05/21

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: VANCOUVER, BC
Sampler Initials: NB

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 016064

Maxxam Job#: B540152

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: PERCE ORSO
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: KORSO@keystoneenviro. com

Report To:

Company Name:
Contact Name: N. BETCA
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail: nbotca@keystoneenviro. com

PO #:	
Quotation #:	
Project #:	12349
Proj. Name:	
Location:	Vancouver BC
Sampled By:	NB

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [X] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day

Date Required:

Special Instructions:

Return Cooler [ ] Ship Sample Bottles (please specify) [ ]

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH / MTBE	VOC/VPH	EPH / TEH	PAH / LEPH/HEPH	CCME-PHC (Fractions 1-4 Plus BTEX)	CCME-PHC (Fractions 2-4)	CCME BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by 4AAP / Phenols by GCMS	TOG / MOG / SVOG	Dissolved Metals / Field Filtered? Y N	Field Acidified? Y N	Totals Metals Field Acidified? Y N	Nitrate / Nitrite / Ammonia	Chloride / Fluoride / Sulphate	Total Suspended Solids-TSS / TDS	pH / Conductivity / Alkalinity	BOD	COD	Coliform, Total & E.coli / Fecal	Asbestos	SOIL Metals					# of containers	HOLD
1	MW15-17 (0.5)	MG1862	SOIL	15/05/14																											5	X
2	MW15-17 (1.5)	MG1863		10— — 13—	X																										5	X
3	MW15-17 (1.8)	MG1864			X																										5	X
4	MW15-17 (2.7)	MG1865			X																										5	X
5	MW15-17 (4.5)	MG1866																													5	X
6	BH15-18 (0.6)	MG1867																									X					2	X
7	BH15-18 (1.4)	MG1868																									X					2	X
8	BH15-19 (0.6)	MG1869																									X					2	X
9	BH15-19 (1.4)	MG1870																														2	X
10	BH15-A	MG1871																														1	X
11	BH15-B	MG1872																														2	X
12																																	

Samples are from a Drinking Water Source? YES [ ] NO [ ]
Does source supply multiple households? YES [ ] NO [ ]

Laboratory Use Only

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
[signature]	15/05/14	14:30	JOHN CURRIE	2015/05/14	16:20	[ ]	26, 26, 30 JS	Yes N/A No

White: Maxxam Yellow: Client

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Your Project #: 12349-14
Site Location: PRIOR STREET/ 456 PRIOR STREET, VANCOUVER BC
Your C.O.C. #: k003620

Attention:Nicole MacDonald

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/02/18
Report #: R1805408
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B511274
Received: 2015/02/11, 15:40

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
PAH in Water by GC/MS (SIM)	1	2015/02/13	2015/02/13	BBY8SOP-00021	EPA 8270d R4 m
PAH in Water by GC/MS (SIM)	1	2015/02/17	2015/02/18	BBY8SOP-00021	EPA 8270d R4 m

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
18 Feb 2015 17:39:24 -08:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B511274
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR STREET/ 456 PRIOR STREET, VANCOUVER BC
Sampler Initials: BL

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		LR2904		
Sampling Date		2015/02/11		
COC Number		k003620		
	Units	MW14-2	RDL	QC Batch
Polycyclic Aromatics				
Benzo(a)pyrene	ug/L	<0.0090	0.0090	7810032
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	106		7810032
D8-ACENAPHTHYLENE (sur.)	%	101		7810032
D8-NAPHTHALENE (sur.)	%	72		7810032
D9-Acridine	%	92		7810032
TERPHENYL-D14 (sur.)	%	92		7810032
RDL = Reportable Detection Limit				

Maxxam Job #: B511274
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR STREET/ 456 PRIOR STREET, VANCOUVER BC
Sampler Initials: BL

CSR PAH IN WATER BY GC-MS (WATER)

Maxxam ID		LR2905		
Sampling Date		2015/02/11		
COC Number		k003620		
	Units	**MW14-6**	**RDL**	**QC Batch**
Polycyclic Aromatics				
Pyrene	ug/L	0.12	0.020	7807826
Benzo(a)pyrene	ug/L	0.041	0.0090	7807826
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	99		7807826
D8-ACENAPHTHYLENE (sur.)	%	87		7807826
D8-NAPHTHALENE (sur.)	%	51		7807826
D9-Acridine	%	82		7807826
TERPHENYL-D14 (sur.)	%	67		7807826
RDL = Reportable Detection Limit				

Maxxam Job #: B511274
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR STREET/ 456 PRIOR STREET, VANCOUVER BC
Sampler Initials: BL

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	11.7°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Success Through Science®

Maxxam Job #: B511274
Report Date: 2015/02/18

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR STREET/ 456 PRIOR STREET, VANCOUVER BC
Sampler Initials: BL

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7807826	D10-ANTHRACENE (sur.)	2015/02/13	113	60 - 130	108	60 - 130	93	%		
7807826	D8-ACENAPHTHYLENE (sur.)	2015/02/13	100	50 - 130	94	50 - 130	82	%		
7807826	D8-NAPHTHALENE (sur.)	2015/02/13	64	50 - 130	73	50 - 130	51	%		
7807826	D9-Acridine	2015/02/13	102	50 - 130	94	50 - 130	81	%		
7807826	TERPHENYL-D14 (sur.)	2015/02/13	101	60 - 130	101	60 - 130	88	%		
7810032	D10-ANTHRACENE (sur.)	2015/02/18	106	60 - 130	113	60 - 130	110	%		
7810032	D8-ACENAPHTHYLENE (sur.)	2015/02/18	107	50 - 130	110	50 - 130	107	%		
7810032	D8-NAPHTHALENE (sur.)	2015/02/18	81	50 - 130	54	50 - 130	65	%		
7810032	D9-Acridine	2015/02/18	96	50 - 130	98	50 - 130	93	%		
7810032	TERPHENYL-D14 (sur.)	2015/02/18	91	60 - 130	105	60 - 130	101	%		
7807826	Benzo(a)pyrene	2015/02/13	116	60 - 130	104	60 - 130	<0.0090	ug/L	NC	40
7807826	Pyrene	2015/02/13	112	60 - 130	97	60 - 130	<0.020	ug/L	NC	40
7810032	Benzo(a)pyrene	2015/02/18	97	60 - 130	113	60 - 130	<0.0090	ug/L	1.8	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B511274
Report Date: 2015/02/18

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: PRIOR STREET/ 456 PRIOR STREET, VANCOUVER BC
Sampler Initials: BL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B511274

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 003620

Invoice To: Require Report? Yes ✓ No

Company Name: Keystone Environmental Ltd.
Contact Name: Nicole McDonald / Brian Lennon
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349-14
Proj. Name: Prior Street
Location: 456 Prior Street, Vancouver BC.
Sampled By: B. Lennon

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ✓ CSR
- CCME
- BC Water Quality
- Other
- DRINKING WATER

- ✓ Regular Turn Around Time (TAT) (5 days for most tests)
- RUSH (Please contact the lab)
- 1 Day / 2 Day / 3 Day
- Date Required:

Special Instructions:

Return Cooler **Ship Sample Bottles (please specify)**

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	Benzo(a) Pyrene	Pyrene		HOLD
1	MW14-2	LR2904	water	Feb. 11/15	X		2	
2	MW14-6	LR2905	"	"	X	X	2	
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

Other analysis columns (not selected): BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N), Field Acidified? Y N, Totals Metals Field Acidified? Y N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos

Samples are from a Drinking Water Source? YES NO
Does source supply multiple households? YES NO

B511274

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
Brian Lennon	15/02/11	3:40pm	MattaurelBertrand	2015/02/11	15:40		11, 12, 12 JS	Yes / No — NA

Laboratory Use Only

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1020-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Your C.O.C. #: K015626

Attention:Nicole MacDonald

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/02/25
Report #: R1810215
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B513254
Received: 2015/02/18, 17:20

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH, VH, F1 SIM/MS	3	2015/02/20	2015/02/20	BBY8SOP-00010, BBY8SOP-00011	EPA 8260c R3 m
Hardness (calculated as CaCO3)	3	N/A	2015/02/25	BBY7SOP-00002	EPA 6020a R1 m
Extrac. Pet HC when LEPH/HEPH required	3	2015/02/19	2015/02/20	BBY8SOP-00029	BCMOE EPH w 12/00 m
Elements by CRC ICPMS (dissolved)	3	N/A	2015/02/24	BBY7SOP-00002	EPA 6020A R1 m
PAH in Water by GC/MS (SIM)	2	2015/02/19	2015/02/20	BBY8SOP-00021	EPA 8270d R4 m
PAH in Water by GC/MS (SIM)	1	2015/02/19	2015/02/23	BBY8SOP-00021	EPA 8270d R4 m
Total LMW, HMW, Total PAH Calc	2	N/A	2015/02/23	BBY WI-00033	Auto Calc
Total LMW, HMW, Total PAH Calc	1	N/A	2015/02/24	BBY WI-00033	Auto Calc
Filter and HNO3 Preserve for Metals	3	N/A	2015/02/23	BBY7 WI-00004	BCMOE Reqs 08/14
EPH less PAH in Water by GC/FID	2	N/A	2015/02/23	BBY WI-00033	Auto Calc
EPH less PAH in Water by GC/FID	1	N/A	2015/02/24	BBY WI-00033	Auto Calc
Volatile HC-BTEX	3	N/A	2015/02/23	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
25 Feb 2015 15:05:47 -08:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B513254
Report Date: 2015/02/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		LS3031	LS3032	LS3033	
Sampling Date		2015/02/18	2015/02/18	2015/02/18	
COC Number		K015626	K015626	K015626	
	Units	MW15-8	MW15-9	MW15-10	QC Batch
Calculated Parameters					
Filter and HNO3 Preservation	N/A	FIELD	FIELD	FIELD	ONSITE

Maxxam Job #: B513254
Report Date: 2015/02/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

BCCSR BTEX/VPH IN WATER (WATER)

Maxxam ID		LS3031	LS3032	LS3033		
Sampling Date		2015/02/18	2015/02/18	2015/02/18		
COC Number		K015626	K015626	K015626		
	Units	**MW15-8**	**MW15-9**	**MW15-10**	**RDL**	**QC Batch**
Volatiles						
VPH (VHW6 to 10 - BTEX)	ug/L	720	3400	960	300	7812335
Benzene	ug/L	3.8	230	32	0.40	7813540
Toluene	ug/L	1.5	20	2.9	0.40	7813540
Ethylbenzene	ug/L	34	730	5.7	0.40	7813540
m & p-Xylene	ug/L	5.3	550	28	0.40	7813540
o-Xylene	ug/L	2.4	10	2.7	0.40	7813540
Styrene	ug/L	<0.40	<0.40	<0.40	0.40	7813540
Xylenes (Total)	ug/L	7.6	560	30	0.40	7813540
VH C6-C10	ug/L	770	5000	1000	300	7813540
Surrogate Recovery (%)						
1,4-Difluorobenzene (sur.)	%	100	98	100		7813540
4-Bromofluorobenzene (sur.)	%	96	98	97		7813540
D4-1,2-Dichloroethane (sur.)	%	97	91	96		7813540
RDL = Reportable Detection Limit						

Maxxam Job #: B513254
Report Date: 2015/02/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Maxxam ID		LS3031		LS3032		LS3033		
Sampling Date		2015/02/18		2015/02/18		2015/02/18		
COC Number		K015626		K015626		K015626		
	Units	**MW15-8**	**RDL**	**MW15-9**	**RDL**	**MW15-10**	**RDL**	**QC Batch**
Polycyclic Aromatics								
Low Molecular Weight PAH`s	ug/L	6.9	3.1	290	5.0	4.8	0.24	7812191
High Molecular Weight PAH`s	ug/L	<0.050	0.050	0.091	0.050	0.14	0.050	7812191
Total PAH	ug/L	6.9	3.1	290	5.0	4.9	0.24	7812191
Naphthalene	ug/L	<3.1 (1)	3.1	190 (2)	5.0	2.0	0.10	7813190
2-Methylnaphthalene	ug/L	6.3	0.10	100 (2)	5.0	1.9	0.10	7813190
Quinoline	ug/L	<0.41 (1)	0.41	<0.70 (1)	0.70	<0.24	0.24	7813190
Acenaphthylene	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Acenaphthene	ug/L	0.31	0.050	0.28	0.050	0.22	0.050	7813190
Fluorene	ug/L	0.16	0.050	0.16	0.050	0.25	0.050	7813190
Phenanthrene	ug/L	0.077	0.050	0.12	0.050	0.33	0.050	7813190
Anthracene	ug/L	0.025	0.010	0.021	0.010	0.084	0.010	7813190
Acridine	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Fluoranthene	ug/L	<0.020	0.020	0.048	0.020	0.076	0.020	7813190
Pyrene	ug/L	<0.020	0.020	0.044	0.020	0.066	0.020	7813190
Benzo(a)anthracene	ug/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	7813190
Chrysene	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Benzo(b&j)fluoranthene	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Benzo(k)fluoranthene	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Benzo(a)pyrene	ug/L	<0.0090	0.0090	<0.0090	0.0090	<0.0090	0.0090	7813190
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Dibenz(a,h)anthracene	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7813190
Calculated Parameters								
LEPH (C10-C19 less PAH)	mg/L	1.8	0.20	4.0	0.20	<0.20	0.20	7812332
HEPH (C19-C32 less PAH)	mg/L	<0.20	0.20	<0.20	0.20	<0.20	0.20	7812332
Ext. Pet. Hydrocarbon								
EPH (C10-C19)	mg/L	1.8	0.20	4.2	0.20	<0.20	0.20	7813194
EPH (C19-C32)	mg/L	<0.20	0.20	<0.20	0.20	<0.20	0.20	7813194
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	109		110		110		7813194
D10-ANTHRACENE (sur.)	%	102		105		95		7813190
D8-ACENAPHTHYLENE (sur.)	%	99		104		87		7813190
D8-NAPHTHALENE (sur.)	%	44 (3)		67		56		7813190

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.
(2) Detection limits raised due to dilution to bring analyte within the calibrated range.
(3) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B513254
Report Date: 2015/02/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Maxxam ID		LS3031		LS3032		LS3033		
Sampling Date		2015/02/18		2015/02/18		2015/02/18		
COC Number		K015626		K015626		K015626		
	Units	**MW15-8**	**RDL**	**MW15-9**	**RDL**	**MW15-10**	**RDL**	**QC Batch**
D9-Acridine	%	96		98		91		7813190
TERPHENYL-D14 (sur.)	%	75		80		73		7813190
RDL = Reportable Detection Limit								

Maxxam Job #: B513254
Report Date: 2015/02/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		LS3031	LS3032	LS3033	LS3033		
Sampling Date		2015/02/18	2015/02/18	2015/02/18	2015/02/18		
COC Number		K015626	K015626	K015626	K015626		
	Units	**MW15-8**	**MW15-9**	**MW15-10**	**MW15-10 Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics							
Dissolved Hardness (CaCO3)	mg/L	373	113	89.0		0.50	7812189
Dissolved Metals by ICPMS							
Dissolved Lead (Pb)	ug/L	10.8	2.20	<0.20	<0.20	0.20	7814074

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: B513254
Report Date: 2015/02/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.3°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Maxxam Job #: B513254
Report Date: 2015/02/25

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7813190	D10-ANTHRACENE (sur.)	2015/02/20	111	60 - 130	110	60 - 130	104	%		
7813190	D8-ACENAPHTHYLENE (sur.)	2015/02/20	105	50 - 130	104	50 - 130	98	%		
7813190	D8-NAPHTHALENE (sur.)	2015/02/20	73	50 - 130	78	50 - 130	66	%		
7813190	D9-Acridine	2015/02/20	96	50 - 130	94	50 - 130	88	%		
7813190	TERPHENYL-D14 (sur.)	2015/02/20	98	60 - 130	96	60 - 130	92	%		
7813194	O-TERPHENYL (sur.)	2015/02/20	112	50 - 130	108	50 - 130	107	%		
7813540	1,4-Difluorobenzene (sur.)	2015/02/20	99	70 - 130	102	70 - 130	105	%		
7813540	4-Bromofluorobenzene (sur.)	2015/02/20	97	70 - 130	96	70 - 130	96	%		
7813540	D4-1,2-Dichloroethane (sur.)	2015/02/20	92	70 - 130	91	70 - 130	95	%		
7813190	2-Methylnaphthalene	2015/02/21	88	50 - 130	80	50 - 130	<0.10	ug/L	NC	40
7813190	Acenaphthene	2015/02/21	103	50 - 130	91	50 - 130	<0.050	ug/L	NC	40
7813190	Acenaphthylene	2015/02/21	104	50 - 130	92	50 - 130	<0.050	ug/L	NC	40
7813190	Acridine	2015/02/21	98	50 - 130	86	50 - 130	<0.050	ug/L	NC	40
7813190	Anthracene	2015/02/21	114	60 - 130	101	60 - 130	<0.010	ug/L	NC	40
7813190	Benzo(a)anthracene	2015/02/21	93	60 - 130	80	60 - 130	<0.010	ug/L	NC	40
7813190	Benzo(a)pyrene	2015/02/21	107	60 - 130	95	60 - 130	<0.0090	ug/L	NC	40
7813190	Benzo(b&j)fluoranthene	2015/02/21	92	60 - 130	83	60 - 130	<0.050	ug/L	NC	40
7813190	Benzo(g,h,i)perylene	2015/02/21	73	60 - 130	84	60 - 130	<0.050	ug/L	NC	40
7813190	Benzo(k)fluoranthene	2015/02/21	106	60 - 130	91	60 - 130	<0.050	ug/L	NC	40
7813190	Chrysene	2015/02/21	95	60 - 130	81	60 - 130	<0.050	ug/L	NC	40
7813190	Dibenz(a,h)anthracene	2015/02/21	54 (1)	60 - 130	81	60 - 130	<0.050	ug/L	NC	40
7813190	Fluoranthene	2015/02/21	98	60 - 130	86	60 - 130	<0.020	ug/L	NC	40
7813190	Fluorene	2015/02/21	99	50 - 130	87	50 - 130	<0.050	ug/L	NC	40
7813190	Indeno(1,2,3-cd)pyrene	2015/02/21	88	60 - 130	88	60 - 130	<0.050	ug/L	NC	40
7813190	Naphthalene	2015/02/21	71	50 - 130	69	50 - 130	<0.10	ug/L	NC	40
7813190	Phenanthrene	2015/02/21	102	60 - 130	91	60 - 130	<0.050	ug/L	NC	40
7813190	Pyrene	2015/02/21	100	60 - 130	88	60 - 130	<0.020	ug/L	NC	40
7813190	Quinoline	2015/02/21	118	50 - 130	105	50 - 130	<0.24	ug/L	NC	40
7813194	EPH (C10-C19)	2015/02/20	113	50 - 130	99	50 - 130	<0.20	mg/L	NC	30
7813194	EPH (C19-C32)	2015/02/20	111	50 - 130	94	50 - 130	<0.20	mg/L	NC	30
7813540	Benzene	2015/02/20	95	70 - 130	93	70 - 130	<0.40	ug/L	NC	30
7813540	Ethylbenzene	2015/02/20	99	70 - 130	97	70 - 130	<0.40	ug/L	NC	30

Maxxam Job #: B513254
Report Date: 2015/02/25

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7813540	m & p-Xylene	2015/02/20	94	70 - 130	92	70 - 130	<0.40	ug/L	NC	30
7813540	o-Xylene	2015/02/20	96	70 - 130	94	70 - 130	<0.40	ug/L	NC	30
7813540	Styrene	2015/02/20	93	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
7813540	Toluene	2015/02/20	91	70 - 130	88	70 - 130	<0.40	ug/L	NC	30
7813540	VH C6-C10	2015/02/20			101	70 - 130	<300	ug/L		
7813540	Xylenes (Total)	2015/02/20					<0.40	ug/L	NC	30
7814074	Dissolved Lead (Pb)	2015/02/24	114	80 - 120	104	80 - 120	<0.20	ug/L	NC	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B513254
Report Date: 2015/02/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR. VANCOUVER BC
Sampler Initials: BL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B513254

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 015626

Invoice To: Require Report? Yes [✓] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Nicole McDonald/Brian Lennon
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail:

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail:

PO #:	
Quotation #:	
Project #:	12349-14
Proj. Name:	456 Prior Str
Location:	456 Prior Str. Vancouver BC
Sampled By:	B. Lennon

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [✓] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [✓] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required:

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH / MTBE [X]	VOC/VPH	EPH / TEH	PAH [X] / LEPH/HEPH [X]	CCME-PHC (Fractions 1-4 Plus BTEX)	CCME-PHC (Fractions 2-4)	CCME BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by 4AAP / Phenols by GCMS	TOG / MOG / SWOG	Dissolved Metals: Field Filtered? Y N	Dissolved Metals: Field Acidified? Y N	Totals Metals Field Acidified? Y N	Nitrate / Nitrite / Ammonia	Chloride / Fluoride / Sulphate	Total Suspended Solids-TSS / TDS	pH / Conductivity / Alkalinity	BOD	COD	Coliform, Total & E.coli / Fecal	Asbestos	dissolved lead					# of containers	HOLD
1	MW15-8	LS3031	Water	Feb 18/15	X			X																		X						
2	MW15-9	LS3032			X			X																		X						
3	MW15-10	LS3033			X			X																		X						
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

B513254

Samples are from a Drinking Water Source? YES [ ] NO [ ]
Does source supply multiple households? YES [ ] NO [ ]

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:
Brian Lennon	15/02/18	5:18 pm	JOHN CURRIE	2015/02/18	17:20

Laboratory Use Only

Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
[ ]	9, 11, 8 JS	Yes NA No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

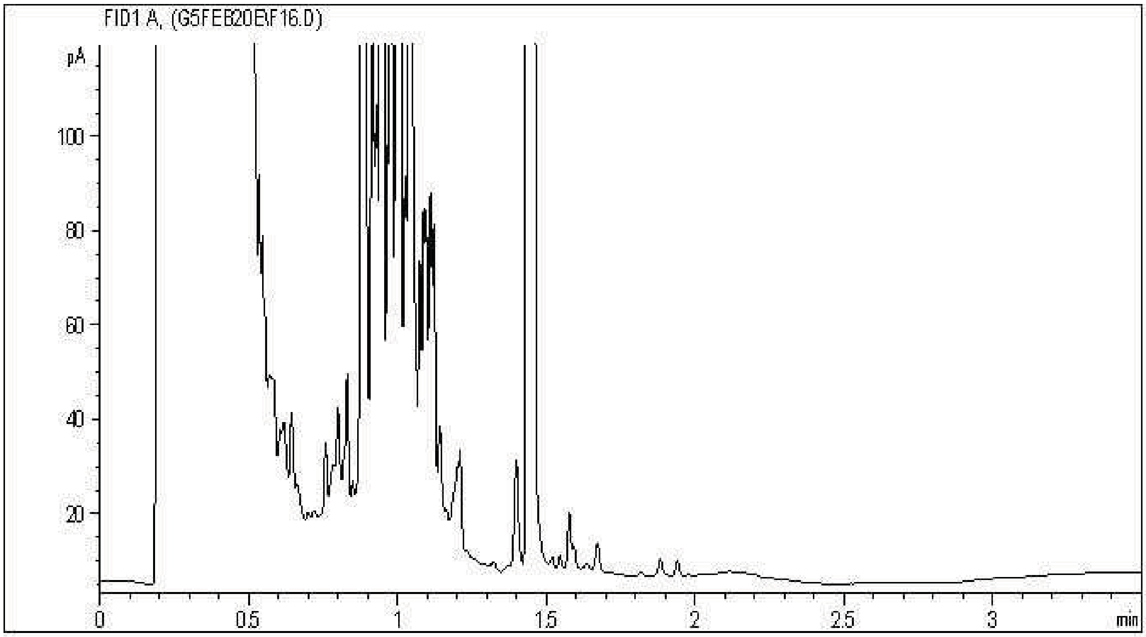
COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

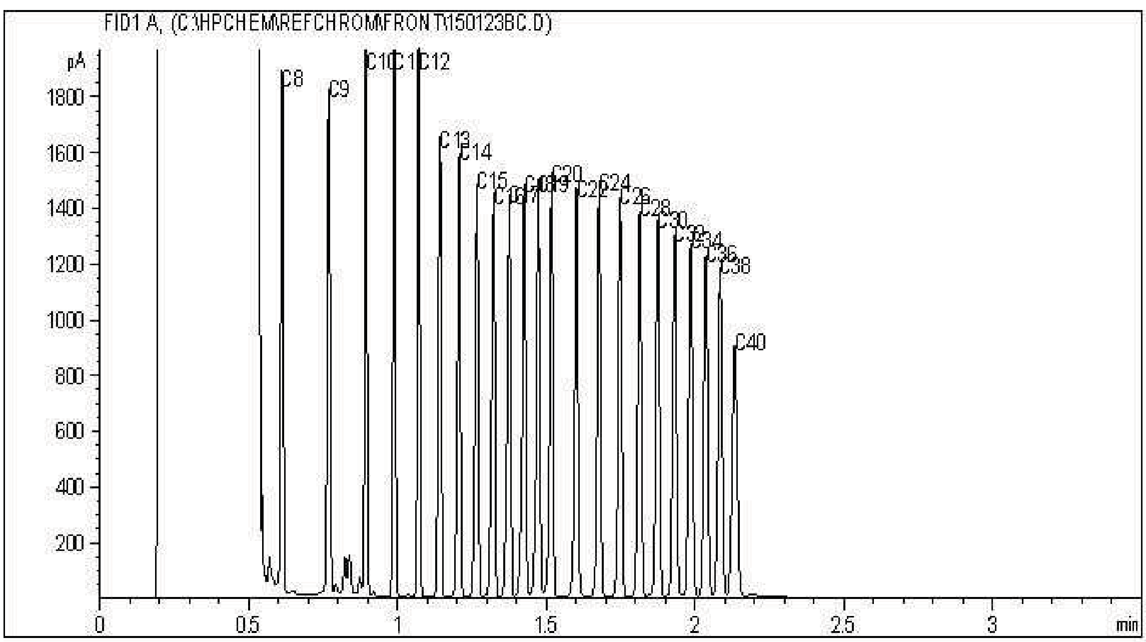
Maxxam Job #: B513254
Report Date: 2015/02/25
Maxxam Sample: LS3031

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: 456 PRIOR STR. VANCOUVER BC
Client ID: MW15-8

Extrac. Pet HC when LEPH/HEPH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



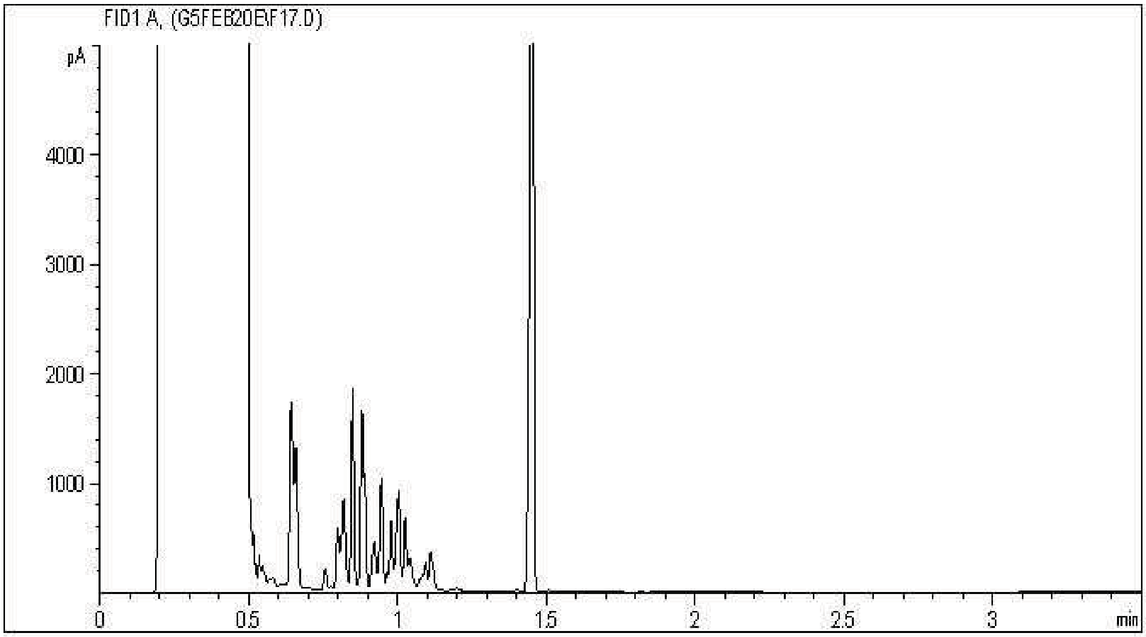
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

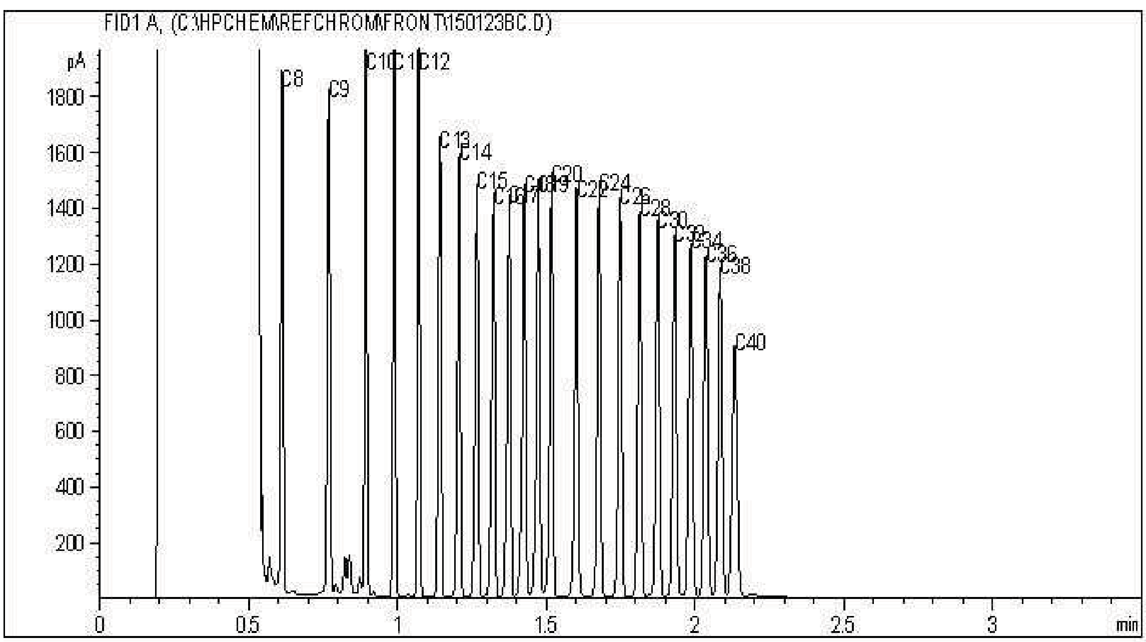
Maxxam Job #: B513254
Report Date: 2015/02/25
Maxxam Sample: LS3032

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: 456 PRIOR STR. VANCOUVER BC
Client ID: MW15-9

Extrac. Pet HC when LEPH/HEPH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



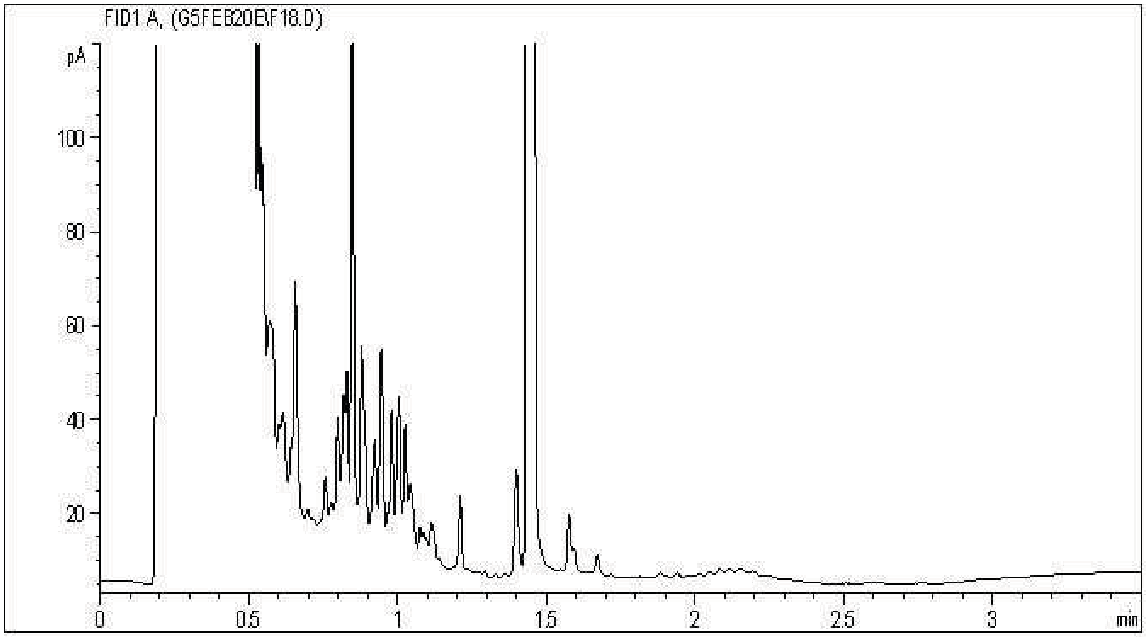
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

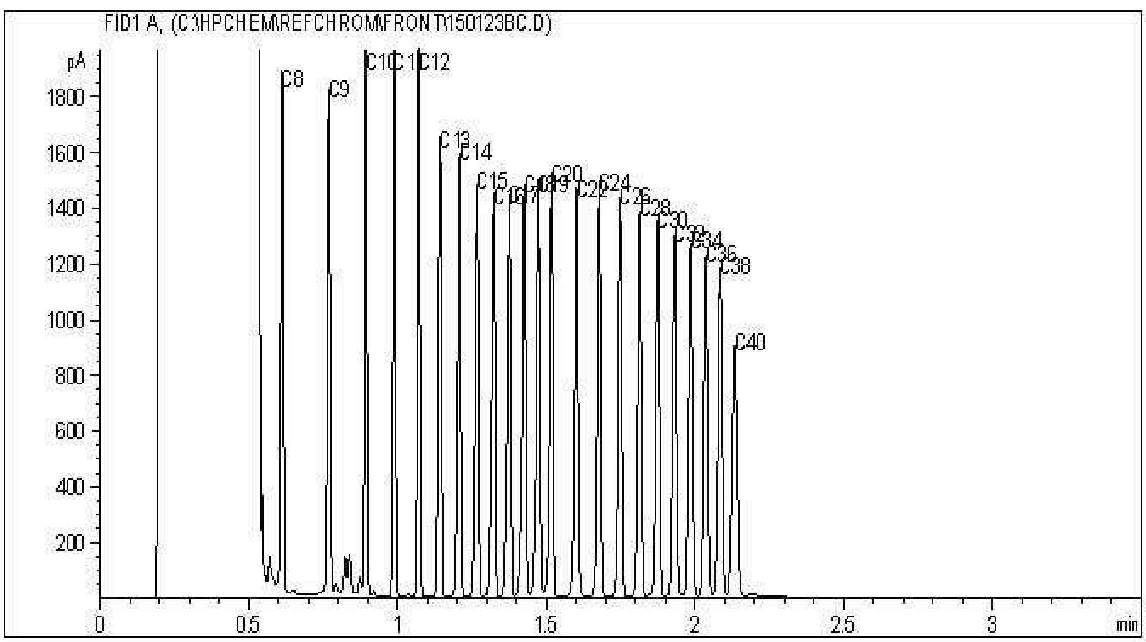
Maxxam Job #: B513254
Report Date: 2015/02/25
Maxxam Sample: LS3033

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: 456 PRIOR STR. VANCOUVER BC
Client ID: MW15-10

Extrac. Pet HC when LEPH/HEPH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 12349
Your C.O.C. #: K000804

Attention:Nicole MacDonald
KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/03/16
Report #: R1821862
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B520496
Received: 2015/03/13, 09:10

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH, VH, F1 SIM/MS	2	2015/03/13	2015/03/13	BBY8SOP-00010, BBY8SOP-00011	EPA 8260c R3 m
Volatile HC-BTEX	2	N/A	2015/03/16	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
16 Mar 2015 16:05:54 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B520496
Report Date: 2015/03/16

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

BCCSR BTEX/VPH IN WATER (WATER)

Maxxam ID		LW2983	LW2984		
Sampling Date		2015/03/12	2015/03/12		
COC Number		K000804	K000804		
	Units	**MW14-6**	**MW14-7**	**RDL**	**QC Batch**
Volatiles					
VPH (VHW6 to 10 - BTEX)	ug/L	<300	<300	300	7835040
Benzene	ug/L	<0.40	<0.40	0.40	7836054
Toluene	ug/L	<0.40	<0.40	0.40	7836054
Ethylbenzene	ug/L	<0.40	<0.40	0.40	7836054
m & p-Xylene	ug/L	<0.40	<0.40	0.40	7836054
o-Xylene	ug/L	<0.40	<0.40	0.40	7836054
Styrene	ug/L	<0.40	<0.40	0.40	7836054
Xylenes (Total)	ug/L	<0.40	<0.40	0.40	7836054
VH C6-C10	ug/L	<300	<300	300	7836054
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	95	94		7836054
4-Bromofluorobenzene (sur.)	%	101	99		7836054
D4-1,2-Dichloroethane (sur.)	%	110	105		7836054
RDL = Reportable Detection Limit					

Maxxam Job #: B520496
Report Date: 2015/03/16

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.7°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B520496
Report Date: 2015/03/16

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7836054	1,4-Difluorobenzene (sur.)	2015/03/13	92	70 - 130	93	70 - 130	96	%		
7836054	4-Bromofluorobenzene (sur.)	2015/03/13	98	70 - 130	98	70 - 130	97	%		
7836054	D4-1,2-Dichloroethane (sur.)	2015/03/13	103	70 - 130	103	70 - 130	104	%		
7836054	Benzene	2015/03/13	115	70 - 130	110	70 - 130	<0.40	ug/L	NC	30
7836054	Ethylbenzene	2015/03/13	124	70 - 130	116	70 - 130	<0.40	ug/L	NC	30
7836054	m & p-Xylene	2015/03/13	118	70 - 130	111	70 - 130	<0.40	ug/L	NC	30
7836054	o-Xylene	2015/03/13	117	70 - 130	111	70 - 130	<0.40	ug/L	NC	30
7836054	Styrene	2015/03/13	122	70 - 130	118	70 - 130	<0.40	ug/L		
7836054	Toluene	2015/03/13	112	70 - 130	106	70 - 130	<0.40	ug/L	NC	30
7836054	VH C6-C10	2015/03/13			102	70 - 130	<300	ug/L		
7836054	Xylenes (Total)	2015/03/13					<0.40	ug/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B520496
Report Date: 2015/03/16

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

Keystone Environmental Ltd. #320-4400 Dominion Street Burnaby, BC V5G 4G3 Phone: (604)430-0671 Fax: (604)430-0672

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 000804

Maxxam Job#: B520496

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd

Contact Name: N Macdonald

Address: 320 Dominion way

Burnaby PC:

Phone / Fax#: Ph: 6044300671 Fax: 6044300672

E-mail: nmacdonald@keystoneenv.com

Report To:

Company Name:

Contact Name:

Address:

PC:

Phone / Fax#: Ph: Fax:

E-mail

PO #:	
Quotation #:	
Project #:	12849
Proj. Name:	
Location:	
Sampled By:	RSM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [ ] Regular Turn Around Time (TAT) (5 days for most tests)
- [X] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required: Mar 16

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

Analysis columns: BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GC/MS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N; Field Acidified? Y N), Totals Metals (Field Acidified? Y N), Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, HOLD

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH
1	MW14-6	LW2983	water	Mar 12/15	X
2	MW14-7	LW2984	↓	↓	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

B520496

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
RSM	15/03/13		[illegible]	15/03/13	09:10	✓	7, 7, 9	Yes [ ] No [ ] N/A

Laboratory Use Only

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1020-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349
Your C.O.C. #: K003635

Attention:Nicole MacDonald

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/03/19
Report #: R1825714
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B520500
Received: 2015/03/13, 09:10

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
PAH in Water by GC/MS (SIM)	1	2015/03/17	2015/03/18	BBY8SOP-00021	EPA 8270d R4 m
PAH in Water by GC/MS (SIM)	1	2015/03/17	2015/03/19	BBY8SOP-00021	EPA 8270d R4 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
19 Mar 2015 17:46:26 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B520500
Report Date: 2015/03/19

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		LW2991	LW2992		
Sampling Date		2015/03/12	2015/03/12		
COC Number		K003635	K003635		
	Units	MW14-2	MW14-6	RDL	QC Batch
Polycyclic Aromatics					
Pyrene	ug/L		0.055	0.020	7838535
Benzo(a)pyrene	ug/L	0.029	0.022	0.0090	7838535
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	116	113		7838535
D8-ACENAPHTHYLENE (sur.)	%	110	119		7838535
D8-NAPHTHALENE (sur.)	%	52	88		7838535
D9-Acridine	%	95	105		7838535
TERPHENYL-D14 (sur.)	%	100	102		7838535
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B520500
Report Date: 2015/03/19

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.7°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B520500
Report Date: 2015/03/19

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7838535	D10-ANTHRACENE (sur.)	2015/03/18	117	60 - 130	113	60 - 130	114	%		
7838535	D8-ACENAPHTHYLENE (sur.)	2015/03/18	115	50 - 130	109	50 - 130	107	%		
7838535	D8-NAPHTHALENE (sur.)	2015/03/18	93	50 - 130	74	50 - 130	88	%		
7838535	D9-Acridine	2015/03/18	99	50 - 130	94	50 - 130	93	%		
7838535	TERPHENYL-D14 (sur.)	2015/03/18	90	60 - 130	105	60 - 130	106	%		
7838535	Benzo(a)pyrene	2015/03/18	94	60 - 130	108	60 - 130	<0.0090	ug/L	NC	40
7838535	Pyrene	2015/03/18	103	60 - 130	97	60 - 130	<0.020	ug/L	NC	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B520500
Report Date: 2015/03/19

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B520500

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 003635

Invoice To: Require Report? Yes ☐ No ☐

Company Name: Keystone Environmental Ltd.
Contact Name: N Macdonald
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: nmacdonald@keystoneenv.ca

Report To:

Company Name:
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349
Proj. Name:
Location:
Sampled By: RFM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ☐ CSR
- ☐ CCME
- ☐ BC Water Quality
- ☐ Other
- ☐ DRINKING WATER

- ☑ Regular Turn Around Time (TAT) (5 days for most tests)
- ☐ RUSH (Please contact the lab)
- ☐ 1 Day ☐ 2 Day ☐ 3 Day
- Date Required:

Special Instructions:
Return Cooler ☐ **Ship Sample Bottles (please specify)** ☐

ANALYSIS REQUESTED

#	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH / MTBE	VOC/VPH	EPH / TEH	PAH / LEPH/HEPH	CCME-PHC (Fractions 1-4 Plus BTEX)	CCME-PHC (Fractions 2-4)	CCME BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by 4AAP / Phenols by GCMS	TOG / MOG / SWOG	Dissolved Metals (Field Filtered? Y N)	Field Acidified? Y N	Totals Metals Field Acidified? Y N	Nitrate / Nitrite / Ammonia	Chloride / Fluoride / Sulphate	Total Suspended Solids-TSS / TDS	pH / Conductivity / Alkalinity	BOD	COD	Coliform, Total & E.coli / Fecal	Asbestos	benzo(a)pyrene	pyrene	HOLD
1	MW14-2	LW2991	water	Mar 12/15																						X		
2	MW14-6	LW2992																								X	X	
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

B520500

Samples are from a Drinking Water Source? YES ☐ NO ☐
Does source supply multiple households? YES ☐ NO ☐

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
RFM	15/03/13	0906		2015/03/13	09:10	✓	7, 7, 9	Yes ☐ No ☑

Laboratory Use Only

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1020-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Your C.O.C. #: K015933

Attention:Nicole MacDonald

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/03/24
Report #: R1831469
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B522594
Received: 2015/03/19, 18:02

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH, VH, F1 SIM/MS	4	2015/03/20	2015/03/23	BBY8SOP-00010, BBY8SOP-00011	EPA 8260c R3 m
Hardness (calculated as CaCO3)	4	N/A	2015/03/24	BBY7SOP-00002	EPA 6020a R1 m
Extrac. Pet HC when LEPH/HEPH required	4	2015/03/23	2015/03/23	BBY8SOP-00029	BCMOE EPH w 12/00 m
Elements by CRC ICPMS (dissolved)	4	N/A	2015/03/23	BBY7SOP-00002	EPA 6020A R1 m
PAH in Water by GC/MS (SIM)	4	2015/03/23	2015/03/23	BBY8SOP-00021	EPA 8270d R4 m
Total LMW, HMW, Total PAH Calc	4	N/A	2015/03/24	BBY WI-00033	Auto Calc
Filter and HNO3 Preserve for Metals	1	N/A	2015/03/23	BBY7 WI-00004	BCMOE Reqs 08/14
Filter and HNO3 Preserve for Metals	3	N/A	2015/03/24	BBY7 WI-00004	BCMOE Reqs 08/14
EPH less PAH in Water by GC/FID	4	N/A	2015/03/24	BBY WI-00033	Auto Calc
Volatile HC-BTEX	4	N/A	2015/03/24	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
24 Mar 2015 19:02:37 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B522594
Report Date: 2015/03/24

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		LX4164	LX4165	LX4166	LX4167	
Sampling Date		2015/03/19	2015/03/19	2015/03/19	2015/03/19	
COC Number		K015933	K015933	K015933	K015933	
	Units	**MW15-11**	**MW15-13**	**MW15-14**	**MW15-15**	**QC Batch**
Calculated Parameters						
Filter and HNO3 Preservation	N/A	FIELD	FIELD	FIELD	FIELD	ONSITE

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B522594
Report Date: 2015/03/24

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

BCCSR BTEX/VPH IN WATER (WATER)

Maxxam ID		LX4164	LX4165	LX4166	LX4167		
Sampling Date		2015/03/19	2015/03/19	2015/03/19	2015/03/19		
COC Number		K015933	K015933	K015933	K015933		
	Units	**MW15-11**	**MW15-13**	**MW15-14**	**MW15-15**	**RDL**	**QC Batch**
Volatiles							
VPH (VHW6 to 10 - BTEX)	ug/L	<300	<300	<300	<300	300	7842746
Benzene	ug/L	<0.40	<0.40	<0.40	5.8	0.40	7843163
Toluene	ug/L	<0.40	<0.40	<0.40	0.99	0.40	7843163
Ethylbenzene	ug/L	<0.40	<0.40	<0.40	1.3	0.40	7843163
m & p-Xylene	ug/L	<0.40	<0.40	<0.40	6.0	0.40	7843163
o-Xylene	ug/L	<0.40	<0.40	<0.40	1.1	0.40	7843163
Styrene	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	7843163
Xylenes (Total)	ug/L	<0.40	<0.40	<0.40	7.1	0.40	7843163
VH C6-C10	ug/L	<300	<300	<300	<300	300	7843163
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	110	112	110	108		7843163
4-Bromofluorobenzene (sur.)	%	101	103	101	102		7843163
D4-1,2-Dichloroethane (sur.)	%	94	96	93	96		7843163
RDL = Reportable Detection Limit							

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B522594
Report Date: 2015/03/24

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Maxxam ID		LX4164	LX4165	LX4166		LX4167		
Sampling Date		2015/03/19	2015/03/19	2015/03/19		2015/03/19		
COC Number		K015933	K015933	K015933		K015933		
	Units	MW15-11	MW15-13	MW15-14	RDL	MW15-15	RDL	QC Batch
Polycyclic Aromatics								
Low Molecular Weight PAH`s	ug/L	<0.24	<0.24	<0.24	0.24	<0.48	0.48	7842744
High Molecular Weight PAH`s	ug/L	<0.050	<0.050	0.064	0.050	0.064	0.050	7842744
Total PAH	ug/L	<0.24	<0.24	<0.24	0.24	0.49	0.48	7842744
Naphthalene	ug/L	<0.10	<0.10	<0.10	0.10	<0.48 (1)	0.48	7844222
2-Methylnaphthalene	ug/L	<0.10	<0.10	<0.10	0.10	0.25	0.10	7844222
Quinoline	ug/L	<0.24	<0.24	<0.24	0.24	<0.24	0.24	7844222
Acenaphthylene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Acenaphthene	ug/L	<0.050	<0.050	0.055	0.050	0.093	0.050	7844222
Fluorene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Phenanthrene	ug/L	<0.050	<0.050	0.059	0.050	0.065	0.050	7844222
Anthracene	ug/L	<0.010	<0.010	0.010	0.010	0.010	0.010	7844222
Acridine	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Fluoranthene	ug/L	<0.020	<0.020	0.036	0.020	0.036	0.020	7844222
Pyrene	ug/L	<0.020	<0.020	0.028	0.020	0.028	0.020	7844222
Benzo(a)anthracene	ug/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	7844222
Chrysene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Benzo(b&j)fluoranthene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	<0.0090	0.0090	<0.0090	0.0090	7844222
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Dibenz(a,h)anthracene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	<0.050	0.050	<0.050	0.050	7844222
Calculated Parameters								
LEPH (C10-C19 less PAH)	mg/L	<0.20	<0.20	<0.20	0.20	<0.20	0.20	7842745
HEPH (C19-C32 less PAH)	mg/L	<0.20	<0.20	<0.20	0.20	<0.20	0.20	7842745
Ext. Pet. Hydrocarbon								
EPH (C10-C19)	mg/L	<0.20	<0.20	<0.20	0.20	<0.20	0.20	7844229
EPH (C19-C32)	mg/L	<0.20	<0.20	<0.20	0.20	<0.20	0.20	7844229
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	91	88	90		89		7844229
D10-ANTHRACENE (sur.)	%	111	109	117		120		7844222
D8-ACENAPHTHYLENE (sur.)	%	112	114	113		112		7844222
D8-NAPHTHALENE (sur.)	%	101	112	106		95		7844222
D9-Acridine	%	106	109	106		107		7844222

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B522594
Report Date: 2015/03/24

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Maxxam ID		LX4164	LX4165	LX4166		LX4167		
Sampling Date		2015/03/19	2015/03/19	2015/03/19		2015/03/19		
COC Number		K015933	K015933	K015933		K015933		
	Units	**MW15-11**	**MW15-13**	**MW15-14**	**RDL**	**MW15-15**	**RDL**	**QC Batch**
TERPHENYL-D14 (sur.)	%	116	115	116		116		7844222
RDL = Reportable Detection Limit								

Maxxam Job #: B522594
Report Date: 2015/03/24

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		LX4164	LX4165	LX4166	LX4167	LX4167		
Sampling Date		2015/03/19	2015/03/19	2015/03/19	2015/03/19	2015/03/19		
COC Number		K015933	K015933	K015933	K015933	K015933		
	Units	**MW15-11**	**MW15-13**	**MW15-14**	**MW15-15**	**MW15-15 Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	418	131	155	206		0.50	7842365
Dissolved Metals by ICPMS								
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	0.35	0.58	0.56	0.20	7842935
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate								

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	11.0°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B522594
Report Date: 2015/03/24

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7843163	1,4-Difluorobenzene (sur.)	2015/03/23	110	70 - 130	109	70 - 130	111	%		
7843163	4-Bromofluorobenzene (sur.)	2015/03/23	101	70 - 130	100	70 - 130	101	%		
7843163	D4-1,2-Dichloroethane (sur.)	2015/03/23	92	70 - 130	93	70 - 130	94	%		
7844222	D10-ANTHRACENE (sur.)	2015/03/23			114	60 - 130	110	%		
7844222	D8-ACENAPHTHYLENE (sur.)	2015/03/23			112	50 - 130	105	%		
7844222	D8-NAPHTHALENE (sur.)	2015/03/23			101	50 - 130	94	%		
7844222	D9-Acridine	2015/03/23			106	50 - 130	100	%		
7844222	TERPHENYL-D14 (sur.)	2015/03/23			118	60 - 130	110	%		
7844229	O-TERPHENYL (sur.)	2015/03/23	102	50 - 130	98	50 - 130	91	%		
7842935	Dissolved Lead (Pb)	2015/03/23	94	80 - 120	100	80 - 120	<0.20	ug/L	NC	20
7843163	Benzene	2015/03/23	87	70 - 130	85	70 - 130	<0.40	ug/L	NC	30
7843163	Ethylbenzene	2015/03/23	95	70 - 130	92	70 - 130	<0.40	ug/L	NC	30
7843163	m & p-Xylene	2015/03/23	92	70 - 130	89	70 - 130	<0.40	ug/L	NC	30
7843163	o-Xylene	2015/03/23	92	70 - 130	89	70 - 130	<0.40	ug/L	NC	30
7843163	Styrene	2015/03/23	91	70 - 130	88	70 - 130	<0.40	ug/L		
7843163	Toluene	2015/03/23	86	70 - 130	83	70 - 130	<0.40	ug/L	NC	30
7843163	VH C6-C10	2015/03/23			113	70 - 130	<300	ug/L	NC	30
7843163	Xylenes (Total)	2015/03/23					<0.40	ug/L	NC	30
7844222	2-Methylnaphthalene	2015/03/23			103	50 - 130	<0.10	ug/L		
7844222	Acenaphthene	2015/03/23			106	50 - 130	<0.050	ug/L		
7844222	Acenaphthylene	2015/03/23			109	50 - 130	<0.050	ug/L		
7844222	Acridine	2015/03/23			109	50 - 130	<0.050	ug/L		
7844222	Anthracene	2015/03/23			115	60 - 130	<0.010	ug/L		
7844222	Benzo(a)anthracene	2015/03/23			104	60 - 130	<0.010	ug/L		
7844222	Benzo(a)pyrene	2015/03/23			106	60 - 130	<0.0090	ug/L		
7844222	Benzo(b&j)fluoranthene	2015/03/23			110	60 - 130	<0.050	ug/L		
7844222	Benzo(g,h,i)perylene	2015/03/23			103	60 - 130	<0.050	ug/L		
7844222	Benzo(k)fluoranthene	2015/03/23			103	60 - 130	<0.050	ug/L		
7844222	Chrysene	2015/03/23			108	60 - 130	<0.050	ug/L		
7844222	Dibenz(a,h)anthracene	2015/03/23			105	60 - 130	<0.050	ug/L		
7844222	Fluoranthene	2015/03/23			112	60 - 130	<0.020	ug/L		
7844222	Fluorene	2015/03/23			99	50 - 130	<0.050	ug/L		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B522594
Report Date: 2015/03/24

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7844222	Indeno(1,2,3-cd)pyrene	2015/03/23			106	60 - 130	<0.050	ug/L		
7844222	Naphthalene	2015/03/23			95	50 - 130	<0.10	ug/L		
7844222	Phenanthrene	2015/03/23			104	60 - 130	<0.050	ug/L		
7844222	Pyrene	2015/03/23			113	60 - 130	<0.020	ug/L		
7844222	Quinoline	2015/03/23			106	50 - 130	<0.24	ug/L		
7844229	EPH (C10-C19)	2015/03/23	NC	50 - 130	91	50 - 130	<0.20	mg/L	1.9	30
7844229	EPH (C19-C32)	2015/03/23	98	50 - 130	103	50 - 130	<0.20	mg/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B522594
Report Date: 2015/03/24

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Location: 456 PRIOR STR., VANCOUVER, BC
Sampler Initials: BL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Data Validation Coordinator

Jennifer Villocero, Project Manager

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B522594

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 015933

Invoice To: Require Report? Yes ✓ No

Company Name:	Keystone Environmental Ltd.
Contact Name:	Nicole McDonald / matt caddaford
Address:	#320-4400 Dominion Street
	Burnaby, BC PC: V5G 4G3
Phone / Fax#:	Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail	

Report To:

Company Name:	
Contact Name:	
Address:	
PC:	
Phone / Fax#:	Ph: Fax:
E-mail	

PO #:	
Quotation #:	
Project #:	12349-14
Proj. Name:	456 Prior Str.
Location:	456 Prior Str. Vancouver, BC
Sampled By:	B. Lanno.

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- ☑ CSR
- ☐ CCME
- ☐ BC Water Quality
- ☐ Other
- ☐ DRINKING WATER

- ☑ Regular Turn Around Time (TAT) (5 days for most tests)
- ☐ RUSH (Please contact the lab) ☐ 1 Day ☐ 2 Day ☐ 3 Day
- Date Required:

Special Instructions:

Return Cooler ☐ **Ship Sample Bottles (please specify)** ☐

ANALYSIS REQUESTED

Columns on form: BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y/N; Field Acidified? Y/N), Totals Metals Field Acidified? Y/N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, dissolved Lead, # of containers, HOLD

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH	PAH	dissolved Lead	# of containers
1	mw15-11	LX4164	water	March 19/15	X	X	X	7
2	mw15-13	LX4165	↓	↓	X	X	X	7
3	mw15-14	LX4166			X	X	X	7
4	mw15-15	LX4167			X	X	X	7
5								
6								
7								
8								
9								
10								
11								
12								

B522594

Samples are from a Drinking Water Source? YES / NO

Does source supply multiple households? YES / NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:
Brian Lanno	15/03/19	6:02PM	Tommy Shore	15/03/19	18:02

Laboratory Use Only

Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
☐	11, 11, 11 JS	Yes ☐ No ✓

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

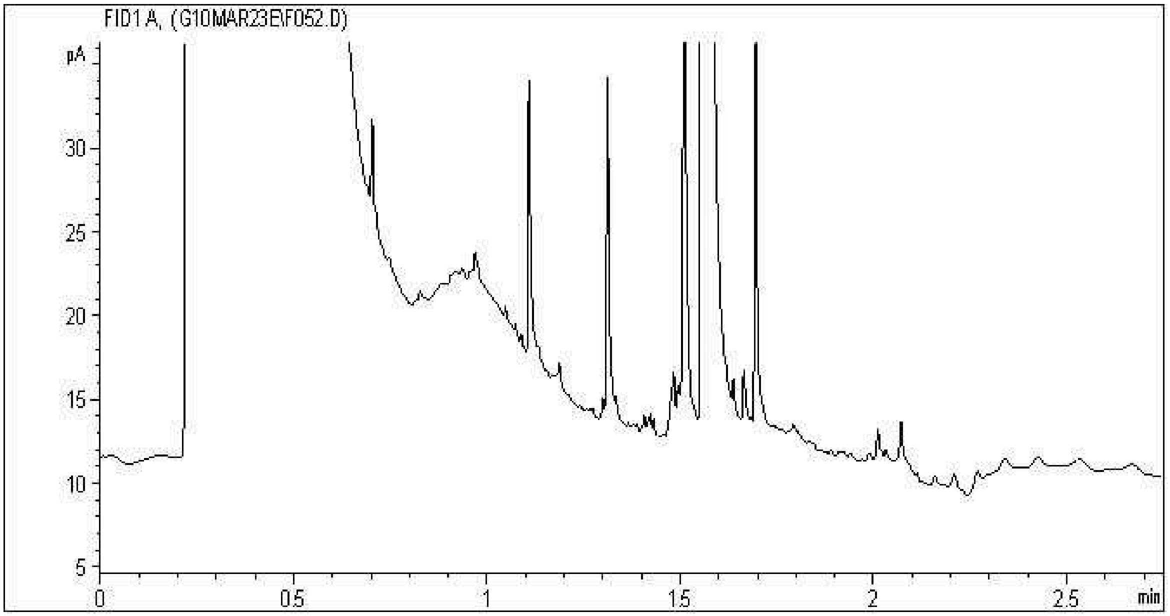
COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

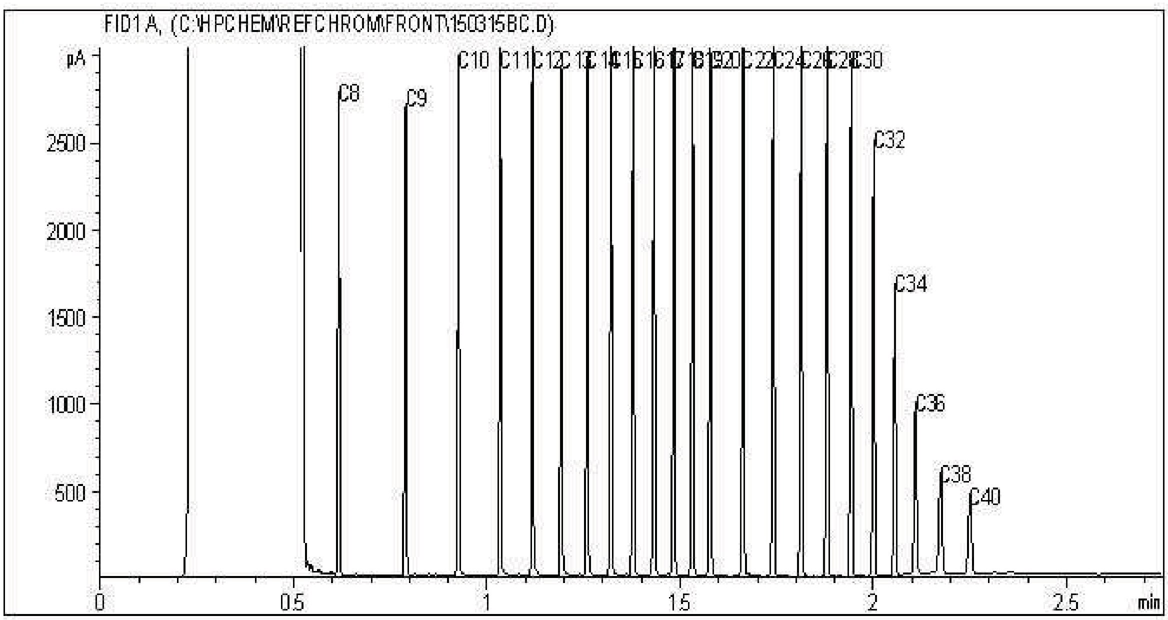
Maxxam Job #: B522594
Report Date: 2015/03/24
Maxxam Sample: LX4164

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: 456 PRIOR STR., VANCOUVER, BC
Client ID: MW15-11

Extrac. Pet HC when LEPH/HEPH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

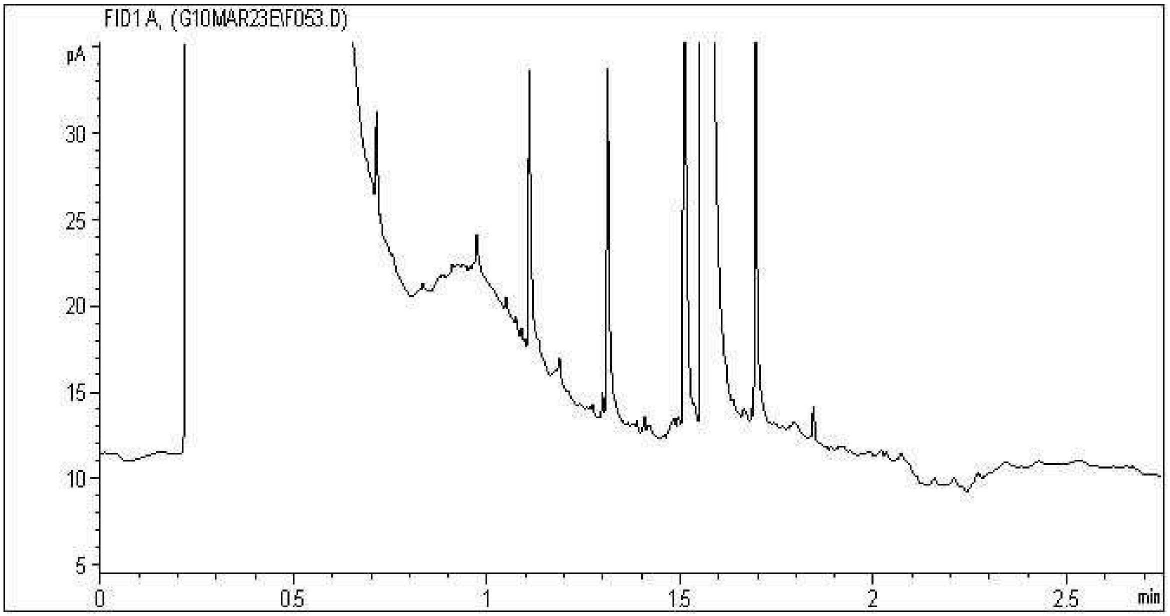
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

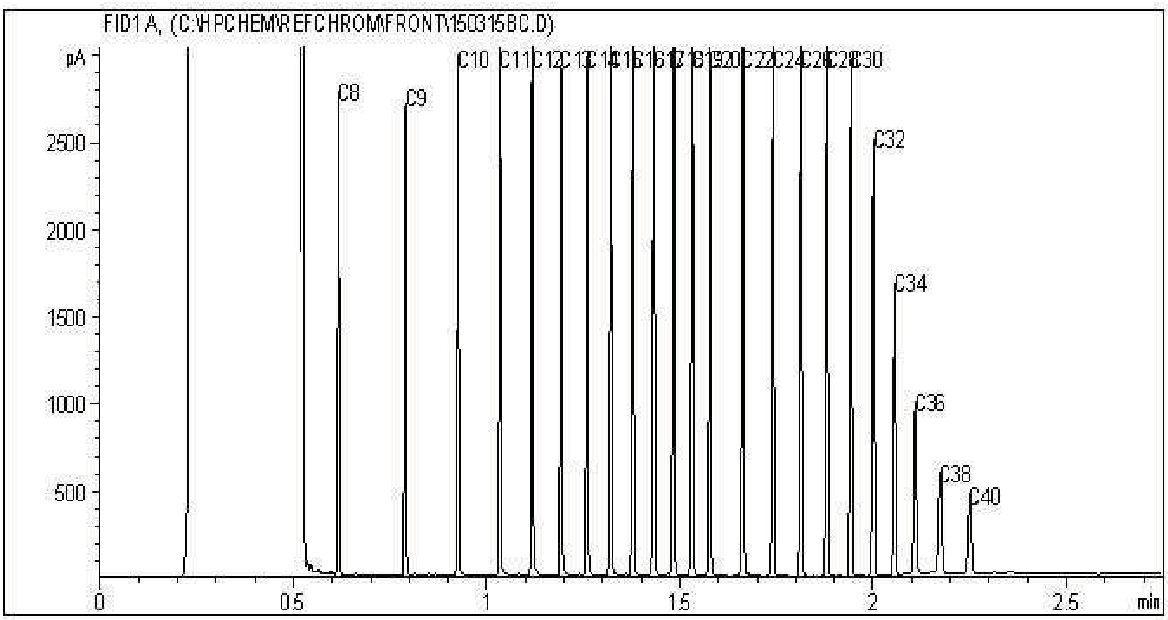
Maxxam Job #: B522594
Report Date: 2015/03/24
Maxxam Sample: LX4165

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: 456 PRIOR STR., VANCOUVER, BC
Client ID: MW15-13

Extrac. Pet HC when LEPH/HEPH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

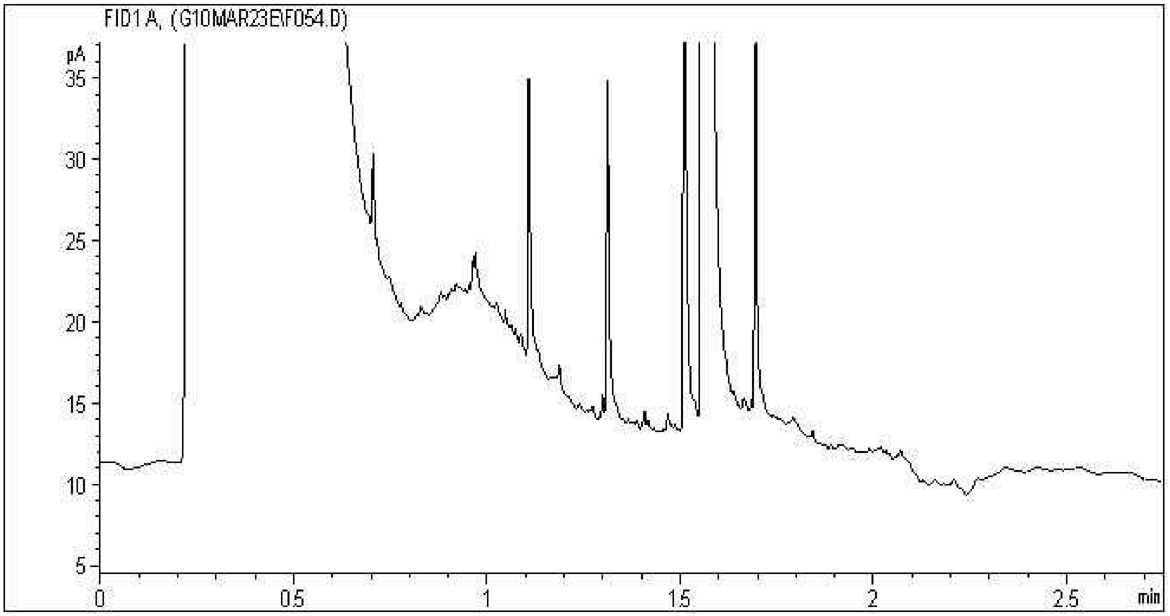
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

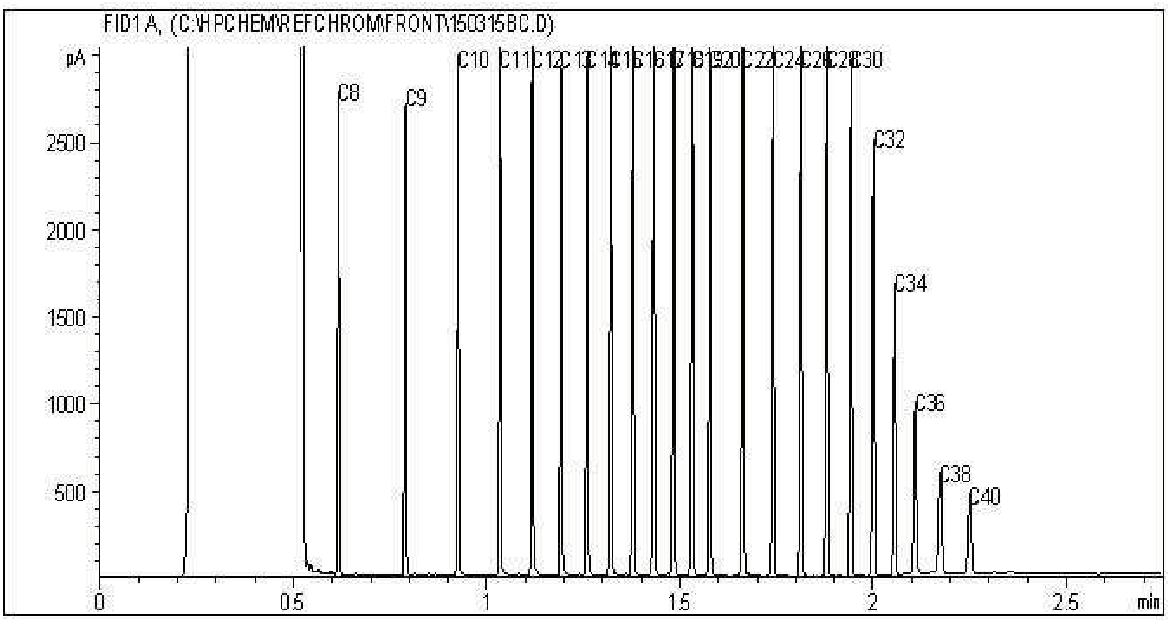
Maxxam Job #: B522594
Report Date: 2015/03/24
Maxxam Sample: LX4166

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: 456 PRIOR STR., VANCOUVER, BC
Client ID: MW15-14

Extrac. Pet HC when LEPH/HEPH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

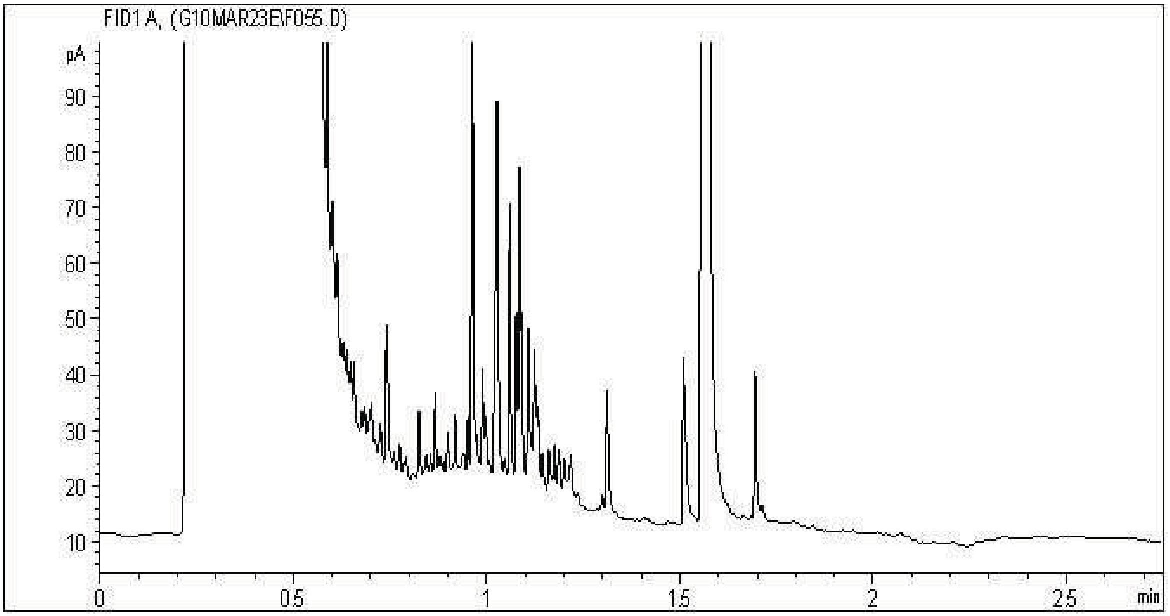
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

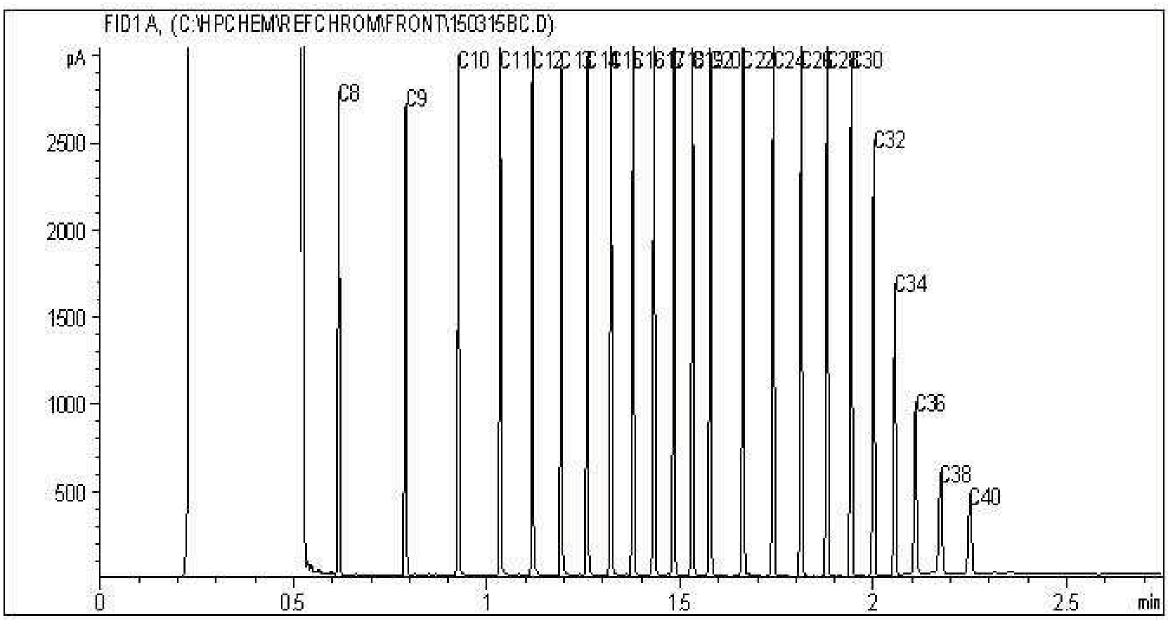
Maxxam Job #: B522594
Report Date: 2015/03/24
Maxxam Sample: LX4167

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Site Reference: 456 PRIOR STR., VANCOUVER, BC
Client ID: MW15-15

Extrac. Pet HC when LEPH/HEPH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 12349
Your C.O.C. #: K016075

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/05/25
Report #: R1963612
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B540530
Received: 2015/05/15, 16:33

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
EPH in Water when PAH required	1	2015/05/21	2015/05/21	BBY8SOP-00029	BCMOE EPH w 12/00 m
PAH in Water by GC/MS (SIM)	1	2015/05/21	2015/05/22	BBY8SOP-00021	EPA 8270d R4 m
Total LMW, HMW, Total PAH Calc	1	N/A	2015/05/25	BBY WI-00033	Auto Calc
EPH less PAH in Water by GC/FID	1	N/A	2015/05/25	BBY WI-00033	Auto Calc
Extra VOCs in Water by HS GC/MS	1	N/A	2015/05/20	BBY8SOP-00040	EPA 8260c R3 m
VOCs, VH, F1, LH in Water by HS GC/MS	1	2015/05/19	2015/05/21	BBY8SOP-00009	EPA 8260c R3 m
Volatile HC-BTEX	1	N/A	2015/05/21	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
25 May 2015 12:58:38 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B540530
Report Date: 2015/05/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		MG3596		
Sampling Date		2015/05/15		
COC Number		K016075		
	Units	**MW15-17**	**RDL**	**QC Batch**
Volatiles				
2-Butanone (MEK)	ug/L	<10	10	7907275
4-Methyl-2-pentanone (MIBK)	ug/L	<10	10	7907275
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	102		7907275
4-Bromofluorobenzene (sur.)	%	98		7907275
D4-1,2-Dichloroethane (sur.)	%	98		7907275
RDL = Reportable Detection Limit				

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Maxxam ID		MG3596		
Sampling Date		2015/05/15		
COC Number		K016075		
	Units	**MW15-17**	**RDL**	**QC Batch**
Polycyclic Aromatics				
Low Molecular Weight PAH`s	ug/L	3.8	0.24	7904291
High Molecular Weight PAH`s	ug/L	0.062	0.050	7904291
Total PAH	ug/L	3.8	0.24	7904291
Naphthalene	ug/L	1.5	0.10	7907901
2-Methylnaphthalene	ug/L	2.2	0.10	7907901
Quinoline	ug/L	<0.24	0.24	7907901
Acenaphthylene	ug/L	<0.050	0.050	7907901
Acenaphthene	ug/L	<0.050	0.050	7907901
Fluorene	ug/L	<0.050	0.050	7907901
Phenanthrene	ug/L	0.052	0.050	7907901
Anthracene	ug/L	<0.010	0.010	7907901
Acridine	ug/L	<0.050	0.050	7907901
Fluoranthene	ug/L	0.027	0.020	7907901
Pyrene	ug/L	0.035	0.020	7907901
Benzo(a)anthracene	ug/L	<0.010	0.010	7907901
Chrysene	ug/L	<0.050	0.050	7907901
Benzo(b&j)fluoranthene	ug/L	<0.050	0.050	7907901
Benzo(k)fluoranthene	ug/L	<0.050	0.050	7907901
Benzo(a)pyrene	ug/L	<0.0090	0.0090	7907901
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	7907901
Dibenz(a,h)anthracene	ug/L	<0.050	0.050	7907901
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	7907901
Calculated Parameters				
LEPH (C10-C19 less PAH)	mg/L	<0.20	0.20	7904292
HEPH (C19-C32 less PAH)	mg/L	<0.20	0.20	7904292
Ext. Pet. Hydrocarbon				
EPH (C10-C19)	mg/L	<0.20	0.20	7907905
EPH (C19-C32)	mg/L	<0.20	0.20	7907905
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	106		7907905
D10-ANTHRACENE (sur.)	%	98		7907901
D8-ACENAPHTHYLENE (sur.)	%	95		7907901
D8-NAPHTHALENE (sur.)	%	92		7907901
D9-Acridine	%	103		7907901
TERPHENYL-D14 (sur.)	%	91		7907901
RDL = Reportable Detection Limit				

Maxxam Job #: B540530
Report Date: 2015/05/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

CSR VOC + VPH IN WATER (WATER)

Maxxam ID		MG3596		
Sampling Date		2015/05/15		
COC Number		K016075		
	Units	**MW15-17**	**RDL**	**QC Batch**
Volatiles				
VPH (VHW6 to 10 - BTEX)	ug/L	<300	300	7904279
Chloromethane	ug/L	<1.0	1.0	7905732
Vinyl chloride	ug/L	<0.50	0.50	7905732
Chloroethane	ug/L	<1.0	1.0	7905732
Trichlorofluoromethane	ug/L	<4.0	4.0	7905732
1,1,2Trichloro-1,2,2Trifluoroethane	ug/L	<2.0	2.0	7905732
Dichlorodifluoromethane	ug/L	<2.0	2.0	7905732
1,1-dichloroethene	ug/L	<0.50	0.50	7905732
Dichloromethane	ug/L	<2.0	2.0	7905732
trans-1,2-dichloroethene	ug/L	<1.0	1.0	7905732
1,1-dichloroethane	ug/L	<0.50	0.50	7905732
cis-1,2-dichloroethene	ug/L	<1.0	1.0	7905732
Chloroform	ug/L	16	1.0	7905732
1,1,1-trichloroethane	ug/L	<0.50	0.50	7905732
1,2-dichloroethane	ug/L	<0.50	0.50	7905732
Carbon tetrachloride	ug/L	<0.50	0.50	7905732
Benzene	ug/L	1.2	0.40	7905732
1,2-dichloropropane	ug/L	<0.50	0.50	7905732
cis-1,3-dichloropropene	ug/L	<1.0	1.0	7905732
trans-1,3-dichloropropene	ug/L	<1.0	1.0	7905732
Bromomethane	ug/L	<1.0	1.0	7905732
1,1,2-trichloroethane	ug/L	<0.50	0.50	7905732
Trichloroethene	ug/L	<0.50	0.50	7905732
Chlorodibromomethane	ug/L	<1.0	1.0	7905732
1,2-dibromoethane	ug/L	<0.20	0.20	7905732
1,3-Butadiene	ug/L	<5.0	5.0	7905732
Tetrachloroethene	ug/L	<0.50	0.50	7905732
Bromodichloromethane	ug/L	<1.0	1.0	7905732
Toluene	ug/L	<0.40	0.40	7905732
Ethylbenzene	ug/L	2.5	0.40	7905732
m & p-Xylene	ug/L	1.6	0.40	7905732
Bromoform	ug/L	<1.0	1.0	7905732
Styrene	ug/L	<0.50	0.50	7905732
o-Xylene	ug/L	0.53	0.40	7905732
Xylenes (Total)	ug/L	2.1	0.40	7905732
1,1,1,2-tetrachloroethane	ug/L	<0.50	0.50	7905732
RDL = Reportable Detection Limit				

Maxxam Job #: B540530
Report Date: 2015/05/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

CSR VOC + VPH IN WATER (WATER)

Maxxam ID		MG3596		
Sampling Date		2015/05/15		
COC Number		K016075		
	Units	MW15-17	RDL	QC Batch
1,1,2,2-tetrachloroethane	ug/L	<0.50	0.50	7905732
1,2-dichlorobenzene	ug/L	<0.50	0.50	7905732
1,3-dichlorobenzene	ug/L	<0.50	0.50	7905732
1,4-dichlorobenzene	ug/L	<0.50	0.50	7905732
Chlorobenzene	ug/L	<0.50	0.50	7905732
Dibromomethane	ug/L	<0.90	0.90	7905732
Bromobenzene	ug/L	<2.0	2.0	7905732
VH C6-C10	ug/L	<300	300	7905732
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	98		7905732
4-Bromofluorobenzene (sur.)	%	93		7905732
D4-1,2-Dichloroethane (sur.)	%	108		7905732
RDL = Reportable Detection Limit				

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	20.7°C

Results relate only to the items tested.

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Maxxam Job #: B540530
Report Date: 2015/05/25

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7905732	1,4-Difluorobenzene (sur.)	2015/05/20	99	70 - 130	101	70 - 130	100	%		
7905732	4-Bromofluorobenzene (sur.)	2015/05/20	104	70 - 130	102	70 - 130	97	%		
7905732	D4-1,2-Dichloroethane (sur.)	2015/05/20	93	70 - 130	95	70 - 130	95	%		
7907275	1,4-Difluorobenzene (sur.)	2015/05/20	100	70 - 130	99	70 - 130	103	%		
7907275	4-Bromofluorobenzene (sur.)	2015/05/20	97	70 - 130	96	70 - 130	98	%		
7907275	D4-1,2-Dichloroethane (sur.)	2015/05/20	97	70 - 130	94	70 - 130	97	%		
7907901	D10-ANTHRACENE (sur.)	2015/05/21	102	60 - 130	110	60 - 130	106	%		
7907901	D8-ACENAPHTHYLENE (sur.)	2015/05/21	94	50 - 130	98	50 - 130	95	%		
7907901	D8-NAPHTHALENE (sur.)	2015/05/21	94	50 - 130	92	50 - 130	91	%		
7907901	D9-Acridine	2015/05/21	99	50 - 130	105	50 - 130	98	%		
7907901	TERPHENYL-D14 (sur.)	2015/05/21	94	60 - 130	105	60 - 130	103	%		
7907905	O-TERPHENYL (sur.)	2015/05/21	108	50 - 130	107	50 - 130	103	%		
7905732	1,1,1,2-tetrachloroethane	2015/05/20	100	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
7905732	1,1,1-trichloroethane	2015/05/20	96	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7905732	1,1,2,2-tetrachloroethane	2015/05/20	99	70 - 130	89	70 - 130	<0.50	ug/L	NC	30
7905732	1,1,2Trichloro-1,2,2Trifluoroethane	2015/05/20					<2.0	ug/L		
7905732	1,1,2-trichloroethane	2015/05/20	98	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
7905732	1,1-dichloroethane	2015/05/20	91	70 - 130	91	70 - 130	<0.50	ug/L	NC	30
7905732	1,1-dichloroethene	2015/05/20	89	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7905732	1,2-dibromoethane	2015/05/20	97	70 - 130	94	70 - 130	<0.20	ug/L		
7905732	1,2-dichlorobenzene	2015/05/20	97	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
7905732	1,2-dichloroethane	2015/05/20	96	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
7905732	1,2-dichloropropane	2015/05/20	102	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
7905732	1,3-Butadiene	2015/05/20					<5.0	ug/L		
7905732	1,3-dichlorobenzene	2015/05/20	99	70 - 130	88	70 - 130	<0.50	ug/L	NC	30
7905732	1,4-dichlorobenzene	2015/05/20	95	70 - 130	86	70 - 130	<0.50	ug/L	NC	30
7905732	Benzene	2015/05/20	98	70 - 130	96	70 - 130	<0.40	ug/L	NC	30
7905732	Bromobenzene	2015/05/20	101	70 - 130	89	70 - 130	<2.0	ug/L		
7905732	Bromodichloromethane	2015/05/20	98	70 - 130	96	70 - 130	<1.0	ug/L	NC	30
7905732	Bromoform	2015/05/20	90	70 - 130	80	70 - 130	<1.0	ug/L	NC	30
7905732	Bromomethane	2015/05/20	86	60 - 140	84	60 - 140	<1.0	ug/L	NC	30

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B540530
Report Date: 2015/05/25

Success Through Science®

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7905732	Carbon tetrachloride	2015/05/20	96	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
7905732	Chlorobenzene	2015/05/20	100	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
7905732	Chlorodibromomethane	2015/05/20	97	70 - 130	95	70 - 130	<1.0	ug/L	NC	30
7905732	Chloroethane	2015/05/20	90	60 - 140	85	60 - 140	<1.0	ug/L	NC	30
7905732	Chloroform	2015/05/20	96	70 - 130	93	70 - 130	<1.0	ug/L	2.9	30
7905732	Chloromethane	2015/05/20	100	60 - 140	87	60 - 140	<1.0	ug/L	NC	30
7905732	cis-1,2-dichloroethene	2015/05/20	99	70 - 130	97	70 - 130	<1.0	ug/L	NC	30
7905732	cis-1,3-dichloropropene	2015/05/20	97	70 - 130	98	70 - 130	<1.0	ug/L	NC	30
7905732	Dibromomethane	2015/05/20	93	70 - 130	92	70 - 130	<0.90	ug/L	NC	30
7905732	Dichlorodifluoromethane	2015/05/20	72	60 - 140	65	60 - 140	<2.0	ug/L		
7905732	Dichloromethane	2015/05/20	105	70 - 130	106	70 - 130	<2.0	ug/L	NC	30
7905732	Ethylbenzene	2015/05/20	106	70 - 130	108	70 - 130	<0.40	ug/L	NC	30
7905732	m & p-Xylene	2015/05/20	104	70 - 130	103	70 - 130	<0.40	ug/L	NC	30
7905732	o-Xylene	2015/05/20	104	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
7905732	Styrene	2015/05/20	108	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
7905732	Tetrachloroethene	2015/05/20	98	70 - 130	96	70 - 130	<0.50	ug/L	18	30
7905732	Toluene	2015/05/20	99	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
7905732	trans-1,2-dichloroethene	2015/05/20	96	70 - 130	96	70 - 130	<1.0	ug/L	NC	30
7905732	trans-1,3-dichloropropene	2015/05/20	85	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
7905732	Trichloroethene	2015/05/20	103	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
7905732	Trichlorofluoromethane	2015/05/20	110	60 - 140	109	60 - 140	<4.0	ug/L	NC	30
7905732	VH C6-C10	2015/05/20			78	70 - 130	<300	ug/L		
7905732	Vinyl chloride	2015/05/20	92	60 - 140	96	60 - 140	<0.50	ug/L	NC	30
7905732	Xylenes (Total)	2015/05/20					<0.40	ug/L	NC	30
7907275	2-Butanone (MEK)	2015/05/20	121	70 - 130	118	70 - 130	<10	ug/L	NC	40
7907275	4-Methyl-2-pentanone (MIBK)	2015/05/20	90	70 - 130	88	70 - 130	<10	ug/L	NC	40
7907901	2-Methylnaphthalene	2015/05/21	98	50 - 130	97	50 - 130	<0.10	ug/L	0.26	40
7907901	Acenaphthene	2015/05/21	96	50 - 130	100	50 - 130	<0.050	ug/L	NC	40
7907901	Acenaphthylene	2015/05/21	96	50 - 130	99	50 - 130	<0.050	ug/L	NC	40
7907901	Acridine	2015/05/21	104	50 - 130	108	50 - 130	<0.050	ug/L	NC	40
7907901	Anthracene	2015/05/21	106	60 - 130	112	60 - 130	<0.010	ug/L	NC	40

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7907901	Benzo(a)anthracene	2015/05/21	87	60 - 130	91	60 - 130	<0.010	ug/L	NC	40
7907901	Benzo(a)pyrene	2015/05/21	94	60 - 130	98	60 - 130	<0.0090	ug/L	NC	40
7907901	Benzo(b&j)fluoranthene	2015/05/21	98	60 - 130	104	60 - 130	<0.050	ug/L	NC	40
7907901	Benzo(g,h,i)perylene	2015/05/21	91	60 - 130	96	60 - 130	<0.050	ug/L	NC	40
7907901	Benzo(k)fluoranthene	2015/05/21	88	60 - 130	91	60 - 130	<0.050	ug/L	NC	40
7907901	Chrysene	2015/05/21	84	60 - 130	88	60 - 130	<0.050	ug/L	NC	40
7907901	Dibenz(a,h)anthracene	2015/05/21	96	60 - 130	101	60 - 130	<0.050	ug/L	NC	40
7907901	Fluoranthene	2015/05/21	98	60 - 130	102	60 - 130	<0.020	ug/L	NC	40
7907901	Fluorene	2015/05/21	89	50 - 130	93	50 - 130	<0.050	ug/L	0.60	40
7907901	Indeno(1,2,3-cd)pyrene	2015/05/21	97	60 - 130	101	60 - 130	<0.050	ug/L	NC	40
7907901	Naphthalene	2015/05/21	95	50 - 130	93	50 - 130	<0.10	ug/L	1.1	40
7907901	Phenanthrene	2015/05/21	94	60 - 130	98	60 - 130	<0.050	ug/L	NC	40
7907901	Pyrene	2015/05/21	100	60 - 130	104	60 - 130	<0.020	ug/L	NC	40
7907901	Quinoline	2015/05/21	113	50 - 130	108	50 - 130	<0.24	ug/L	NC	40
7907905	EPH (C10-C19)	2015/05/21	104	50 - 130	99	50 - 130	<0.20	mg/L	NC	30
7907905	EPH (C19-C32)	2015/05/21	118	50 - 130	114	50 - 130	<0.20	mg/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B540530
Report Date: 2015/05/25

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: RFM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Data Validation Coordinator

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B540530

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 016075

Invoice To: Require Report? Yes [ ] No [ ]

Company Name:	Keystone Environmental Ltd.
Contact Name:	U Orso
Address:	#320-4400 Dominion Street
	Burnaby, BC PC: V5G 4G3
Phone / Fax#:	Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail	korso@keystoneenviro.ca

Report To:

Company Name:	
Contact Name:	
Address:	
	PC:
Phone / Fax#:	Ph: Fax:
E-mail	

PO #:	
Quotation #:	
Project # :	12349
Proj. Name:	
Location:	
Sampled By:	RFM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- DRINKING WATER

- [X] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required:

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH	VOC/VPH	EPH	PAH	# of containers
1	MW15-17	MG3596	water	May 15/15	X	X		X	6
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

Other analysis columns listed: MTBE, TEH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N, Field Acidified? Y N), Totals Metals Field Acidified? Y N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, HOLD

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

B540530

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
RFM	15/05/15	1633	[illegible]	2015/05/15	16:33	[ ]	21,21,20	Yes [ ] No

Laboratory Use Only

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

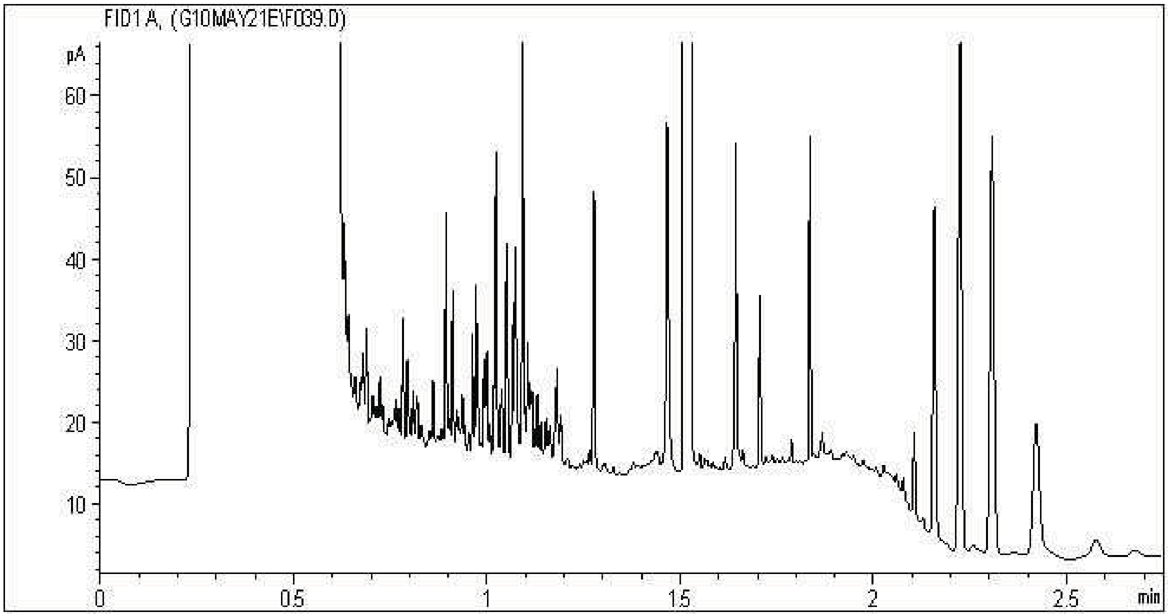
COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

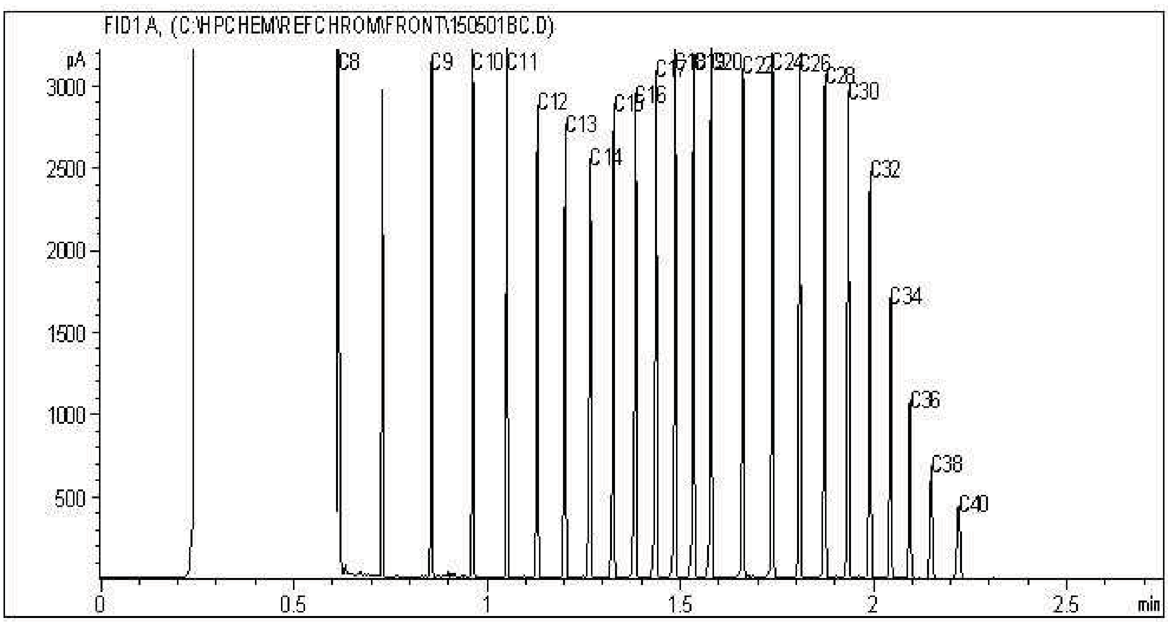
Maxxam Job #: B540530
Report Date: 2015/05/25
Maxxam Sample: MG3596

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Client ID: MW15-17

EPH in Water when PAH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 12349-14
Your C.O.C. #: K013686

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/08
Report #: R1972513
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B546028
Received: 2015/06/02, 17:55

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
PAH in Water by GC/MS (SIM)	2	2015/06/05	2015/06/05	BBY8SOP-00021	EPA 8270d R4 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
08 Jun 2015 13:57:43 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B546028
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Sampler Initials: GF

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		MJ2110	MJ2111		
Sampling Date		2015/06/02	2015/06/02		
COC Number		K013686	K013686		
	Units	MW14-2	MW14-6	RDL	QC Batch
Polycyclic Aromatics					
Benzo(a)pyrene	ug/L	<0.0090	0.013	0.0090	7924571
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	83	90		7924571
D8-ACENAPHTHYLENE (sur.)	%	93	94		7924571
D8-NAPHTHALENE (sur.)	%	93	87		7924571
D9-Acridine	%	92	96		7924571
TERPHENYL-D14 (sur.)	%	85	86		7924571
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Maxxam Job #: B546028
Report Date: 2015/06/08

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Sampler Initials: GF

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7924571	D10-ANTHRACENE (sur.)	2015/06/05	86	60 - 130	90	60 - 130	96	%		
7924571	D8-ACENAPHTHYLENE (sur.)	2015/06/05	94	50 - 130	95	50 - 130	96	%		
7924571	D8-NAPHTHALENE (sur.)	2015/06/05	90	50 - 130	93	50 - 130	91	%		
7924571	D9-Acridine	2015/06/05	92	50 - 130	92	50 - 130	95	%		
7924571	TERPHENYL-D14 (sur.)	2015/06/05	83	60 - 130	84	60 - 130	88	%		
7924571	Benzo(a)pyrene	2015/06/05	92	60 - 130	89	60 - 130	<0.0090	ug/L	NC	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546028
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349-14
Sampler Initials: GF

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B546028

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 013686

Invoice To: Require Report? Yes [X] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name:
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail

Report To:

Company Name: Keystone Environmental
Contact Name: ~~[illegible]~~ Keree Orso
Address: 320-4400 Dominion Street
Burnaby PC: BC
Phone / Fax#: Ph: 6044300671 Fax: 6044300671
E-mail: korso@keystoneenvironmental.ca

PO #:
Quotation #:
Project #: 12349-14
Proj. Name:
Location:
Sampled By: GF

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [X] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required:

Special Instructions:
Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

Analysis columns: BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N), Field Acidified? (Y N), Totals Metals Field Acidified? (Y N), Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, Benzo(a)pyrene, # of containers, HOLD

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	EPH	PAH	Benzo(a)pyrene	# of containers
1	MW14-2	MJ2110	WATER	15/06/02	~~[illegible]~~	X	X	2
2	MW14-6	MJ2111	↓		~~[illegible]~~	X	X	2
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

Samples are from a Drinking Water Source? YES / NO
Does source supply multiple households? YES / NO

B546028

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
[illegible signatures]	15/06/02	17:55	Nahed Amer	2015/06/02	17:55	[ ]	12, 12, 13 JS	Yes [ ] No [ ]

Laboratory Use Only

N/A

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Success Through Science®

Your Project #: 12349
Site Location: REMEDIATION
Your C.O.C. #: K016097

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/05
Report #: R1971866
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B545410
Received: 2015/06/01, 12:50

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	1	2015/06/02	2015/06/02	BBY7SOP-00001	EPA 6020a R1 m
pH (2:1 DI Water Extract)	1	2015/06/02	2015/06/02	BBY6SOP-00028	BCMOE BCLM Mar2005 m

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Jennifer Villocero
05 Jun 2015 16:56:19 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B545410
Report Date: 2015/06/05

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FM

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		MI9344		
Sampling Date		2015/06/01		
COC Number		K016097		
	Units	**CS15-19 (0.6)**	**RDL**	**QC Batch**
Physical Properties				
Soluble (2:1) pH	pH	6.61	N/A	7920054
Total Metals by ICPMS				
Total Aluminum (Al)	mg/kg	9160	100	7919790
Total Antimony (Sb)	mg/kg	0.32	0.10	7919790
Total Arsenic (As)	mg/kg	1.56	0.50	7919790
Total Barium (Ba)	mg/kg	45.9	0.10	7919790
Total Beryllium (Be)	mg/kg	<0.40	0.40	7919790
Total Cadmium (Cd)	mg/kg	0.123	0.050	7919790
Total Chromium (Cr)	mg/kg	9.1	1.0	7919790
Total Cobalt (Co)	mg/kg	4.04	0.30	7919790
Total Copper (Cu)	mg/kg	26.0	0.50	7919790
Total Lead (Pb)	mg/kg	65.6	0.10	7919790
Total Manganese (Mn)	mg/kg	141	0.20	7919790
Total Mercury (Hg)	mg/kg	<0.050	0.050	7919790
Total Molybdenum (Mo)	mg/kg	0.14	0.10	7919790
Total Nickel (Ni)	mg/kg	7.18	0.80	7919790
Total Selenium (Se)	mg/kg	<0.50	0.50	7919790
Total Silver (Ag)	mg/kg	<0.050	0.050	7919790
Total Strontium (Sr)	mg/kg	14.7	0.10	7919790
Total Tin (Sn)	mg/kg	0.48	0.10	7919790
Total Titanium (Ti)	mg/kg	400	1.0	7919790
Total Vanadium (V)	mg/kg	32.7	2.0	7919790
Total Zinc (Zn)	mg/kg	72.0	1.0	7919790

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545410
Report Date: 2015/06/05

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.3°C

Revised Report (Version 2R): Client's sample ID has been amended as per client request (JV1).

Results relate only to the items tested.

Maxxam

Success Through Science®

Maxxam Job #: B545410
Report Date: 2015/06/05

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FM

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7919790	Total Aluminum (Al)	2015/06/02					<100	mg/kg			106	70 - 130
7919790	Total Antimony (Sb)	2015/06/02	98	75 - 125	94	75 - 125	<0.10	mg/kg			105	70 - 130
7919790	Total Arsenic (As)	2015/06/02	107	75 - 125	104	75 - 125	<0.50	mg/kg			104	70 - 130
7919790	Total Barium (Ba)	2015/06/02	NC	75 - 125	104	75 - 125	<0.10	mg/kg			102	70 - 130
7919790	Total Beryllium (Be)	2015/06/02	119	75 - 125	105	75 - 125	<0.40	mg/kg				
7919790	Total Cadmium (Cd)	2015/06/02	113	75 - 125	109	75 - 125	<0.050	mg/kg			110	70 - 130
7919790	Total Chromium (Cr)	2015/06/02	112	75 - 125	105	75 - 125	<1.0	mg/kg			101	70 - 130
7919790	Total Cobalt (Co)	2015/06/02	106	75 - 125	105	75 - 125	<0.30	mg/kg			93	70 - 130
7919790	Total Copper (Cu)	2015/06/02	110	75 - 125	108	75 - 125	<0.50	mg/kg			96	70 - 130
7919790	Total Lead (Pb)	2015/06/02	106	75 - 125	103	75 - 125	<0.10	mg/kg			102	70 - 130
7919790	Total Manganese (Mn)	2015/06/02	NC	75 - 125	105	75 - 125	0.53, RDL=0.20 (1)	mg/kg			98	70 - 130
7919790	Total Mercury (Hg)	2015/06/02	109	75 - 125	104	75 - 125	<0.050	mg/kg			89	70 - 130
7919790	Total Molybdenum (Mo)	2015/06/02	108	75 - 125	99	75 - 125	<0.10	mg/kg			104	70 - 130
7919790	Total Nickel (Ni)	2015/06/02	110	75 - 125	106	75 - 125	0.95, RDL=0.80	mg/kg			98	70 - 130
7919790	Total Selenium (Se)	2015/06/02	116	75 - 125	104	75 - 125	<0.50	mg/kg				
7919790	Total Silver (Ag)	2015/06/02	99	75 - 125	93	75 - 125	<0.050	mg/kg			107	60 - 140
7919790	Total Strontium (Sr)	2015/06/02	NC	75 - 125	99	75 - 125	<0.10	mg/kg			102	70 - 130
7919790	Total Tin (Sn)	2015/06/02	103	75 - 125	97	75 - 125	<0.10	mg/kg				
7919790	Total Titanium (Ti)	2015/06/02	NC	75 - 125	101	75 - 125	<1.0	mg/kg			102	70 - 130
7919790	Total Vanadium (V)	2015/06/02	NC	75 - 125	104	75 - 125	<2.0	mg/kg			100	70 - 130
7919790	Total Zinc (Zn)	2015/06/02	NC	75 - 125	115	75 - 125	<1.0	mg/kg	4.1	30	97	70 - 130

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545410
Report Date: 2015/06/05

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FM

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7920054	Soluble (2:1) pH	2015/06/02			100	97 - 103			1.2	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

(1) Method Blank exceeds acceptance limits. Sample values for Mn are >20x the concentration of the method blank and the contamination is considered irrelevant.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545410
Report Date: 2015/06/05

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 016097

Maxxam Job#: B545410

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Kero Duo
Address: #320-4400 Dominion Street, Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: Kenso@keystoneenviro.com

Report To:

Company Name:
Contact Name: Francini Martins
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail: fmartins@

PO #:
Quotation #:
Project #: 12849
Proj. Name: Remediation
Location:
Sampled By: FOM/KO

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [x] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [ ] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [x] 1 Day [x] 2 Day [ ] 3 Day
- Date Required: June 2

Special Instructions:

Return Cooler [ ] Ship Sample Bottles (please specify) [ ]

End of Day June 2 IF POSSIBLE?

ANALYSIS REQUESTED

Columns: BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y/N), Field Acidified? Y/N, Totals Metals Field Acidified? Y/N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, See letter, # of containers, HOLD

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	See letter	# of containers
1	CS15-1(0.6)	MI9344		June1/15	X	1
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

B545410

Samples are from a Drinking Water Source? YES / NO
Does source supply multiple households? YES / NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:
I. Kokotailo	15/06/01	1250	Maurel Berthier	2015/06/01	12:50

Laboratory Use Only

Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
	14 / 11 / 21 JS	NA — Yes / No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349
Site Location: REMEDIATION, PRIOR ST
Your C.O.C. #: K015871

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/02
Report #: R1969196
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B545416
Received: 2015/06/01, 12:50

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH VH F1 in Soil - Field Pres.	2	N/A	2015/06/01	BBY8SOP-00010/11	EPA 8260c R3 m
Moisture	2	N/A	2015/06/02	BBY8SOP-00017	OMOE E3139 3.1 m
Volatile HC-BTEX for Soil	2	N/A	2015/06/02	BBY WI-00033	Auto Calc

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
02 Jun 2015 12:48:19 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B545416
Report Date: 2015/06/02

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION, PRIOR ST
Sampler Initials: FOM

PHYSICAL TESTING (SOIL)

Maxxam ID		MI9361	MI9362		
Sampling Date		2015/06/01	2015/06/01		
COC Number		K015871	K015871		
	Units	**CS15-6(1.8)**	**CS15-7(2.7)**	**RDL**	**QC Batch**
Physical Properties					
Moisture	%	7.5	7.4	0.30	7919078
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545416
Report Date: 2015/06/02

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION, PRIOR ST
Sampler Initials: FOM

BCCSR BTEX/VPH IN SOIL - FIELD PRESERVED (SOIL)

Maxxam ID		MI9361	MI9362		
Sampling Date		2015/06/01	2015/06/01		
COC Number		K015871	K015871		
	Units	**CS15-6(1.8)**	**CS15-7(2.7)**	**RDL**	**QC Batch**
Volatiles					
VPH (VH6 to 10 - BTEX)	mg/kg	<10	<10	10	7918971
Benzene	mg/kg	<0.0050	<0.0050	0.0050	7918879
Toluene	mg/kg	<0.020	<0.020	0.020	7918879
Ethylbenzene	mg/kg	<0.010	<0.010	0.010	7918879
m & p-Xylene	mg/kg	<0.040	<0.040	0.040	7918879
o-Xylene	mg/kg	<0.040	<0.040	0.040	7918879
Styrene	mg/kg	<0.030	<0.030	0.030	7918879
Xylenes (Total)	mg/kg	<0.040	<0.040	0.040	7918879
VH C6-C10	mg/kg	<10	<10	10	7918879
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	103	103		7918879
4-Bromofluorobenzene (sur.)	%	103	103		7918879
D10-ETHYLBENZENE (sur.)	%	81	83		7918879
D4-1,2-Dichloroethane (sur.)	%	99	99		7918879
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545416
Report Date: 2015/06/02

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION, PRIOR ST
Sampler Initials: FOM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.3°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545416
Report Date: 2015/06/02

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION, PRIOR ST
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7918879	1,4-Difluorobenzene (sur.)	2015/06/01	95	60 - 140	94	60 - 140	97	%		
7918879	4-Bromofluorobenzene (sur.)	2015/06/01	107	60 - 140	108	60 - 140	108	%		
7918879	D10-ETHYLBENZENE (sur.)	2015/06/01	106	60 - 130	98	60 - 130	101	%		
7918879	D4-1,2-Dichloroethane (sur.)	2015/06/01	106	60 - 140	107	60 - 140	108	%		
7918879	Benzene	2015/06/01	103	60 - 140	99	60 - 140	<0.0050	mg/kg	0.73	40
7918879	Ethylbenzene	2015/06/01	104	60 - 140	98	60 - 140	<0.010	mg/kg	2.4	40
7918879	m & p-Xylene	2015/06/01	101	60 - 140	95	60 - 140	<0.040	mg/kg	NC	40
7918879	o-Xylene	2015/06/01	100	60 - 140	94	60 - 140	<0.040	mg/kg	NC	40
7918879	Styrene	2015/06/01					<0.030	mg/kg	NC	40
7918879	Toluene	2015/06/01	96	60 - 140	90	60 - 140	<0.020	mg/kg	NC	40
7918879	VH C6-C10	2015/06/01			87	60 - 140	<10	mg/kg	NC	40
7918879	Xylenes (Total)	2015/06/01					<0.040	mg/kg	0.22	40
7919078	Moisture	2015/06/02					<0.30	%	7.6	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545416
Report Date: 2015/06/02

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION, PRIOR ST
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 015871

Maxxam Job#: B545416

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Kevin Ong
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: kong@keystoneenviro.ca

Report To:

Company Name:
Contact Name: Francini Martins
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349
Proj. Name: Remediation
Location: Prior St
Sampled By: FOM / KLO

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [ ] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [X] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required: June 1

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

CAN I please get END OF DAY June 1/2015

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH (MTBE)	VOC/VPH	EPH (TEH)	PAH (LEPH/HEPH)	CCME-PHC (Fractions 1-4 Plus BTEX)	CCME-PHC (Fractions 2-4)	CCME BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by 4AAP (Phenols by GCMS)	TOG (MOG) (SWOG)	Dissolved Metals (Field Filtered? Y N)	(Field Acidified? Y N)	Totals Metals Field Acidified? Y N	Nitrate (Nitrite) (Ammonia)	Chloride (Fluoride) (Sulphate)	Total Suspended Solids-TSS (TDS)	pH (Conductivity) (Alkalinity)	BOD	COD	Coliform, Total & E.coli (Fecal)	Asbestos						# of containers	HOLD
1	CS15-6(1.8)	MI9361	soil	June 1/15	X																					2 vial	Jar				3	
2	CS15-7(2.7)	MI9362	soil	June 1/15	X																					2 vial	1 Jar				2	
3		MI9363																														
4		MI9364																														
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

B545416

Samples are from a Drinking Water Source? YES NO
Does source supply multiple households? YES NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
I. kokota	15/06/01	1250	UMM Laurel Berthier	2015/06/01	12:50		14, 11, 21 JS	NA Yes No

Laboratory Use Only

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Your Project #: 12349
Site Location: REMEDIATION PRIOR ST
Your C.O.C. #: K003661

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/04
Report #: R1971086
Version: 2 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B546024
Received: 2015/06/02, 17:55

Sample Matrix: Soil
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH VH F1 in Soil - Field Pres.	1	N/A	2015/06/03	BBY8SOP-00010/11	EPA 8260c R3 m
BTEX/MTBE LH VH F1 in Soil - Field Pres.	4	N/A	2015/06/04	BBY8SOP-00010/11	EPA 8260c R3 m
Moisture	5	N/A	2015/06/04	BBY8SOP-00017	OMOE E3139 3.1 m
Volatile HC-BTEX for Soil	1	N/A	2015/06/03	BBY WI-00033	Auto Calc
Volatile HC-BTEX for Soil	4	N/A	2015/06/04	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Jennifer Villocero
04 Jun 2015 16:31:41 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Success Through Science®

Maxxam Job #: B546024
Report Date: 2015/06/04

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

PHYSICAL TESTING (SOIL)

Maxxam ID		MJ2099	MJ2100	MJ2101	MJ2103	MJ2104		
Sampling Date		2015/06/02	2015/06/02	2015/06/02	2015/06/02	2015/06/02		
COC Number		K003661	K003661	K003661	K003661	K003661		
	Units	**CS15-9 (1.8)**	**CS15-10 (1.5)**	**CS15-11 (1.5)**	**CS15-13 (1.5)**	**CS15-A**	**RDL**	**QC Batch**
Physical Properties								
Moisture	%	8.6	24	8.5	16	8.5	0.30	7921409
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546024
Report Date: 2015/06/04

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

BCCSR BTEX/VPH IN SOIL - FIELD PRESERVED (SOIL)

Maxxam ID		MJ2099		MJ2100	MJ2101	MJ2103	MJ2104		
Sampling Date		2015/06/02		2015/06/02	2015/06/02	2015/06/02	2015/06/02		
COC Number		K003661		K003661	K003661	K003661	K003661		
	Units	**CS15-9 (1.8)**	**QC Batch**	**CS15-10 (1.5)**	**CS15-11 (1.5)**	**CS15-13 (1.5)**	**CS15-A**	**RDL**	**QC Batch**
Volatiles									
VPH (VH6 to 10 - BTEX)	mg/kg	23	7920145	<10	<10	22	<10	10	7920145
Benzene	mg/kg	0.030	7921631	<0.0050	<0.0050	0.17	<0.0050	0.0050	7922203
Toluene	mg/kg	<0.020	7921631	<0.020	<0.020	0.067	<0.020	0.020	7922203
Ethylbenzene	mg/kg	0.92	7921631	<0.010	0.019	0.36	0.017	0.010	7922203
m & p-Xylene	mg/kg	0.13	7921631	<0.040	<0.040	0.64	<0.040	0.040	7922203
o-Xylene	mg/kg	<0.040	7921631	<0.040	<0.040	0.11	<0.040	0.040	7922203
Styrene	mg/kg	<0.030	7921631	<0.030	<0.030	<0.030	<0.030	0.030	7922203
Xylenes (Total)	mg/kg	0.13	7921631	<0.040	<0.040	0.75	<0.040	0.040	7922203
VH C6-C10	mg/kg	24	7921631	<10	<10	23	<10	10	7922203
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	104	7921631	87	96	97	98		7922203
4-Bromofluorobenzene (sur.)	%	100	7921631	103	102	103	113		7922203
D10-ETHYLBENZENE (sur.)	%	107	7921631	108	107	113	106		7922203
D4-1,2-Dichloroethane (sur.)	%	97	7921631	93	106	109	110		7922203
RDL = Reportable Detection Limit									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546024
Report Date: 2015/06/04

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	18.3°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B546024
Report Date: 2015/06/04

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7921631	1,4-Difluorobenzene (sur.)	2015/06/03	95	60 - 140	99	60 - 140	100	%		
7921631	4-Bromofluorobenzene (sur.)	2015/06/03	106	60 - 140	100	60 - 140	101	%		
7921631	D10-ETHYLBENZENE (sur.)	2015/06/03	106	60 - 130	99	60 - 130	107	%		
7921631	D4-1,2-Dichloroethane (sur.)	2015/06/03	93	60 - 140	97	60 - 140	101	%		
7922203	1,4-Difluorobenzene (sur.)	2015/06/04	100	60 - 140	103	60 - 140	95	%		
7922203	4-Bromofluorobenzene (sur.)	2015/06/04	119	60 - 140	109	60 - 140	111	%		
7922203	D10-ETHYLBENZENE (sur.)	2015/06/04	103	60 - 130	101	60 - 130	102	%		
7922203	D4-1,2-Dichloroethane (sur.)	2015/06/04	104	60 - 140	115	60 - 140	100	%		
7921409	Moisture	2015/06/04					<0.30	%	0.73	20
7921631	Benzene	2015/06/03	98	60 - 140	103	60 - 140	<0.0050	mg/kg	NC	40
7921631	Ethylbenzene	2015/06/03	107	60 - 140	105	60 - 140	<0.010	mg/kg	NC	40
7921631	m & p-Xylene	2015/06/03	103	60 - 140	100	60 - 140	<0.040	mg/kg	NC (1)	40
7921631	o-Xylene	2015/06/03	104	60 - 140	100	60 - 140	<0.040	mg/kg	NC	40
7921631	Styrene	2015/06/03					<0.030	mg/kg	NC	40
7921631	Toluene	2015/06/03	95	60 - 140	97	60 - 140	<0.020	mg/kg	NC	40
7921631	VH C6-C10	2015/06/03			88	60 - 140	<10	mg/kg	9.2 (2)	40
7921631	Xylenes (Total)	2015/06/03					<0.040	mg/kg	NC	40
7922203	Benzene	2015/06/04	98	60 - 140	102	60 - 140	<0.0050	mg/kg	NC	40
7922203	Ethylbenzene	2015/06/04	102	60 - 140	103	60 - 140	<0.010	mg/kg	NC	40
7922203	m & p-Xylene	2015/06/04	99	60 - 140	100	60 - 140	<0.040	mg/kg	NC	40
7922203	o-Xylene	2015/06/04	107	60 - 140	97	60 - 140	<0.040	mg/kg	NC	40
7922203	Styrene	2015/06/04					<0.030	mg/kg	NC	40
7922203	Toluene	2015/06/04	93	60 - 140	97	60 - 140	<0.020	mg/kg	NC	40
7922203	VH C6-C10	2015/06/04			76	60 - 140	<10	mg/kg	NC	40

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7922203	Xylenes (Total)	2015/06/04					<0.040	mg/kg	NC	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Detection limits raised due to matrix interference.

(2) Detection limits raised due to dilution to bring analyte within the calibrated range.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546024
Report Date: 2015/06/04

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B546024

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 003661

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Keree Ouro
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: kovro@

Report To:

Company Name: Francini Martin
Contact Name:
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349
Proj. Name: Remediation
Location: Prior St
Sampled By: FOM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

[X] CSR
[ ] CCME
[ ] BC Water Quality
[ ] Other
[ ] DRINKING WATER

[ ] Regular Turn Around Time (TAT) (5 days for most tests)
[X] RUSH (Please contact the lab)
[X] 1 Day [ ] 2 Day [ ] 3 Day
Date Required:

Special Instructions:
Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH	HOLD
1	CS15-8 (1.8)	MJ2098	Soil	June 2/15		X
2	CS15-9 (1.8)	MJ2099	↓	↓	X	
3	CS15-10 (1.5)	MJ2100			X	
4	CS15-11 (1.5)	MJ2101			X	
5	CS15-12 (1.5)	MJ2102				X
6	CS15-13 (1.5)	MJ2103			X	
7	CS15-A	MJ2104			X	
8						
9						
10						
11						
12						

Other analysis columns (no entries): MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N), Field Acidified? (Y N), Totals Metals Field Acidified? (Y N), Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos

Samples are from a Drinking Water Source? YES NO [X]
Does source supply multiple households? YES NO

B546024

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
FMartin	15/06/02	17:55	Nahed Amer	2015/06/02	17:55	[ ]	18, 18, 19 / JS	Yes [ ] No [ ]

Laboratory Use Only

N/A

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1020-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349
Site Location: REMEDIATION PRIOR ST
Your C.O.C. #: K003665

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/05
Report #: R1971412
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B546458
Received: 2015/06/03, 15:30

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	6	2015/06/04	2015/06/04	BBY7SOP-00001	EPA 6020a R1 m
pH (2:1 DI Water Extract)	6	2015/06/04	2015/06/04	BBY6SOP-00028	BCMOE BCLM Mar2005 m

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
05 Jun 2015 10:34:51 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B546458
Report Date: 2015/06/05

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		MJ4260	MJ4261	MJ4262	MJ4263	MJ4264	MJ4265		
Sampling Date		2015/06/03	2015/06/03	2015/06/03	2015/06/03	2015/06/03	2015/06/03		
COC Number		K003665	K003665	K003665	K003665	K003665	K003665		
	Units	**CS15-14(0.8)**	**CS15-15(0.8)**	**CS15-16(0.8)**	**CS15-17(0.8)**	**CS15-18(1.3)**	**CS15-B**	**RDL**	**QC Batch**
Physical Properties									
Soluble (2:1) pH	pH	6.84	8.10	7.56	7.34	7.03	6.99	N/A	7922743
Total Metals by ICPMS									
Total Zinc (Zn)	mg/kg	516	161	217	65.9	28.3	26.9	1.0	7922733

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546458
Report Date: 2015/06/05

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.0°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546458
Report Date: 2015/06/05

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349

Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7922733	Total Zinc (Zn)	2015/06/04	NC	75 - 125	99	75 - 125	<1.0	mg/kg	0.77	30	94	70 - 130
7922743	Soluble (2:1) pH	2015/06/04			100	97 - 103			1.4	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546458
Report Date: 2015/06/05

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

CHAIN OF CUSTODY RECORD

Page: 1 of 1

Maxxam Job#: B546458

K 003665

Invoice To: Require Report? Yes [ ] No [ ]

Field	Invoice To	Report To
Company Name:	Keystone Environmental Ltd.	
Contact Name:	Keree Orso	Francine Nortier
Address:	#320-4400 Dominion Street, Burnaby, BC PC: V5G 4G3	PC:
Phone / Fax#:	Ph: (604) 430-0671 Fax: (604) 430-0672	Ph: Fax:
E-mail	Korso@keystoneenviro.com	fnortier@keystoneenviro.com

PO #:	
Quotation #:	
Project #:	12349
Proj. Name:	Remediation
Location:	Prior St
Sampled By:	FON

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [ ] Regular Turn Around Time (TAT) (5 days for most tests)
- [X] RUSH (Please contact the lab)
- [X] 1 Day [ ] 2 Day [ ] 3 Day

Date Required:

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N), Total Metals (Field Acidified? Y N), Totals Metals Field Acidified? Y N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, ~~Metals~~ Zinc Only, HOLD

#	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	Zinc Only
1	CS15-14 (0.8)	MJ4260	Soil	June 3/15	✓
2	CS15-15 (0.8)	MJ4261	↓	↓	✓
3	CS15-16 (0.8)	MJ4262			✓
4	CS15-17 (0.8)	MJ4263			✓
5	CS15-18 (1.3)	MJ4264			✓
6	CS15-B	MJ4265			✓
7	~~Fracture~~				
8	FN				
9					
10					
11					
12					

B546458

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:
FNortier	15/06/03	15:25	Aleks Maksimovic	2015/06/03	15:30

Laboratory Use Only

Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
[ ]	15, 15, 15 JS	Yes [ ] No (circled)

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1020-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349
Site Location: REMEDIATION PRIOR ST
Your C.O.C. #: K003666

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/08
Report #: R1972181
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B546967
Received: 2015/06/04, 15:00

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	4	2015/06/05	2015/06/05	BBY7SOP-00001	EPA 6020a R1 m
pH (2:1 DI Water Extract)	4	2015/06/05	2015/06/05	BBY6SOP-00028	BCMOE BCLM Mar2005 m

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
08 Jun 2015 10:13:28 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B546967
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		MJ6788	MJ6789	MJ6790	MJ6791		
Sampling Date		2015/06/04	2015/06/04	2015/06/04	2015/06/04		
COC Number		K003666	K003666	K003666	K003666		
	Units	**CS15-20(0.6)**	**CS15-21(0.6)**	**CS15-22(1.1)**	**CS15-C**	**RDL**	**QC Batch**
Physical Properties							
Soluble (2:1) pH	pH	7.19	7.14	7.11	7.24	N/A	7924304
Total Metals by ICPMS							
Total Copper (Cu)	mg/kg	20.1	1220	25.1	22.8	0.50	7924281
Total Lead (Pb)	mg/kg	55.0	192	5.51	64.5	0.10	7924281
Total Zinc (Zn)	mg/kg	71.7	496	82.2	88.5	1.0	7924281

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546967
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	13.3°C

Results relate only to the items tested.

Maxxam Job #: B546967
Report Date: 2015/06/08

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7924281	Total Copper (Cu)	2015/06/05	104	75 - 125	107	75 - 125	<0.50	mg/kg			96	70 - 130
7924281	Total Lead (Pb)	2015/06/05	106	75 - 125	104	75 - 125	<0.10	mg/kg			100	70 - 130
7924281	Total Zinc (Zn)	2015/06/05	NC	75 - 125	116	75 - 125	<1.0	mg/kg			94	70 - 130
7924304	Soluble (2:1) pH	2015/06/05			99	97 - 103			0.13	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B546967
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION PRIOR ST
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B546967

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 003666

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Kevin Orr
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: korr@keystoneenviro.com

Report To:

Company Name:
Contact Name: Francine Watson
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:
Quotation #:
Project #: 12349
Proj. Name: Remediation
Location: Prior St
Sampled By: FOM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [x] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- DRINKING WATER

- [ ] Regular Turn Around Time (TAT) (5 days for most tests)
- [x] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [x] 3 Day
- Date Required:

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH / MTBE	VOC/VPH	EPH / TEH	PAH / LEPH/HEPH	CCME-PHC (Fractions 1-4 Plus BTEX)	CCME-PHC (Fractions 2-4)	CCME BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by 4AAP / Phenols by GCMS	TOG / MOG / SWOG	Dissolved Metals / Field Filtered? Y N	Field Acidified? Y N	Totals Metals Field Acidified? Y N	Nitrate / Nitrite / Ammonia	Chloride / Fluoride / Sulphate	Total Suspended Solids-TSS / TDS	pH / Conductivity / Alkalinity	BOD	COD	Coliform, Total & E.coli / Fecal	Asbestos	Zn, Pb, Cu only	HOLD
1	CS15-20 (0.6)	MJ6788	soil	June 4/15																						✓	
2	CS15-21 (0.6)	MJ6789	↓	↓																						✓	
3	CS15-22 (1.1)	MJ6790	↓	↓																						✓	
4	CS15-C	MJ6791	↓	↓																						✓	
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

B546967

Samples are from a Drinking Water Source? YES NO
Does source supply multiple households? YES NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
FMcMartin	15/06/04	3pm	OLIVER P. SMITH	2015/06/04	15:00		11, 18, 11 JS	N/A Yes No

Laboratory Use Only

ICE PRESENT

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1020-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Your Project #: 12349
Site Location: REMEDIATION
Your C.O.C. #: K015919

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/26
Report #: R1984630
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B553986
Received: 2015/06/25, 14:30

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	1	2015/06/26	2015/06/26	BBY7SOP-00001	EPA 6020a R1 m
pH (2:1 DI Water Extract)	1	2015/06/26	2015/06/26	BBY6SOP-00028	BCMOE BCLM Mar2005 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
26 Jun 2015 18:56:29 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B553986
Report Date: 2015/06/26

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FOM

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		MN5269		
Sampling Date		2015/06/25		
COC Number		K015919		
	Units	**CS15-23(0.8)**	**RDL**	**QC Batch**
Physical Properties				
Soluble (2:1) pH	pH	8.26	N/A	7947146
Total Metals by ICPMS				
Total Zinc (Zn)	mg/kg	274	1.0	7946882

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	14.7°C

Results relate only to the items tested.

Maxxam Job #: B553986
Report Date: 2015/06/26

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7946882	Total Zinc (Zn)	2015/06/26	NC	75 - 125	96	75 - 125	<1.0	mg/kg			91	70 - 130
7947146	Soluble (2:1) pH	2015/06/26			101	97 - 103			0.30	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

Maxxam Job #: B553986
Report Date: 2015/06/26

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: REMEDIATION
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B553986

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 015919

Invoice To: Require Report? Yes [ ] No [ ]

Company Name:	Keystone Environmental Ltd.
Contact Name:	Karen Ross
Address:	#320-4400 Dominion Street
	Burnaby, BC PC: V5G 4G3
Phone / Fax#:	Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail	kross@keystoneenviro.ca

Report To:

Company Name:	
Contact Name:	Francis Martin
Address:	
	PC:
Phone / Fax#:	Ph: Fax:
E-mail	

PO #:	
Quotation #:	
Project #:	12349
Proj. Name:	Remediation
Location:	
Sampled By:	FOM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [ ] Regular Turn Around Time (TAT) (5 days for most tests)
- [X] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required: Tues. June 30/15

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

Analysis columns: BTEX/VPH, MTBE, VOC/VPH, EPH, TEH, PAH, LEPH/HEPH, CCME-PHC (Fractions 1-4 Plus BTEX), CCME-PHC (Fractions 2-4), CCME BTEX (Fraction 1 Plus BTEX), PCB, Phenols by 4AAP, Phenols by GCMS, TOG, MOG, SWOG, Dissolved Metals (Field Filtered? Y N; Field Acidified? Y N), Totals Metals Field Acidified? Y N, Nitrate, Nitrite, Ammonia, Chloride, Fluoride, Sulphate, Total Suspended Solids-TSS, TDS, pH, Conductivity, Alkalinity, BOD, COD, Coliform, Total & E.coli, Fecal, Asbestos, Zinc only, # of containers, HOLD

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	Zinc only
1	~~CS15-33 (0.8)~~	MN5269	Soil	June 25/15	✓
2	33 in error				
3	CS15-23 (0.8)				
4					
5					
6					
7					
8					
9					
10					
11					
12					

B553986

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

Laboratory Use Only

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
F. Martin	15/06/25	2:30pm	JS JWAHNNE [illegible]	2015/06/25	14:30		15, 14, 15 JS	N/A Yes No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

Your Project #: 12349
Site Location: PRIOR ST.
Your C.O.C. #: K003659

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/08
Report #: R1972633
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B545543
Received: 2015/06/01, 17:05

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	1	2015/06/04	2015/06/04	BBY7SOP-00001	EPA 6020a R1 m
Moisture	1	N/A	2015/06/03	BBY8SOP-00017	OMOE E3139 3.1 m
PAH in Soil by GC/MS (SIM)	1	2015/06/02	2015/06/05	BBY8SOP-00022	EPA 8270d R4 m
Total LMW, HMW, Total PAH Calc	1	N/A	2015/06/08	BBY WI-00033	Auto Calc
pH (2:1 DI Water Extract)	1	2015/06/04	2015/06/04	BBY6SOP-00028	BCMOE BCLM Mar2005 m
EPH less PAH in Soil By GC/FID	1	N/A	2015/06/08	BBY WI-00033	Auto Calc
EPH in Soil by GC/FID	1	2015/06/02	2015/06/05	BBY8SOP-00029	BCMOE EPH s 07/99 m

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
08 Jun 2015 15:14:41 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B545543
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: PRIOR ST.
Sampler Initials: FOM

PHYSICAL TESTING (SOIL)

Maxxam ID		MI9880	MI9880		
Sampling Date		2015/06/01	2015/06/01		
COC Number		K003659	K003659		
	Units	**BF15-1**	**BF15-1 Lab-Dup**	**RDL**	**QC Batch**
Physical Properties					
Moisture	%	4.9	4.8	0.30	7919998
RDL = Reportable Detection Limit					
Lab-Dup = Laboratory Initiated Duplicate					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B545543
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: PRIOR ST.
Sampler Initials: FOM

LEPH & HEPH FOR CSR IN SOIL (SOIL)

Maxxam ID		MI9880		
Sampling Date		2015/06/01		
COC Number		K003659		
	Units	**BF15-1**	**RDL**	**QC Batch**
Polycyclic Aromatics				
Naphthalene	ug/g	<0.050	0.050	7924303
2-Methylnaphthalene	ug/g	<0.050	0.050	7924303
Acenaphthylene	ug/g	<0.050	0.050	7924303
Acenaphthene	ug/g	<0.050	0.050	7924303
Fluorene	ug/g	<0.050	0.050	7924303
Phenanthrene	ug/g	<0.050	0.050	7924303
Anthracene	ug/g	<0.050	0.050	7924303
Fluoranthene	ug/g	<0.050	0.050	7924303
Pyrene	ug/g	<0.050	0.050	7924303
Benzo(a)anthracene	ug/g	<0.050	0.050	7924303
Chrysene	ug/g	<0.050	0.050	7924303
Benzo(b&j)fluoranthene	ug/g	<0.050	0.050	7924303
Benzo(b)fluoranthene	ug/g	<0.050	0.050	7924303
Benzo(k)fluoranthene	ug/g	<0.050	0.050	7924303
Benzo(a)pyrene	ug/g	<0.050	0.050	7924303
Indeno(1,2,3-cd)pyrene	ug/g	<0.050	0.050	7924303
Dibenz(a,h)anthracene	ug/g	<0.050	0.050	7924303
Benzo(g,h,i)perylene	ug/g	<0.050	0.050	7924303
Low Molecular Weight PAH`s	ug/g	<0.050	0.050	7918727
High Molecular Weight PAH`s	ug/g	<0.050	0.050	7918727
Total PAH	ug/g	<0.050	0.050	7918727
Calculated Parameters				
LEPH (C10-C19 less PAH)	mg/kg	<100	100	7919335
HEPH (C19-C32 less PAH)	mg/kg	<100	100	7919335
Hydrocarbons				
EPH (C10-C19)	mg/kg	<100	100	7924292
EPH (C19-C32)	mg/kg	<100	100	7924292
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	88		7924303
D8-ACENAPHTHYLENE (sur.)	%	87		7924303
D8-NAPHTHALENE (sur.)	%	90		7924303
TERPHENYL-D14 (sur.)	%	94		7924303
O-TERPHENYL (sur.)	%	87		7924292
RDL = Reportable Detection Limit				

Maxxam Job #: B545543
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: PRIOR ST.
Sampler Initials: FOM

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		MI9880		
Sampling Date		2015/06/01		
COC Number		K003659		
	Units	**BF15-1**	**RDL**	**QC Batch**
Physical Properties				
Soluble (2:1) pH	pH	7.25	N/A	7922735
Total Metals by ICPMS				
Total Aluminum (Al)	mg/kg	7680	100	7922618
Total Antimony (Sb)	mg/kg	0.20	0.10	7922618
Total Arsenic (As)	mg/kg	2.24	0.50	7922618
Total Barium (Ba)	mg/kg	43.2	0.10	7922618
Total Beryllium (Be)	mg/kg	<0.40	0.40	7922618
Total Cadmium (Cd)	mg/kg	0.219	0.050	7922618
Total Chromium (Cr)	mg/kg	27.4	1.0	7922618
Total Cobalt (Co)	mg/kg	6.88	0.30	7922618
Total Copper (Cu)	mg/kg	14.8	0.50	7922618
Total Lead (Pb)	mg/kg	2.32	0.10	7922618
Total Manganese (Mn)	mg/kg	335	0.20	7922618
Total Mercury (Hg)	mg/kg	<0.050	0.050	7922618
Total Molybdenum (Mo)	mg/kg	0.34	0.10	7922618
Total Nickel (Ni)	mg/kg	33.2	0.80	7922618
Total Selenium (Se)	mg/kg	<0.50	0.50	7922618
Total Silver (Ag)	mg/kg	0.075	0.050	7922618
Total Strontium (Sr)	mg/kg	22.3	0.10	7922618
Total Tin (Sn)	mg/kg	0.18	0.10	7922618
Total Titanium (Ti)	mg/kg	715	1.0	7922618
Total Vanadium (V)	mg/kg	40.3	2.0	7922618
Total Zinc (Zn)	mg/kg	37.4	1.0	7922618

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	22.0°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Maxxam Job #: B545543
Report Date: 2015/06/08

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: PRIOR ST.
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7924292	O-TERPHENYL (sur.)	2015/06/05	101	50 - 130	88	50 - 130	90	%				
7924303	D10-ANTHRACENE (sur.)	2015/06/05	80	60 - 130	89	60 - 130	98	%				
7924303	D8-ACENAPHTHYLENE (sur.)	2015/06/05	82	50 - 130	84	50 - 130	92	%				
7924303	D8-NAPHTHALENE (sur.)	2015/06/05	81	50 - 130	87	50 - 130	94	%				
7924303	TERPHENYL-D14 (sur.)	2015/06/05	90	60 - 130	93	60 - 130	100	%				
7919998	Moisture	2015/06/03					<0.30	%	2.1	20		
7922618	Total Aluminum (Al)	2015/06/04					<100	mg/kg	11	35	97	70 - 130
7922618	Total Antimony (Sb)	2015/06/04	86	75 - 125	98	75 - 125	<0.10	mg/kg	NC	30	104	70 - 130
7922618	Total Arsenic (As)	2015/06/04	98	75 - 125	97	75 - 125	<0.50	mg/kg	0.84	30	94	70 - 130
7922618	Total Barium (Ba)	2015/06/04	NC	75 - 125	104	75 - 125	<0.10	mg/kg	0.50	35	106	70 - 130
7922618	Total Beryllium (Be)	2015/06/04	103	75 - 125	100	75 - 125	<0.40	mg/kg	NC	30		
7922618	Total Cadmium (Cd)	2015/06/04	101	75 - 125	104	75 - 125	<0.050	mg/kg	NC	30	103	70 - 130
7922618	Total Chromium (Cr)	2015/06/04	NC	75 - 125	100	75 - 125	<1.0	mg/kg	2.4	30	99	70 - 130
7922618	Total Cobalt (Co)	2015/06/04	93	75 - 125	99	75 - 125	<0.30	mg/kg	3.9	30	87	70 - 130
7922618	Total Copper (Cu)	2015/06/04	NC	75 - 125	100	75 - 125	<0.50	mg/kg	1.5	30	98	70 - 130
7922618	Total Lead (Pb)	2015/06/04	101	75 - 125	103	75 - 125	<0.10	mg/kg	1.9	35	102	70 - 130
7922618	Total Manganese (Mn)	2015/06/04	NC	75 - 125	102	75 - 125	<0.20	mg/kg	0.10	30	98	70 - 130
7922618	Total Mercury (Hg)	2015/06/04	98	75 - 125	100	75 - 125	<0.050	mg/kg	NC	35	89	70 - 130
7922618	Total Molybdenum (Mo)	2015/06/04	105	75 - 125	101	75 - 125	<0.10	mg/kg	NC	35	112	70 - 130
7922618	Total Nickel (Ni)	2015/06/04	NC	75 - 125	101	75 - 125	<0.80	mg/kg	2.3	30	98	70 - 130
7922618	Total Selenium (Se)	2015/06/04	98	75 - 125	100	75 - 125	<0.50	mg/kg	NC	30		
7922618	Total Silver (Ag)	2015/06/04	88	75 - 125	90	75 - 125	<0.050	mg/kg	NC	35	106	60 - 140
7922618	Total Strontium (Sr)	2015/06/04	NC	75 - 125	105	75 - 125	<0.10	mg/kg	2.1	35	107	70 - 130
7922618	Total Tin (Sn)	2015/06/04	94	75 - 125	98	75 - 125	<0.10	mg/kg	NC	35		
7922618	Total Titanium (Ti)	2015/06/04	NC	75 - 125	99	75 - 125	1.2, RDL=1.0	mg/kg	1.7	35	104	70 - 130
7922618	Total Vanadium (V)	2015/06/04	NC	75 - 125	95	75 - 125	<2.0	mg/kg	2.2	30	95	70 - 130
7922618	Total Zinc (Zn)	2015/06/04	NC	75 - 125	102	75 - 125	<1.0	mg/kg	0.82	30	93	70 - 130
7922735	Soluble (2:1) pH	2015/06/04			100	97 - 103			1.1	N/A		
7924292	EPH (C10-C19)	2015/06/05	NC	50 - 130	100	50 - 130	<100	mg/kg	31	40		
7924292	EPH (C19-C32)	2015/06/05	NC	50 - 130	94	50 - 130	<100	mg/kg	30	40		
7924303	2-Methylnaphthalene	2015/06/05	80	50 - 130	82	50 - 130	<0.050	ug/g	NC	50		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Maxxam Job #: B545543
Report Date: 2015/06/08

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: PRIOR ST.
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7924303	Acenaphthene	2015/06/05	83	50 - 130	82	50 - 130	<0.050	ug/g	NC	50		
7924303	Acenaphthylene	2015/06/05	79	50 - 130	81	50 - 130	<0.050	ug/g	NC	50		
7924303	Anthracene	2015/06/05	79	60 - 130	83	60 - 130	<0.050	ug/g	NC	50		
7924303	Benzo(a)anthracene	2015/06/05	68	60 - 130	77	60 - 130	<0.050	ug/g	NC	50		
7924303	Benzo(a)pyrene	2015/06/05	64	60 - 130	78	60 - 130	<0.050	ug/g	NC	50		
7924303	Benzo(b&j)fluoranthene	2015/06/05	65	60 - 130	75	60 - 130	<0.050	ug/g	NC (2)	50		
7924303	Benzo(b)fluoranthene	2015/06/05	65	60 - 130	75	60 - 130	<0.050	ug/g	NC	50		
7924303	Benzo(g,h,i)perylene	2015/06/05	58 (1)	60 - 130	76	60 - 130	<0.050	ug/g	NC	50		
7924303	Benzo(k)fluoranthene	2015/06/05	67	60 - 130	79	60 - 130	<0.050	ug/g	NC	50		
7924303	Chrysene	2015/06/05	69	60 - 130	80	60 - 130	<0.050	ug/g	NC	50		
7924303	Dibenz(a,h)anthracene	2015/06/05	64	60 - 130	74	60 - 130	<0.050	ug/g	NC	50		
7924303	Fluoranthene	2015/06/05	77	60 - 130	84	60 - 130	<0.050	ug/g	NC	50		
7924303	Fluorene	2015/06/05	81	50 - 130	83	50 - 130	<0.050	ug/g	NC	50		
7924303	Indeno(1,2,3-cd)pyrene	2015/06/05	60	60 - 130	76	60 - 130	<0.050	ug/g	NC	50		
7924303	Naphthalene	2015/06/05	75	50 - 130	77	50 - 130	<0.050	ug/g	NC	50		
7924303	Phenanthrene	2015/06/05	76	60 - 130	82	60 - 130	<0.050	ug/g	NC	50		
7924303	Pyrene	2015/06/05	77	60 - 130	85	60 - 130	<0.050	ug/g	NC	50		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Detection limits raised due to matrix interference.

Maxxam Job #: B545543
Report Date: 2015/06/08

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: PRIOR ST.
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

Maxxam Job#: B545543

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 003659

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Kerri Onys
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: Kerri@

Report To:

Company Name:
Contact Name: Francini Martins
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail

PO #:	
Quotation #:	
Project # :	12349
Proj. Name:	
Location:	Ohio St
Sampled By:	FOM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [x] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- DRINKING WATER

- [x] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required:

Special Instructions:

Return Cooler [ ] **Ship Sample Bottles (please specify)** [ ]

ANALYSIS REQUESTED

Analysis columns: BTEX/VPH; MTBE; VOC/VPH; EPH; TEH; PAH; LEPH/HEPH* [X]; CCME-PHC (Fractions 1-4 Plus BTEX); CCME-PHC (Fractions 2-4); CCME BTEX (Fraction 1 Plus BTEX); PCB; Phenols by 4AAP; Phenols by GCMS; TOG; MOG; SWOG; Dissolved Metals (Field Filtered? Y/N; Field Acidified? Y/N); Totals Metals Field Acidified? Y/N; Nitrate; Nitrite; Ammonia; Chloride; Fluoride; Sulphate; Total Suspended Solids-TSS; TDS; pH; Conductivity; Alkalinity; BOD; COD; Coliform, Total & E.coli; Fecal; Asbestos; Metals; HOLD

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	PAH	Metals	No. of containers
1	BF15-1	MI9880	soil	June 1/15	✓	X	2
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

B545543

Samples are from a Drinking Water Source? YES NO
Does source supply multiple households? YES NO

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
FMartins	15/06/01	5:05	ISARALDIN TAKHAN	2015/06/01	17:05		22, 22, 22 JJ	N/A Yes No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

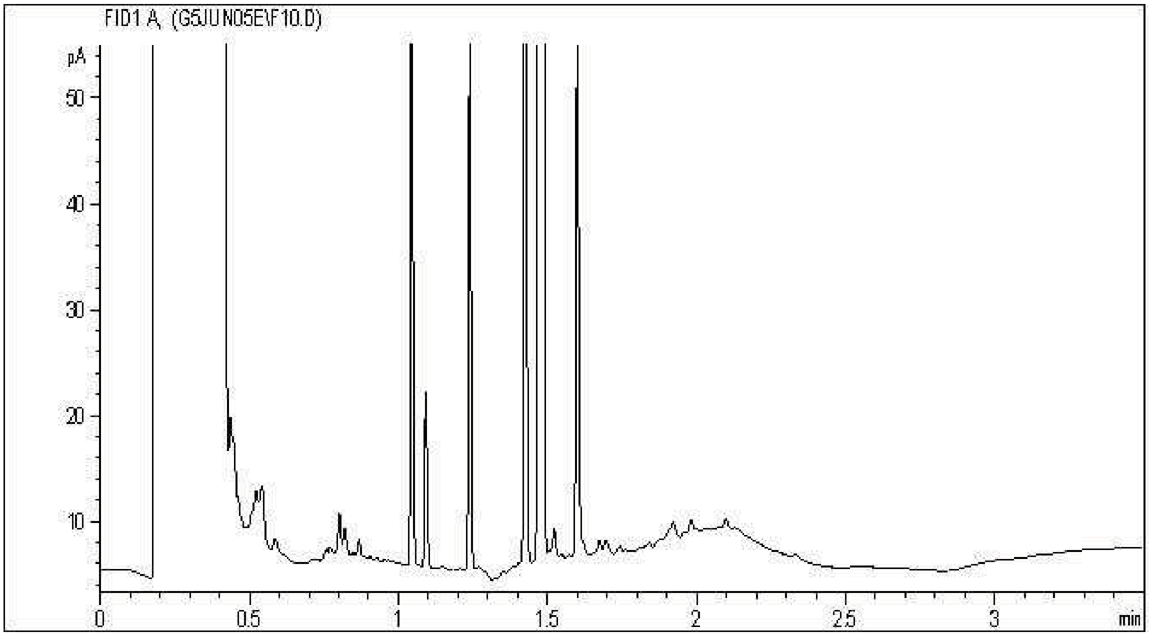
COC-1020-Keystone

Maxxam International Corporation o/a Maxxam Analytics

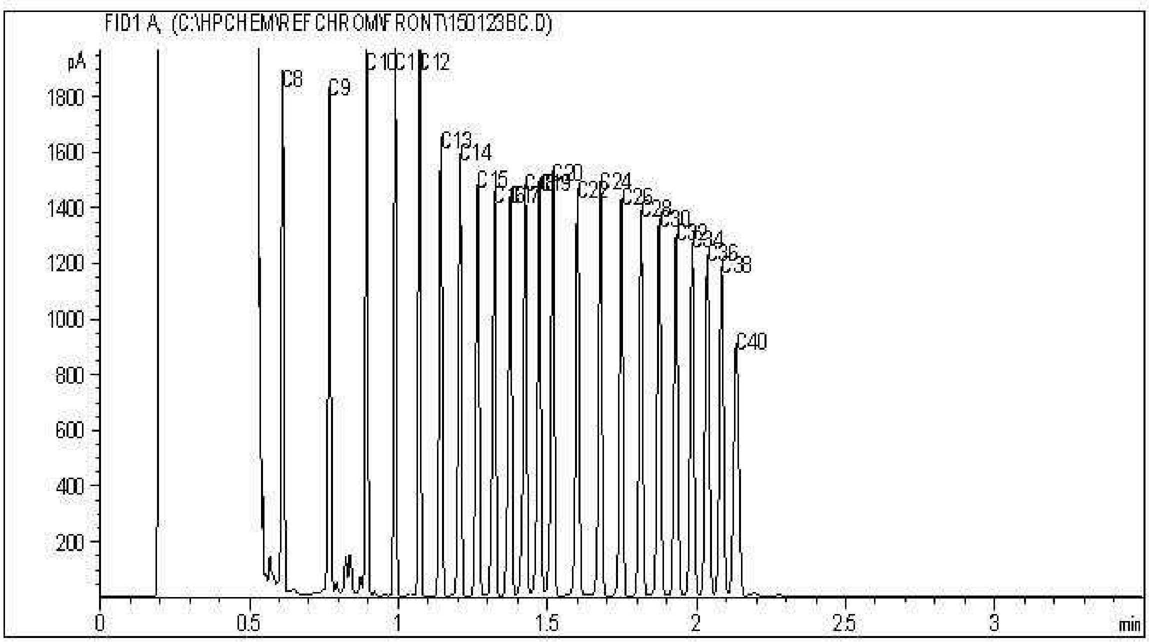
Maxxam Job #: B545543
Report Date: 2015/06/08
Maxxam Sample: MI9880

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Reference: PRIOR ST.
Client ID: BF15-1

EPH in Soil by GC/FID Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Your C.O.C. #: K015918

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/23
Report #: R1982407
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B551116
Received: 2015/06/17, 13:35

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH, VH, F1 SIM/MS	3	2015/06/18	2015/06/18	BBY8SOP-00010/11	EPA 8260c R3 m
Hardness (calculated as CaCO3)	1	N/A	2015/06/22	BBY7SOP-00002	EPA 6020a R1 m
EPH in Water when PAH required	3	2015/06/18	2015/06/18	BBY8SOP-00029	BCMOE EPH w 12/00 m
Elements by CRC ICPMS (dissolved)	1	N/A	2015/06/19	BBY7SOP-00002	EPA 6020A R1 m
PAH in Water by GC/MS (SIM)	2	2015/06/18	2015/06/19	BBY8SOP-00021	EPA 8270d R4 m
PAH in Water by GC/MS (SIM)	1	2015/06/19	2015/06/19	BBY8SOP-00021	EPA 8270d R4 m
Filter and HNO3 Preserve for Metals	1	N/A	2015/06/19	BBY7 WI-00004	BCMOE Reqs 08/14
EPH less PAH in Water by GC/FID	3	N/A	2015/06/19	BBY WI-00033	Auto Calc
Volatile HC-BTEX	3	N/A	2015/06/19	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
23 Jun 2015 14:45:56 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B551116
Report Date: 2015/06/23

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		ML9876	
Sampling Date		2015/06/17	
COC Number		K015918	
	Units	**MW15-18**	**QC Batch**
Calculated Parameters			
Filter and HNO3 Preservation	N/A	FIELD	ONSITE

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B551116
Report Date: 2015/06/23

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

BCCSR BTEX/VPH IN WATER (WATER)

Maxxam ID		ML9876	ML9877	ML9879		
Sampling Date		2015/06/17	2015/06/17	2015/06/17		
COC Number		K015918	K015918	K015918		
	Units	**MW15-18**	**MW15-19**	**MW15-AA**	**RDL**	**QC Batch**
Volatiles						
VPH (VHW6 to 10 - BTEX)	ug/L	<300	<300	<300	300	7938272
Benzene	ug/L	<0.40	<0.40	<0.40	0.40	7938718
Toluene	ug/L	<0.40	<0.40	<0.40	0.40	7938718
Ethylbenzene	ug/L	<0.40	<0.40	<0.40	0.40	7938718
m & p-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	7938718
o-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	7938718
Styrene	ug/L	<0.40	<0.40	<0.40	0.40	7938718
Xylenes (Total)	ug/L	<0.40	<0.40	<0.40	0.40	7938718
VH C6-C10	ug/L	<300	<300	<300	300	7938718
Surrogate Recovery (%)						
1,4-Difluorobenzene (sur.)	%	105	106	107		7938718
4-Bromofluorobenzene (sur.)	%	95	96	96		7938718
D4-1,2-Dichloroethane (sur.)	%	94	97	96		7938718
RDL = Reportable Detection Limit						

Maxxam Job #: B551116
Report Date: 2015/06/23

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Maxxam ID		ML9876		ML9877	ML9879		
Sampling Date		2015/06/17		2015/06/17	2015/06/17		
COC Number		K015918		K015918	K015918		
	Units	**MW15-18**	**QC Batch**	**MW15-19**	**MW15-AA**	**RDL**	**QC Batch**
Polycyclic Aromatics							
Naphthalene	ug/L	<0.10	7940449	<0.10	<0.10	0.10	7938390
Calculated Parameters							
LEPH (C10-C19 less PAH)	mg/L	<0.20	7938271	<0.20	<0.20	0.20	7938271
HEPH (C19-C32 less PAH)	mg/L	<0.20	7938271	<0.20	<0.20	0.20	7938271
Ext. Pet. Hydrocarbon							
EPH (C10-C19)	mg/L	<0.20	7938400	<0.20	<0.20	0.20	7938400
EPH (C19-C32)	mg/L	<0.20	7938400	<0.20	<0.20	0.20	7938400
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	100	7938400	98	100		7938400
D10-ANTHRACENE (sur.)	%	82	7940449	72	54 (1)		7938390
D8-ACENAPHTHYLENE (sur.)	%	107	7940449	80	76		7938390
D8-NAPHTHALENE (sur.)	%	80	7940449	68	65		7938390
D9-Acridine	%	96	7940449	81	78		7938390
TERPHENYL-D14 (sur.)	%	90	7940449	63	60		7938390

RDL = Reportable Detection Limit

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B551116
Report Date: 2015/06/23

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		ML9876	ML9876		
Sampling Date		2015/06/17	2015/06/17		
COC Number		K015918	K015918		
	Units	MW15-18	MW15-18 Lab-Dup	RDL	QC Batch
Misc. Inorganics					
Dissolved Hardness (CaCO3)	mg/L	278		0.50	7938267
Dissolved Metals by ICPMS					
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	0.20	7939053

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: B551116
Report Date: 2015/06/23

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	19.3°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B551116
Report Date: 2015/06/23

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7938390	D10-ANTHRACENE (sur.)	2015/06/18	77	60 - 130	83	60 - 130	89	%		
7938390	D8-ACENAPHTHYLENE (sur.)	2015/06/18	86	50 - 130	86	50 - 130	95	%		
7938390	D8-NAPHTHALENE (sur.)	2015/06/18	75	50 - 130	75	50 - 130	77	%		
7938390	D9-Acridine	2015/06/18	81	50 - 130	84	50 - 130	90	%		
7938390	TERPHENYL-D14 (sur.)	2015/06/18	63	60 - 130	62	60 - 130	68	%		
7938400	O-TERPHENYL (sur.)	2015/06/18	105	50 - 130	106	50 - 130	100	%		
7938718	1,4-Difluorobenzene (sur.)	2015/06/18	101	70 - 130	104	70 - 130	108	%		
7938718	4-Bromofluorobenzene (sur.)	2015/06/18	101	70 - 130	93	70 - 130	93	%		
7938718	D4-1,2-Dichloroethane (sur.)	2015/06/18	89	70 - 130	91	70 - 130	92	%		
7940449	D10-ANTHRACENE (sur.)	2015/06/19	101	60 - 130	110	60 - 130	101	%		
7940449	D8-ACENAPHTHYLENE (sur.)	2015/06/19	106	50 - 130	111	50 - 130	101	%		
7940449	D8-NAPHTHALENE (sur.)	2015/06/19	87	50 - 130	81	50 - 130	76	%		
7940449	D9-Acridine	2015/06/19	98	50 - 130	97	50 - 130	90	%		
7940449	TERPHENYL-D14 (sur.)	2015/06/19	100	60 - 130	94	60 - 130	86	%		
7938390	Naphthalene	2015/06/18	68	40 - 130	67	50 - 130	<0.10	ug/L	NC	40
7938400	EPH (C10-C19)	2015/06/18	107	50 - 130	104	50 - 130	<0.20	mg/L	NC	30
7938400	EPH (C19-C32)	2015/06/18	114	50 - 130	117	50 - 130	<0.20	mg/L	NC	30
7938718	Benzene	2015/06/18	89	70 - 130	91	70 - 130	<0.40	ug/L		
7938718	Ethylbenzene	2015/06/18	99	70 - 130	97	70 - 130	<0.40	ug/L		
7938718	m & p-Xylene	2015/06/18	92	70 - 130	91	70 - 130	<0.40	ug/L		
7938718	o-Xylene	2015/06/18	97	70 - 130	90	70 - 130	<0.40	ug/L		
7938718	Styrene	2015/06/18	90	70 - 130	93	70 - 130	<0.40	ug/L		
7938718	Toluene	2015/06/18	84	70 - 130	85	70 - 130	<0.40	ug/L		
7938718	VH C6-C10	2015/06/18			104	70 - 130	<300	ug/L		
7938718	Xylenes (Total)	2015/06/18					<0.40	ug/L		
7939053	Dissolved Lead (Pb)	2015/06/19	100	80 - 120	103	80 - 120	<0.20	ug/L	NC	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B551116
Report Date: 2015/06/23

QUALITY ASSURANCE REPORT(CONT'D)

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7940449	Naphthalene	2015/06/19	95	50 - 130	83	50 - 130	<0.10	ug/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B551116
Report Date: 2015/06/23

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST-REMEDIATION PRIOR ST
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

CHAIN OF CUSTODY RECORD

Page: 1 of 1

K 015918

Maxxam Job#: B551116

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: Keree Bruo
Address: #320-4400 Dominion Street
Burnaby, BC PC: V5G 4G3
Phone / Fax#: Ph: (604) 430-0671 Fax: (604) 430-0672
E-mail: kbro@keystoneenviro.com

Report To:

Company Name:
Contact Name: Francine Martins
Address:
PC:
Phone / Fax#: Ph: Fax:
E-mail: fmartins@keystoneenviro.com

PO #:
Quotation #:
Project #: 12349
Proj. Name: Post-Remediation
Location: Prior St
Sampled By: FDM

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [X] Regular Turn Around Time (TAT) (5 days for most tests)
- [ ] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day

Date Required:

Special Instructions:

Return Cooler [ ] Ship Sample Bottles (please specify) [ ]

ANALYSIS REQUESTED

#	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	BTEX/VPH (MTBE)	VOC/VPH	EPH (TEH)	PAH (LEPH/HEPH)	CCME-PHC (Fractions 1-4 Plus BTEX)	CCME-PHC (Fractions 2-4)	CCME BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by 4AAP (Phenols by GCMS)	TOG (MOG / SWOG)	Dissolved (Field Filtered?)	Metals (Field Acidified?)	Totals Metals Field Acidified?	Nitrate (Nitrite / Ammonia)	Chloride (Fluoride / Sulphate)	Total Suspended Solids-TSS (TDS)	pH (Conductivity / Alkalinity)	BOD	COD	Coliform, Total & E.coli (Fecal)	Asbestos	Naphthalene	Dis. Lead	Benzo(a)pyrene			# of containers	HOLD
1	MW15-18	ML9876	H2O	June 17/15	X			X																		X	X					
2	MW15-19	ML9877	↓	↓	X			X																		X						
3	MW15-20	ML9878	↓	↓																								X				
4	MW15-AA	ML9879	↓	↓	X			X																		X						
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Samples are from a Drinking Water Source? YES NO
Does source supply multiple households? YES NO

551116

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
FMartins	15/06/17	13:35	BW BILLO PUN	2015/06/17	13:35	✓	19, 19, 20	Yes [ ] No [X]

Laboratory Use Only

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

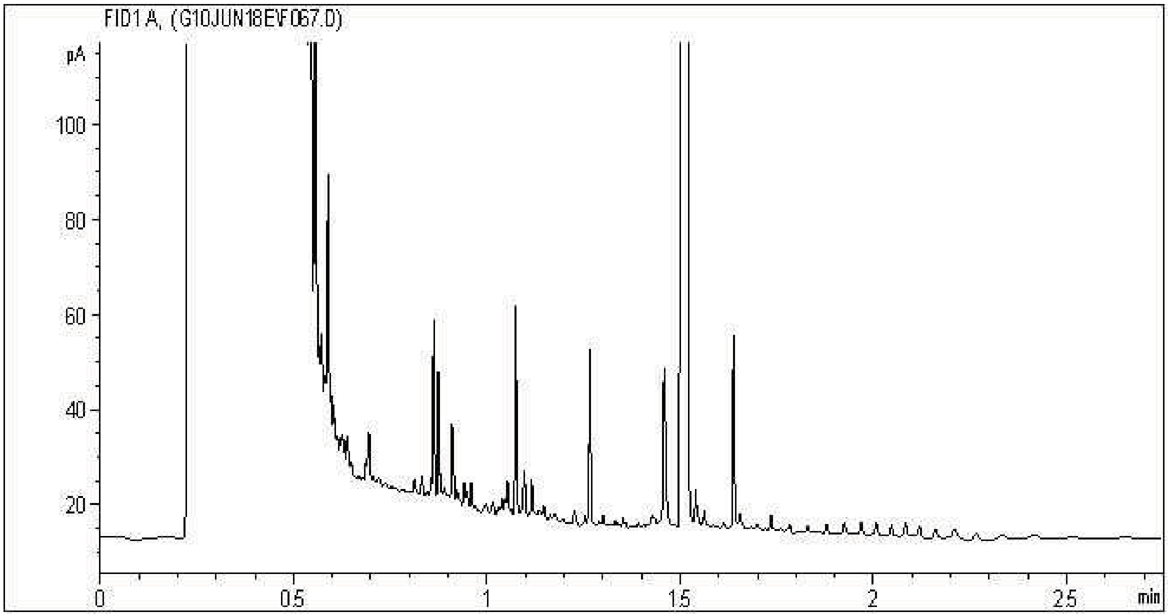
COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

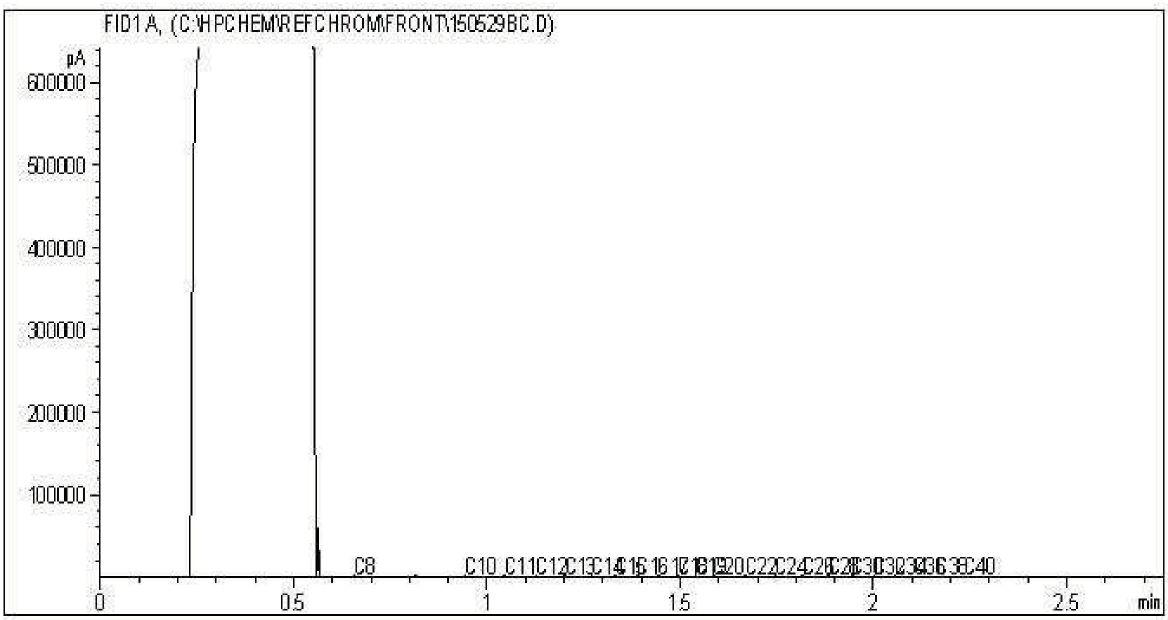
Maxxam Job #: B551116
Report Date: 2015/06/23
Maxxam Sample: ML9876

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Reference: POST-REMEDIATION PRIOR ST
Client ID: MW15-18

EPH in Water when PAH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

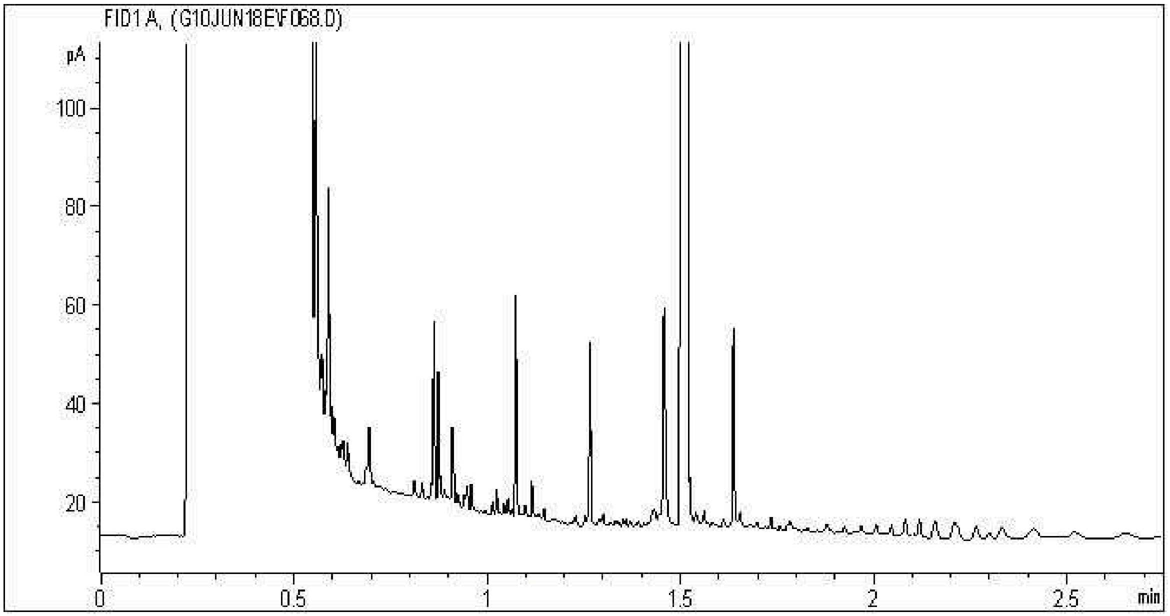
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

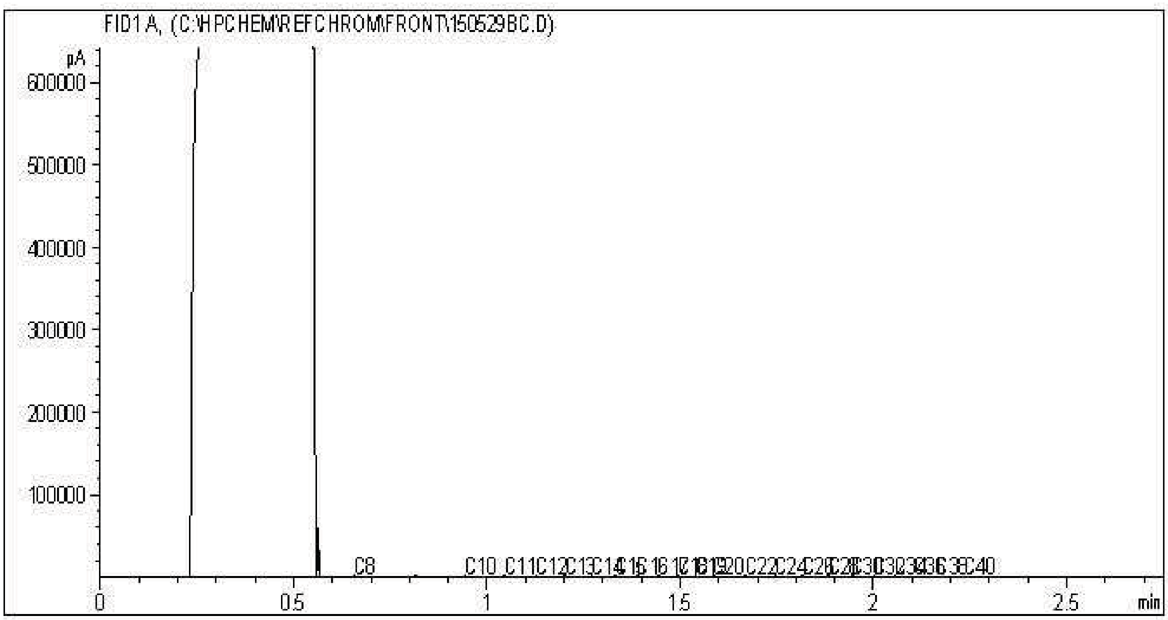
Maxxam Job #: B551116
Report Date: 2015/06/23
Maxxam Sample: ML9877

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Reference: POST-REMEDIATION PRIOR ST
Client ID: MW15-19

EPH in Water when PAH required Chromatogram



Carbon Range Distribution - Reference Chromatogram

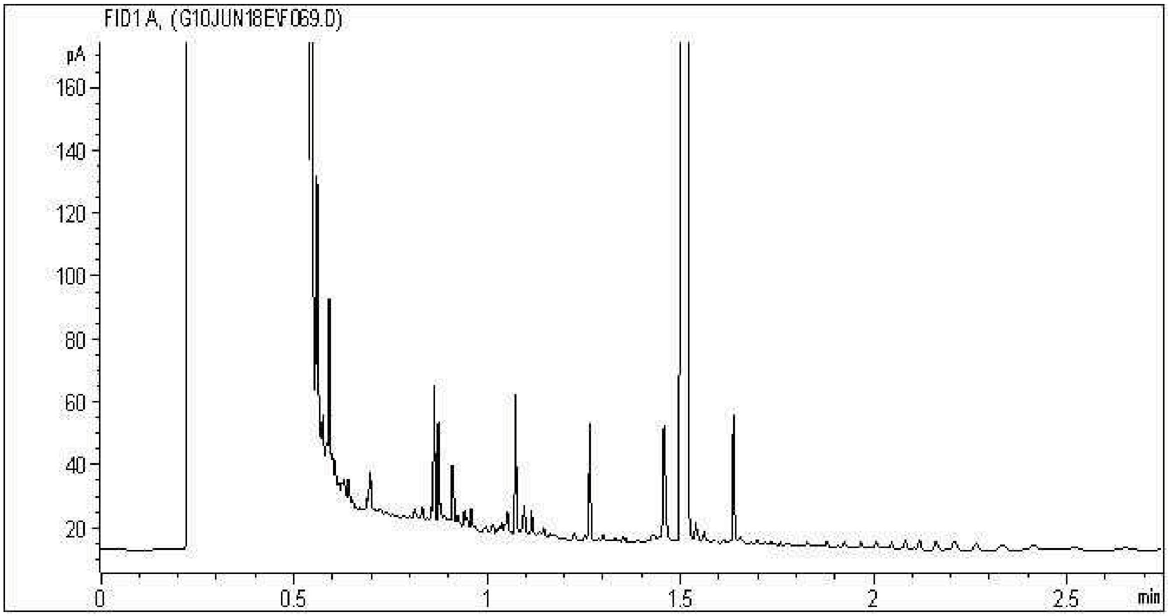


TYPICAL PRODUCT CARBON NUMBER RANGES

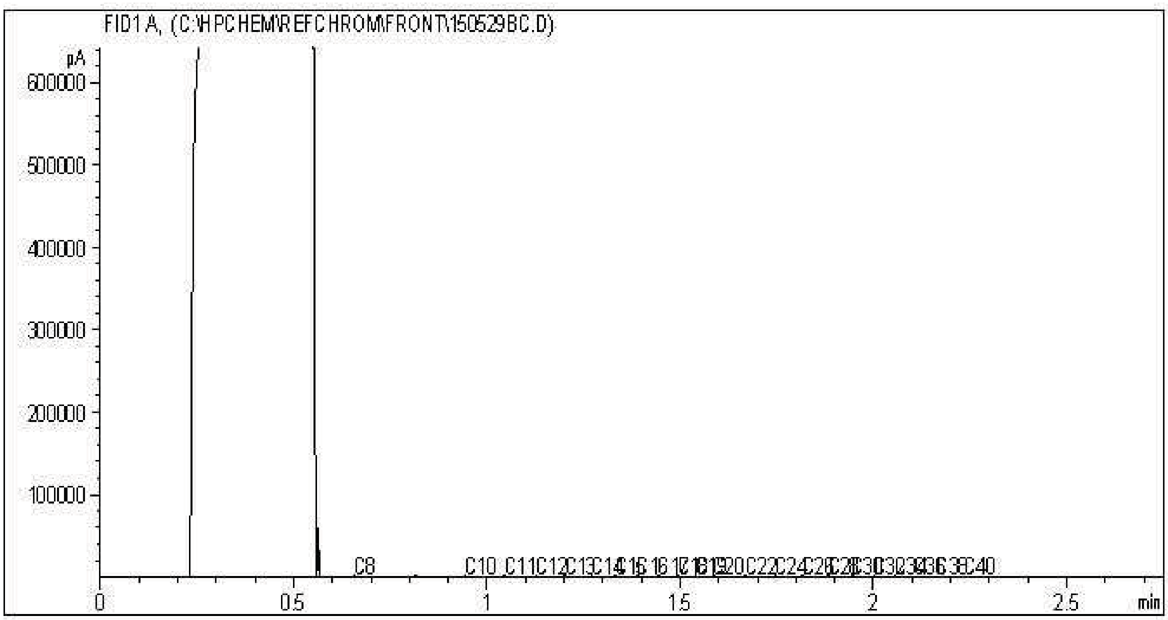
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Water when PAH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 12349
Site Location: POST REMEDIATION
Your C.O.C. #: K013838

Attention:Keree Orso

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/06/30
Report #: R1986762
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B553988
Received: 2015/06/25, 14:30

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH, VH, F1 SIM/MS	2	2015/06/26	2015/06/27	BBY8SOP-00010/11	EPA 8260c R3 m
EPH in Water when PAH required	2	2015/06/29	2015/06/29	BBY8SOP-00029	BCMOE EPH w 12/00 m
PAH in Water by GC/MS (SIM)	2	2015/06/29	2015/06/30	BBY8SOP-00021	EPA 8270d R4 m
EPH less PAH in Water by GC/FID	2	N/A	2015/06/30	BBY WI-00033	Auto Calc
Volatile HC-BTEX	2	N/A	2015/06/29	BBY WI-00033	Auto Calc

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
30 Jun 2015 16:56:17 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B553988
Report Date: 2015/06/30

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST REMEDIATION
Sampler Initials: FOM

BCCSR BTEX/VPH IN WATER (WATER)

Maxxam ID		MN5272	MN5273		
Sampling Date		2015/06/25	2015/06/25		
COC Number		K013838	K013838		
	Units	**MW15-18**	**MW15-19**	**RDL**	**QC Batch**
Volatiles					
VPH (VHW6 to 10 - BTEX)	ug/L	<300	<300	300	7945967
Benzene	ug/L	<0.40	<0.40	0.40	7947593
Toluene	ug/L	<0.40	<0.40	0.40	7947593
Ethylbenzene	ug/L	<0.40	<0.40	0.40	7947593
m & p-Xylene	ug/L	<0.40	<0.40	0.40	7947593
o-Xylene	ug/L	<0.40	<0.40	0.40	7947593
Styrene	ug/L	<0.40	<0.40	0.40	7947593
Xylenes (Total)	ug/L	<0.40	<0.40	0.40	7947593
VH C6-C10	ug/L	<300	<300	300	7947593
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	106	105		7947593
4-Bromofluorobenzene (sur.)	%	103	103		7947593
D4-1,2-Dichloroethane (sur.)	%	98	101		7947593
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B553988
Report Date: 2015/06/30

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST REMEDIATION
Sampler Initials: FOM

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Maxxam ID		MN5272	MN5273		
Sampling Date		2015/06/25	2015/06/25		
COC Number		K013838	K013838		
	Units	**MW15-18**	**MW15-19**	**RDL**	**QC Batch**
Polycyclic Aromatics					
Naphthalene	ug/L	0.12	<0.10	0.10	7950498
Calculated Parameters					
LEPH (C10-C19 less PAH)	mg/L	<0.20	<0.20	0.20	7946403
HEPH (C19-C32 less PAH)	mg/L	<0.20	<0.20	0.20	7946403
Ext. Pet. Hydrocarbon					
EPH (C10-C19)	mg/L	<0.20	<0.20	0.20	7950504
EPH (C19-C32)	mg/L	<0.20	<0.20	0.20	7950504
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	95	96		7950504
D10-ANTHRACENE (sur.)	%	73	89		7950498
D8-ACENAPHTHYLENE (sur.)	%	95	93		7950498
D8-NAPHTHALENE (sur.)	%	94	79		7950498
D9-Acridine	%	106	104		7950498
TERPHENYL-D14 (sur.)	%	90	93		7950498
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	14.7°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B553988
Report Date: 2015/06/30

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST REMEDIATION
Sampler Initials: FOM

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7947593	1,4-Difluorobenzene (sur.)	2015/06/26	103	70 - 130	104	70 - 130	107	%		
7947593	4-Bromofluorobenzene (sur.)	2015/06/26	103	70 - 130	102	70 - 130	102	%		
7947593	D4-1,2-Dichloroethane (sur.)	2015/06/26	96	70 - 130	94	70 - 130	96	%		
7950498	D10-ANTHRACENE (sur.)	2015/06/29	101	60 - 130	106	60 - 130	99	%		
7950498	D8-ACENAPHTHYLENE (sur.)	2015/06/29	95	50 - 130	100	50 - 130	91	%		
7950498	D8-NAPHTHALENE (sur.)	2015/06/29	91	50 - 130	96	50 - 130	88	%		
7950498	D9-Acridine	2015/06/29	106	50 - 130	110	50 - 130	102	%		
7950498	TERPHENYL-D14 (sur.)	2015/06/29	94	60 - 130	104	60 - 130	99	%		
7950504	O-TERPHENYL (sur.)	2015/06/29	96	50 - 130	98	50 - 130	94	%		
7947593	Benzene	2015/06/27	97	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
7947593	Ethylbenzene	2015/06/27	103	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
7947593	m & p-Xylene	2015/06/27	102	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
7947593	o-Xylene	2015/06/27	92	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
7947593	Styrene	2015/06/26	100	70 - 130	98	70 - 130	<0.40	ug/L		
7947593	Toluene	2015/06/27	95	70 - 130	93	70 - 130	<0.40	ug/L	NC	30
7947593	VH C6-C10	2015/06/26			92	70 - 130	<300	ug/L		
7947593	Xylenes (Total)	2015/06/27					<0.40	ug/L	5.5	30
7950498	Naphthalene	2015/06/30	90	50 - 130	93	50 - 130	<0.10	ug/L	NC	40
7950504	EPH (C10-C19)	2015/06/29	100	50 - 130	101	50 - 130	<0.20	mg/L	NC	30
7950504	EPH (C19-C32)	2015/06/29	112	50 - 130	109	50 - 130	<0.20	mg/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B553988
Report Date: 2015/06/30

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Location: POST REMEDIATION
Sampler Initials: FOM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

4606 Canada Way, Burnaby, BC Canada V5G 1K5 Ph: 604 734 7276 Toll Free: 1 800 665 8566 Fax: 604 731 2386

CHAIN OF CUSTODY RECORD

Page 1 of 1

K 013838

Maxxam Job#: B553988

Invoice To: Require Report? Yes [ ] No [ ]

Company Name: Keystone Environmental Ltd.
Contact Name: [illegible]
Address: #320-4400 Dominion Street
Burnaby, BC PC V5G 4G3
Phone / Fax#: Ph (604) 430-0671 Fax (604) 430-0672
E-mail: [illegible]

Report To:

Company Name:
Contact Name: [illegible]
Address:
PC
Phone / Fax#: Ph: Fax:
E-mail: [illegible]

PO #:
Quotation #:
Project #: 12349 [illegible]
Proj. Name: Port [illegible]
Location: [illegible]
Sampled By: [illegible]

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- [X] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other
- [ ] DRINKING WATER

- [ ] Regular Turn Around Time (TAT) (5 days for most tests)
- [X] RUSH (Please contact the lab)
- [ ] 1 Day [ ] 2 Day [ ] 3 Day
- Date Required: Tuesday

Special Instructions:

Return Cooler [ ] Ship Sample Bottles (please specify) [ ]

[illegible]

ANALYSIS REQUESTED

	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled
1	MW15-12	HN5272	H2O	[illegible]
2	MW15-19 [illegible]	HN5273	H2O	[illegible]
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

B553988

Samples are from a Drinking Water Source? YES NO

Does source supply multiple households? YES NO

Laboratory Use Only

*Relinquished by:	Date (YY/MM/DD):	Time:	Received by:	Date (YY/MM/DD):	Time:	Time Sensitive	Temperature on Receipt (°C)	Custody Seal Intact on Cooler?
[illegible]	15/06/25	[illegible]	[illegible]	2015/06/25	14:30	[ ]	15, 14, 15	N/A Yes No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

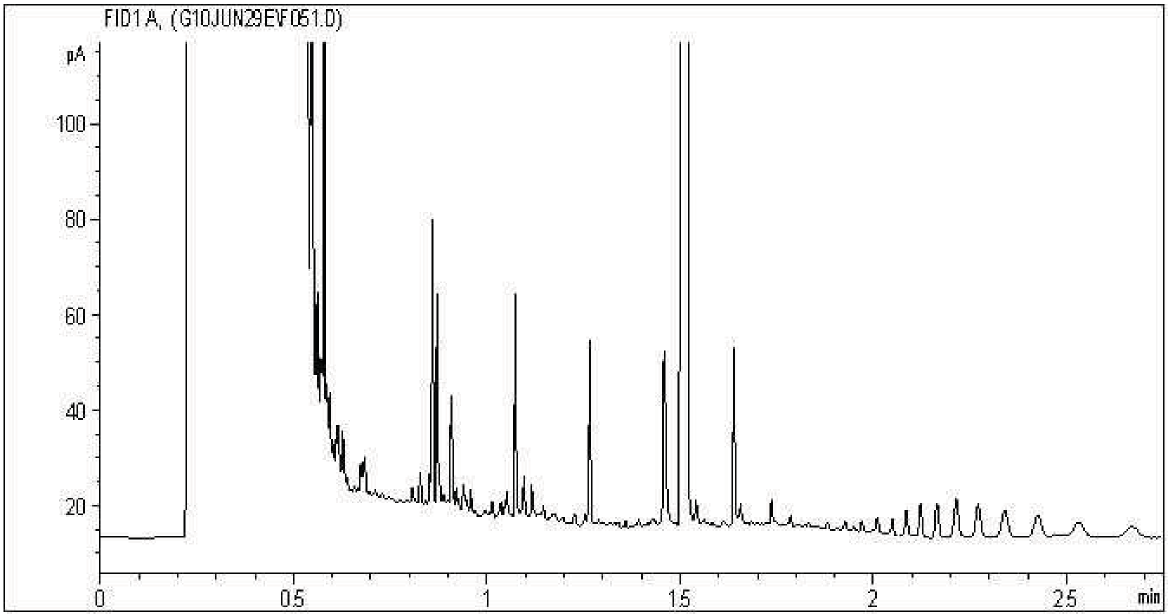
COC-1027-Keystone

Maxxam International Corporation o/a Maxxam Analytics

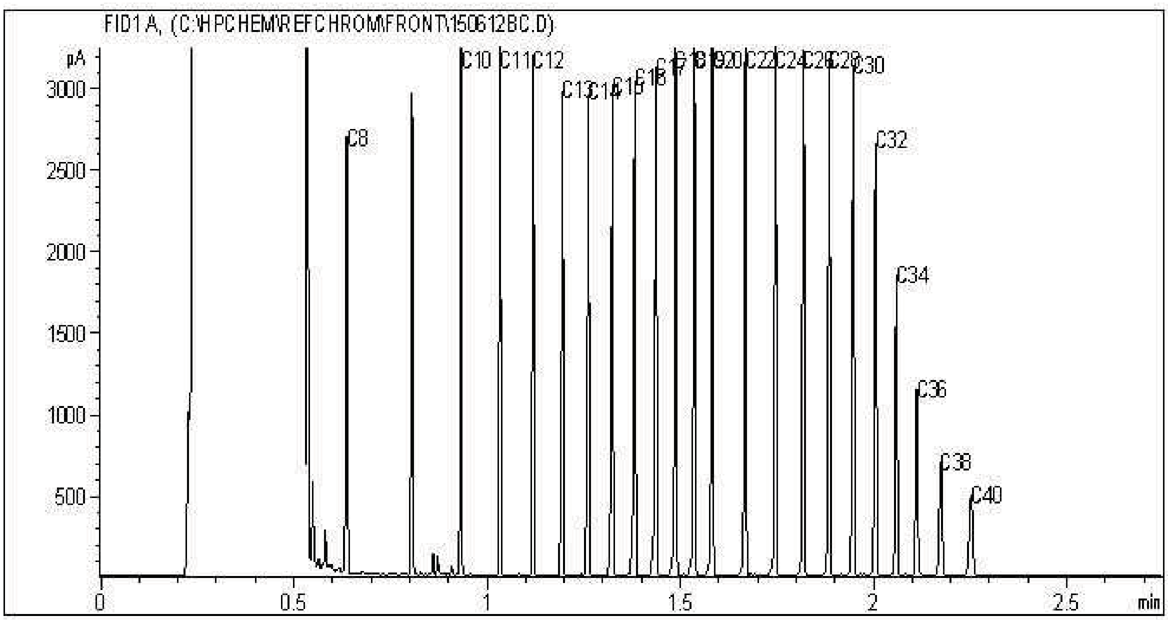
Maxxam Job #: B553988
Report Date: 2015/06/30
Maxxam Sample: MN5272

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Reference: POST REMEDIATION
Client ID: MW15-18

EPH in Water when PAH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

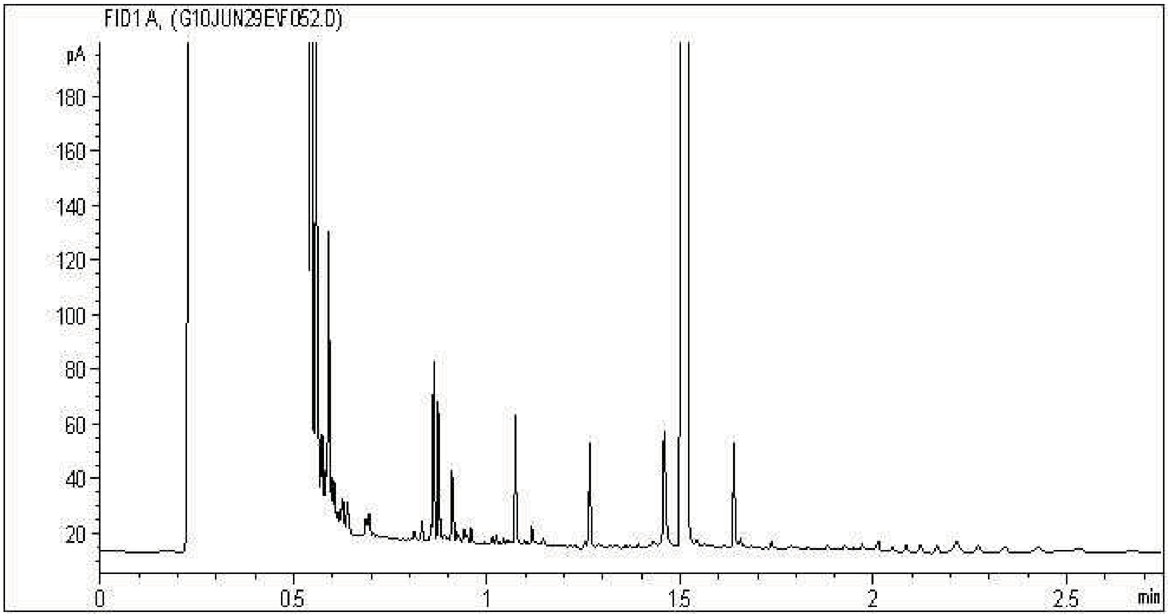
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

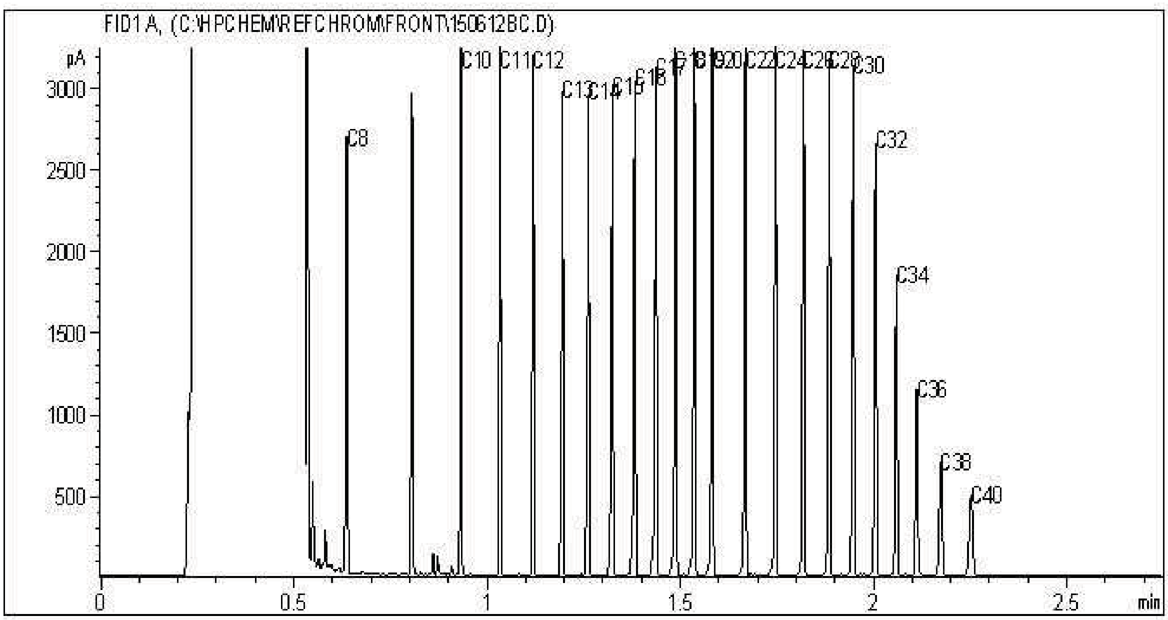
Maxxam Job #: B553988
Report Date: 2015/06/30
Maxxam Sample: MN5273

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Site Reference: POST REMEDIATION
Client ID: MW15-19

EPH in Water when PAH required Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 12349
Your C.O.C. #: 466039-12-01

Attention:Francini Martins

KEYSTONE ENVIRONMENTAL LTD
SUITE 320
4400 DOMINION STREET
BURNABY, BC
CANADA V5G 4G3

Report Date: 2015/07/06
Report #: R1992169
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B555896
Received: 2015/07/02, 11:30

Sample Matrix: Air
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
VOCs by TD – Complete List Calc (ug/m3)	1	N/A	2015/07/03	BBY5SOP-00031	BCMOE BCLM Jun2009 m
VOCs by TD Tube – Complete List (ug)	1	N/A	2015/07/06	BBY5SOP-00031	BCMOE BCLM Jun2009 m
Duration	1	N/A	2015/07/06	N/A	Field Data
Flow Rate (L/min)	1	N/A	2015/07/06	N/A	Field Data

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Maxxam
06 Jul 2015 16:43:29 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604)639-2602
==
This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B555896
Report Date: 2015/07/06

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: KLM

BTEX/VPH IN AIR BY TD (AIR)

Maxxam ID		MO8254		
Sampling Date		2015/07/02		
COC Number		466039-12-01		
	Units	**SV15-18**	**RDL**	**QC Batch**
Field Parameters				
Duration	min	40	N/A	ONSITE
Flow Rate	L/min	0.1	N/A	ONSITE
Air Analysis				
Benzene	ug/m3	55	0.50	7953082
1,3-Butadiene	ug/m3	<1.3	1.3	7953082
C6-C13 Hydrocarbons (VHv)	ug/m3	260000	130	7953082
C6-C13 Hydrocarbons (VPHv)	ug/m3	240000	130	7953082
n-Decane	ug/m3	<2.5	2.5	7953082
1,2-dibromoethane	ug/m3	<0.50	0.50	7953082
1,2-dichloroethane	ug/m3	<0.25	0.25	7953082
Ethylbenzene	ug/m3	37	2.5	7953082
n-Hexane	ug/m3	16000	2.5	7953082
Isopropanol	ug/m3	<25	25	7953082
Isopropylbenzene	ug/m3	<0.50	0.50	7953082
Methylcyclohexane	ug/m3	26000	0.50	7953082
Methyl-tert-butylether (MTBE)	ug/m3	<25	25	7953082
Naphthalene	ug/m3	<2.5	2.5	7953082
Styrene	ug/m3	6.6	2.5	7953082
Toluene	ug/m3	76	0.50	7953082
1,2,4-trimethylbenzene	ug/m3	5.2	0.50	7953082
1,3,5-trimethylbenzene	ug/m3	5.3	0.50	7953082
Total Xylenes	ug/m3	48	2.5	7953082
Volatiles				
Benzene	ug	0.22	0.0020	7957425
1,3-Butadiene	ug	<0.0050	0.0050	7957425
C6-C13 Hydrocarbons (VHv)	ug	1000	0.50	7957425
C6-C13 Hydrocarbons (VPHv)	ug	970	0.50	7957425
n-Decane	ug	<0.010	0.010	7957425
1,2-dibromoethane	ug	<0.0020	0.0020	7957425
1,2-dichloroethane	ug	<0.0010	0.0010	7957425
Ethylbenzene	ug	0.15	0.010	7957425
n-Hexane	ug	65	0.010	7957425
Isopropanol	ug	<0.10	0.10	7957425
Isopropylbenzene	ug	<0.0020	0.0020	7957425
Methylcyclohexane	ug	100	0.0020	7957425
Methyl-tert-butylether (MTBE)	ug	<0.10	0.10	7957425

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Job #: B555896
Report Date: 2015/07/06

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: KLM

BTEX/VPH IN AIR BY TD (AIR)

Maxxam ID		MO8254		
Sampling Date		2015/07/02		
COC Number		466039-12-01		
	Units	SV15-18	RDL	QC Batch
Naphthalene	ug	<0.010	0.010	7957425
Styrene	ug	0.026	0.010	7957425
Toluene	ug	0.30	0.0020	7957425
1,2,4-trimethylbenzene	ug	0.021	0.0020	7957425
1,3,5-trimethylbenzene	ug	0.021	0.0020	7957425
Total Xylenes	ug	0.19	0.010	7957425
RDL = Reportable Detection Limit				

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.0°C

Sample MO8254-01 : The results are above the analytical calibration range and therefore approximate. The results may be biased low. A more appropriate sampling volume for this site would be 100x less.

Results relate only to the items tested.

Maxxam

Success Through Science®

Maxxam Job #: B555896
Report Date: 2015/07/06

QUALITY ASSURANCE REPORT

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: KLM

			Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7957425	1,2,4-trimethylbenzene	2015/07/06	95	60 - 140	<0.0020	ug	NC	30
7957425	1,2-dibromoethane	2015/07/06	87	60 - 140	<0.0020	ug	NC	30
7957425	1,2-dichloroethane	2015/07/06	72	60 - 140	<0.0010	ug	NC	30
7957425	1,3,5-trimethylbenzene	2015/07/06	97	60 - 140	<0.0020	ug	NC	30
7957425	1,3-Butadiene	2015/07/06	65	60 - 140	<0.0050	ug	NC	30
7957425	Benzene	2015/07/06	93	60 - 140	<0.0020	ug	3.7	30
7957425	C6-C13 Hydrocarbons (VHv)	2015/07/06	110	60 - 140	<0.50	ug	NC	30
7957425	C6-C13 Hydrocarbons (VPHv)	2015/07/06			<0.50	ug	NC	30
7957425	Ethylbenzene	2015/07/06	102	60 - 140	<0.010	ug	NC	30
7957425	Isopropanol	2015/07/06			<0.10	ug		
7957425	Isopropylbenzene	2015/07/06	109	60 - 140	<0.0020	ug	NC	30
7957425	Methylcyclohexane	2015/07/06	86	60 - 140	<0.0020	ug	NC	30
7957425	Methyl-tert-butylether (MTBE)	2015/07/06	79	60 - 140	<0.10	ug	NC	30
7957425	Naphthalene	2015/07/06	92	60 - 140	<0.010	ug	NC	30
7957425	n-Decane	2015/07/06	86	60 - 140	<0.010	ug	NC	30
7957425	n-Hexane	2015/07/06	104	60 - 140	<0.010	ug	NC	30
7957425	Styrene	2015/07/06			<0.010	ug	NC	30
7957425	Toluene	2015/07/06	88	60 - 140	<0.0020	ug	NC	30
7957425	Total Xylenes	2015/07/06			<0.010	ug	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B555896
Report Date: 2015/07/06

KEYSTONE ENVIRONMENTAL LTD
Client Project #: 12349
Sampler Initials: KLM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam

Maxxam Analytics International Corporation o/a Maxxam Analytics
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel:(604) 734 7276 Toll-Free:800-563-6266 Fax:(604) 731 2386 www.maxxam.ca

Chain Of Custody Record

Page 1 of 1

INVOICE TO:		Report Information		Project Information	
Company Name	#3763 KEYSTONE ENVIRONMENTAL LTD	Company Name		Quotation #	
Contact Name	Francini Morhns	Contact Name	Francini Morhns	P.O. #	
Address	SUITE 320 4400 DOMINION STREET	Address		Project #	12349
	BURNABY BC V5G 4G3			Project Name	
Phone	(604) 430-0671 Fax: (604) 430-0672	Phone	Fax:	Site #	
Email	JTolentino@maxxam.ca	Email	fmerhnsc keystone...	Sampled By	KLM

Laboratory Use Only	
Maxxam Job #	Bottle Order #:
B555896	466039
Chain Of Custody Record	Project Manager
C#466039-12-01	Amandeep Nagra

Regulatory Criteria:

- [x] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other ______

Special Instructions

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
1 DAY [ ] 2 Day [x] 3 Day [ ] Date Required: Jul 6 [ ]
Rush Confirmation Number: ______ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	FULL SCAN VOCS/VPH (NO MTBE)	PUMP FLOW RATE (L/MINUTE)	PUMP NUMBER	PUMP RUN TIME (MINUTES)	SV - BTEX/VPH	SV - CSAP LIST - DIESEL (INCL NAPHTH)	SV - CSAP LIST - DRYCLEANER	SV - CSAP LIST - GASOLINE (INCL NAPHTH)	SV - ISOPROPANOL	SV - NAPHTHALENE	# of Bottles	Comments
1	MU8254	SU15-18	2015Ju102		SV			0.1	003209	40				✓	✓		1	
2																		
3																		B555896
4																		
5																		
6																		
7																		
8																		
9																		
10																		

* * RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
K. Melling	2015Ju102	1130	Laurel Berthier	2015/07/02	11:30		[ ]	6,7,5 JS	NA [ ] Yes [ ] No

Lab Use Only

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

APPENDIX G

KEYSTONE ENVIRONMENTAL LTD.
GENERAL TERMS AND CONDITIONS FOR SERVICES

Keystone Environmental
Knowledge-Driven Results

KEYSTONE ENVIRONMENTAL LTD.
GENERAL TERMS AND CONDITIONS FOR SERVICES

The terms and conditions set forth below govern all work or services requested by CLIENT as described and set forth in the Proposal and/or Work Plan of Keystone Environmental Ltd. ("Keystone Environmental "), any Purchase Order issued by CLIENT or Agreement between Keystone Environmental and CLIENT. The provisions of said Proposal or Agreement govern the scope of services to be performed, including the time schedule, compensation, and any other special terms. The terms and conditions contained herein shall otherwise apply expressly stated to the contract including any terms in addition to or inconsistent with said Proposal or Agreement.

1. COMPENSATION

The fees for services provided by Keystone Environmental consists of: (1) an hourly billing rate for any staff member actively working on a project, except for lump-sum or percent of construction fee basis projects; (2) reimbursement of direct expenses; (3) reimbursement of subcontractor's and other special costs; and (4) use and rental charges for equipment. Invoices covering these charges and expenses will be submitted for payment on a monthly basis, unless other arrangements have been agreed upon in writing.

All time, including traveling hours, spent on the project by Keystone Environmental personnel will be invoiced. Overtime incurred by and paid to personnel may be invoiced at a rate of 1.2 times the hours worked, if so stipulated in the proposal and/or work plan. Unless a lump-sum bid is submitted or percent of construction fee basis used, any cost estimate presented in the proposal and/or work plan is for budgetary purposes only and is not a fixed lump-sum bid. If it becomes apparent that the budgetary estimate is not sufficient to complete the project in a satisfactory manner, the client will be advised before the budgetary estimate is exceeded.

REIMBURSABLE EXPENSES

(a) The following expenses will be invoiced at cost plus 15% to cover overhead:
   - (i) Travel expenses including airfare, rental vehicles, personal vehicles at $0.55/km for less than 5,000 kms and $0.49/km for 5,000 kms and over, subsistence and lodging.
   - (ii) Shipping/storage charges and costs for expendable sampling and field supplies.
   - (iii) Communications costs, including telephone and mailing costs including courier services.
   - (iv) All project-related purchases including subcontractor costs, laboratory charges, material fees, duties, deposits, equipment purchases, third party equipment rentals and other outside costs incurred specifically for the project.

(b) The following expenses will be invoiced at the rates which follow:
   - (i) Field and reproduction equipment in accordance with our Equipment Rate Schedule.
   - (ii) Photocopying at $ 0.15 per copy.
   - (iii) Engineering and specialty software services will be invoiced at $20.00/connect hour as stipulated in the proposal and/or work plan

GST/HST paid on expenses and disbursements by Keystone Environmental is not included in invoiced costs. GST/HST will be added to all invoices other than invoices sent to GST/HST exempt Clients

Payment shall be provided by money transfer, cheque, or, if with prior approval by Keystone Environmental, Master Card or Visa. A surcharge of 3% may be added to payments by MasterCard or Visa if the payment amount exceeds $3,000.00. Fees shall be paid in advance if stipulated in the proposal and/or work plan. Where payment in advance is not stipulated in the proposal and/or work plan, progress invoices will be issued monthly and are to be paid within 30 days of the invoice date. Subcontractor billings are payable upon presentation. A finance charge of 1.5% per month (19.6% per annum) may be charged on past due accounts. Payment of Keystone Environmental invoices shall be in Canadian currency.

CLIENT agrees to compensate Keystone Environmental in accordance with the total fee as stipulated in Keystone Environmental's proposal and/or work plan.

Keystone Environmental may, at its sole discretion, withhold work products at any time that accounts are past due and until accounts are paid in full. Keystone Environmental may also, at its sole discretion, stop work at any time accounts are past due.

In the event that Keystone Environmental shall take collection or legal action for the recovery of the payment of outstanding accounts, Keystone Environmental shall be entitled to recover all collection and legal fees and expenses incurred by it with respect to such action.

2. INDEPENDENT CONTRACTOR

Keystone Environmental shall be an independent contractor and shall be fully independent in performing the services of work and shall not act or hold themselves out as an agent, servant or employee of CLIENT.

3. KEYSTONE ENVIRONMENTAL'S LIMITED WARRANTY

The sole and exclusive warranty which Keystone Environmental makes with respect to the services to be provided in the performance of the work is that they shall be performed in accordance with generally accepted professional practices.

In the event Keystone Environmental's performance of work, or any portion thereof, fails to conform to the above stated limited warranty, Keystone Environmental shall, at its discretion and its expense, proceed expeditiously to repertory the nonconforming, or upon the mutual agreement of the parties, refund the amount of compensation paid to Keystone Environmental for such nonconforming work. In no event shall Keystone Environmental be required to bear the cost of gaining access in order to perform its warranty obligations.

4. CLIENT WARRANTY

CLIENT warrants that: it will provide to Keystone Environmental all available information regarding the site, including underground structures and utilities, facilities, buildings, and land involved with the work and that such information shall be true and correct and that it has title to or will provide right of entry or access to all property necessary to perform the work. The Client shall provide all licenses and permits required for the work, unless otherwise stated in the proposal and/or work plan,

5. INDEMNITY

a. Subject to the limitations of Section 7 below, Keystone Environmental agrees to indemnify, defend and hold harmless CLIENT (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, and the costs and expenses incident thereto (including reasonable legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders, to the extent caused by or arising out of: (i) Keystone Environmental's errors or omissions or (ii) negligence on the part of Keystone Environmental in performing services hereunder.

b. CLIENT agrees to indemnify and hold harmless Keystone Environmental (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, and the costs and expenses incident thereto (including legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders, caused by, or arising out of in whole or in part: (i) any negligence or willful misconduct of CLIENT, (ii) any breach of CLIENT of any warranties or other provisions hereunder, (iii) any condition including, but not limited to, contamination existing at the site, or (iv) contamination of other property arising or alleged to arise from or be related to the site provided, however, that such indemnification shall not apply to the extent any losses, damages, liabilities or expenses result from or arise out of: (i) any negligence or willful misconduct of Keystone Environmental; or(ii) any breach of Keystone Environmental of any warranties hereunder.

6. LIMITATION OF LIABILITY

Keystone Environmental's total liability, whether arising from or based upon breach of warranty, breach of contract, tort, including Keystone Environmental's negligence, strict liability, indemnity or any other cause of basis whatsoever, is expressly limited to the limits of Keystone Environmental's insurance coverage. This provision limiting Keystone Environmental's liability shall survive the termination, cancellation or expiration of any contract resulting from this Proposal and the completion of services thereunder. After three (3) years of completion of Keystone Environmental's services, any legal costs arising to defend third party claims made against Keystone Environmental in connection with the project defined in the Proposal or Agreement will be paid in full by the CLIENT.

7. INSURANCE

Keystone Environmental, during performance of this Agreement, will at its own expense carry Worker's Compensation Insurance within limits required by law; Comprehensive General Liability Insurance for bodily injury and for property damage; Professional Liability Insurance for errors omissions and negligence; and Comprehensive Automobile Liability Insurance for bodily injury and property damage. At CLIENT'S request, Keystone Environmental shall provide a Certificate of Insurance demonstrating Keystone Environmental's compliance with this section. Such Certificate of Insurance shall provide that said insurance shall not be cancelled or materially altered until at least ten (10) days after written notice to CLIENT.

8. CONFIDENTIALITY

Each party shall retain as confidential all information and data furnished to it by the other party which relate to the other party's technologies, formulae, procedures, processes, methods, trade secrets, ideas, improvements, inventions and/or computer programs, which are designated in writing by such other party as confidential at the time of transmission and are obtained or acquired by the receiving party in connection with work or services performed subject to this Proposal or Agreement, and shall not disclose such information to any third party.

However, nothing herein is meant to prevent nor shall it be interpreted as preventing either Keystone Environmental or CLIENT from disclosing and/or using said information or data; (i) when the information or data is actually known to the receiving party before being obtained or derived from the transmitting party; or (ii) when the information or data is generally available to the public without the receiving party's fault; or (iii) where the information or data is obtained or acquired in good faith at any time by the receiving party from a third party who has the right to disclose such information or data; or (iv) where a written release is obtained by the receiving party from the transmitting party; or (v) as required by law.

9. PROTECTION OF INFORMATION

Keystone Environmental specifically disclaims any warranties expressed or implied and does not make any representations regarding whether any information associated with conducting the work, including the report, can be protected from disclosure in responses to a request by a federal, provincial or local government agency, or in response to discovery or other legal process during the course of any litigation involving Keystone Environmental or CLIENT. Should Keystone Environmental receive such request from a third party, it will immediately advise CLIENT.

10. FORCE MAJEURE

Neither party shall be responsible or liable to the other for default or delay in the performance of any of its obligations hereunder (other than the payment of money for services already rendered) caused in whole or in part by strikes or other labour difficulties or disputes; governmental orders or regulations; war, riot, fire, explosion; acts of God; acts of omissions of the other party; any other like causes; or any other unlike causes which are beyond the reasonable control of the respective party.

In the event of delay in performance due to any such cause, the time for completion will be extended by a period of time reasonably necessary to overcome the effect of the delay. The party so prevented from complying shall within a reasonable time of its knowledge of the disability advise the other party of the effective cause, the performance suspended or affected and the anticipated length of time during which performance will be prevented or delayed and shall make all reasonable efforts to remove such disability as soon as possible, except for labour disputes, which shall be solely within said party's discretion. The party prevented from complying shall advise the other party when the cause of the delay or default has ended, the number of days which will be reasonably required to compensate for the period of suspension and the date when performance will be resumed. Any additional costs or expense accruing or arising from the delaying event shall be solely for the account of the CLIENT.

11. NOTICE

Any notice, communication, or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person or sent by facsimile, wire, or certified mail, return receipt requested, postage prepaid, to the address of the party set forth below, or to such address for either party as the party may be written notice designate.

12. ASSIGNMENT/SUBCONTRACT

Neither party hereto shall assign this Agreement or any part thereof nor any interest therein without the prior written approval of the other party hereto except as herein otherwise provided. Keystone Environmental shall not subcontract the performance of any work hereunder without the written approval of CLIENT. Subject to the foregoing limitation, the Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of the parties hereto.

13. ESTIMATES

To the extent the work requires Keystone Environmental to prepare opinions of probable cost, for example, opinions of probable cost for the cost of construction, such opinions shall be prepared in accordance with generally accepted engineering practice and procedure. However, Keystone Environmental has no control over construction costs, competitive bidding and market conditions, costs of financing, acquisition of land or rights-of-way and Keystone Environmental does not guarantee the accuracy of such opinion of probable cost as compared to actual costs or contractor's bid.

14. DELAYED AGREEMENTS AND OBLIGATIONS

The performance by Keystone Environmental of its obligations under this Agreement depends upon the CLIENT performing its obligations in a timely manner and cooperating with Keystone Environmental to the extent reasonably required for completion of the Work. Delays by CLIENT in providing information or approvals or performing its obligations set forth in this Agreement may result in an appropriate adjustment of contract price and schedule.

15. CONSTRUCTION PHASE

To the extent the work is related to or shall be followed by construction work not performed by Keystone Environmental, Keystone Environmental shall not be responsible during the construction phase for the construction means, methods, techniques, sequences or procedures of construction contractors, or the safety precautions and programs incident thereto, and shall not be responsible for the construction contractor's failure to perform the work in accordance with the contract documents. Keystone Environmental will not direct, supervise or control the work of the CLIENT'S contractors or the CLIENT'S subcontractors.

16. DOCUMENTATION, RECORDS, AUDIT

Keystone Environmental when requested by CLIENT, shall provide CLIENT with copies of all documents relating to the service(s) of work performed. Keystone Environmental shall retain true and correct records in connection with each service and/or work performed and all transactions related thereto and shall retain all such records for twelve (12) months after the end of the calendar year in which the last service pursuant to this Agreement was performed. CLIENT, at its expense and upon reasonable notice, may from time to time during the term of this Agreement, and at any time after the date the service(s) were performed up to twelve (12) months after the end of the calendar year in which the last service(s) were performed, audit all records of Keystone Environmental in connection with all costs and expenses which it was invoiced.

17. REPORTS, DOCUMENTS AND INFORMATION

All field data, field notes, laboratory test data, calculations, estimates and other documents prepared by Keystone Environmental in performance of the work shall remain the property of Keystone Environmental. If required as part of the work, Keystone Environmental shall prepare a written report addressing the items in the work plan including the test results. Such report shall be the property of CLIENT, Keystone Environmental shall be entitled to retain one hard copy and electronic copy of such report for its internal use and reference.

Reports will be delivered to the client in electronic (PDF) format.

All drawings and documents produced under the terms of this Agreement are the property of Keystone Environmental, and cannot be used for any reason other than to bid and construct the project as described in the Proposal or Agreement.

18. LIMITED USE OF REPORT

Any report prepared as part of the work will be prepared solely for the internal use of CLIENT. Unless otherwise agreed by Keystone Environmental and CLIENT, parties agree that third parties are not to rely upon the report.

19. SAMPLE MANAGEMENT

Ownership of all samples obtained by Keystone Environmental from the project site is maintained by the CLIENT. Keystone Environmental or its laboratory sub-contractor will store such samples in a professional manner in a secure area for the period of time necessary to complete the project. Upon completion of the project, Keystone Environmental disposes of the samples in a lawful manner.

20. ACKNOWLEDGMENT AND RECOGNITION OF RISK

CLIENT recognizes and accepts the work to be undertaken by Keystone Environmental may involve unknown undersurface conditions and hazards. CLIENT further recognizes that environmental, geologic, hydrological, and geotechnical conditions can and may vary from those encountered by Keystone Environmental at the times and locations where it obtained data and information and that limitations on available data may result in some uncertainty with respect to the interpretation of these conditions. CLIENT recognizes that the performance of services hereunder or the implementation of recommendations made by Keystone Environmental in completing the work required may alter the existing site conditions and affect the environment in the site area.

Unknown undersurface conditions, including underground utility services, tanks, pipes, cables and other works (Underground Works) may be present at the site. Keystone Environmental will conduct utility locates to obtain available information regarding the location of Underground Works in accordance with industry practice. Utility locates are not a guarantee of the location of, or existence of, Underground Works and as a result damage to Underground Works may occur. Keystone Environmental relies on utility locates and Client provided “as-built” and record drawings to determine the location and existence of Underground

Works. CLIENT recognizes that the use of utility locates is not a guarantee or warranty that Underground Works may not be damaged and acknowledges that Keystone Environmental is not responsible for any damage caused to Underground Works or the repair of such damage or any resulting or related damage and any costs related to such damage.

21. DISPOSAL OF CONTAMINATED MATERIAL

It is understood and agreed that Keystone Environmental is not, and has no responsibility as, a generator, operator or storer of pre-existing hazardous substances or wastes found or identified at work sites. Keystone Environmental shall not directly or indirectly assume title to such hazardous or toxic substances and shall not be liable to third parties.

CLIENT will indemnify and hold harmless Keystone Environmental from and against all incurred losses, damages, costs and expenses, including but not limited to attorneys' fees, arising or resulting from actions brought by third parties alleging or identifying Keystone Environmental as a generator, operator, storer or owner of pre-existing hazardous substances or wastes found or identified at work sites.

22. SUSPENSION OR TERMINATION

In the event the work is terminated or suspended by CLIENT prior to the completion of the services contemplated hereunder, Keystone Environmental shall be paid for: (i) the services rendered to the date of termination or suspension, (ii) the demobilization costs, and (iii) the costs incurred with respect to non-cancelable commitments.

23. GOVERNING LAW

This Agreement shall be governed by and interpreted pursuant to the laws of the Province of British Columbia.

24. HEADINGS AND SEVERABILITY

Any heading proceeding the text of sections hereof is inserted solely for convenience or reference and shall not constitute a part of the Agreement and shall not affect the meanings, context, effect or construction of the Agreement. Every part, term or provision of this Agreement is severable from others. Notwithstanding any possible future finding by duly constituted authority that a particular part, term or provision is invalid, void or unenforceable, this Agreement has been made with the clear intention that the validity and enforceability of the remaining parts, terms and provision shall not be affected thereby.

25. ENTIRE AGREEMENT

The terms and conditions set forth herein constitute the entire Agreement and understanding or the parties relating to the provision of work or services by Keystone Environmental to CLIENT, and merges and supersedes all prior agreements, commitments, representation, writings, and discussions between them and shall be incorporated in all work orders, purchase orders and authorization unless otherwise so stated therein. The terms and conditions may be amended only by written instrument signed by both parties.

Appendix 4

Borehole Logs

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH01M**

CLIENT: Providence Health Care c/o IBI Group

PROJECT: 250/310 Prior Street and 1002 Station Street, Vancouver, BC

PGL PROJECT NO: **585-05.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL DESCRIPTION	LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0–0.2	**ASPHALT**			Roadbox, J-plug; Concrete
0.2–0.5	**ROAD BASE**			Silica Sand
0.5–1.5	**SAND AND SILT** fine grained, compact, trace gravel, brown, moist; dense below 1.0m	BH01M-1 / Z01 (0.5–1.0)	ND	Bentonite (0.4–1.2); Silica Sand
1.5–3.0	**SAND** fine grained, compact, some to trace silt, brown, wet	BH01M-2 (1.5–2.0); BH01M-3 (2.5–3.0)	ND; ND	50mm 010 Slot PVC

End of borehole at 3.00 m

Screened interval from 1.5 m to 3 m below surface.
GW 2.51 mbgs
(8/7/2016)

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: August 6, 2016
LOGGED BY: MCC HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 585-05.01.GPJ PGL CANADA 2015.GDT 8/18/16

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care c/o IBI Group

PROJECT: 250/310 Prior Street and 1002 Station Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **585-05.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH02M**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0–0.2		**ASPHALT**						Roadbox, J-plug; Concrete	
0.2–0.5		**ROAD BASE**						Silica Sand	
0.5–1.5		**SAND** fine grained, some silt, compact to dense, brown, wet	Auger	BH02M-1	ND			Bentonite; Silica Sand	
1.5–3.0		**SAND** fine grained, dense, trace silt, trace gravel, brown	Auger	BH02M-2; BH02M-3	ND; ND	2.50		50mm 010 Slot PVC	

End of borehole at 3.00 m

Screened interval from 1.5 m to 3 m below surface.
GW 2.50 mbgs
(8/7/2016)

PGL MULTI-TEST VAPOR LOG 2015 585-05.01.GPJ PGL CANADA 2015.GDT 8/18/16

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 6, 2016

LOGGED BY: MCC HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL
ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care c/o IBI Group

PROJECT: 250/310 Prior Street and 1002 Station Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **585-05.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH03M**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	■ VAPOUR READING (ppmv) ■	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0–0.4		**ASPHALT**						Roadbox, J-plug Concrete Silica Sand	
0.4–1.0		**SAND AND SILT** fine grained, dense, trace gravel, brown, moist	Auger	BH03M-1	ND			Bentonite	
1.0–4.6		**SAND** fine grained, compact, trace silt, brown, moist	Auger	BH03M-2	ND			Silica Sand	
		wet below 2.7m	Auger	BH03M-3	ND	▼ (2.38)		50mm 010 Slot PVC	
			Auger	BH03M-4	ND			Slough	

Depth scale (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.2, 3.4, 3.6, 3.8, 4.0, 4.2, 4.4, 4.6

End of borehole at 4.60 m

Screened interval from 2.1 m to 3.6 m below surface.
GW 2.38 mbgs
(8/7/2016)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 6, 2016

LOGGED BY: MCC HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL MULTI-TEST VAPOR LOG 2015 585-05.01.GPJ PGL CANADA 2015.GDT 8/18/16

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care c/o IBI Group

PROJECT: 250/310 Prior Street and 1002 Station Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **585-05.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH04M**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0–0.2		**CONCRETE**						Roadbox, J-plug Concrete	
0.2–1.0		**SAND AND SILT** fine grained, dense, trace gravel, brown, moist	Auger	BH04M-1	ND			Silica Sand; Bentonite	
1.0–1.5		**SAND** fine grained, dense, some silt, dark brown, moist	Auger	BH04M-2 / Z02	ND			Silica Sand	
1.5–1.8		**SAND** some silt, some organics, dark brown, moist							
1.8–3.0		**CLAY AND SILT** hard to stiff, brown, wet	Auger	BH04M-3; BH04M-4	ND; ND	2.34		50mm 010 Slot PVC	
3.0–3.6		**SAND AND SILT** fine grained, dense, trace gravel, brown, wet							

End of borehole at 3.60 m

Screened interval from 1.5 m to 3.6 m below surface.
GW 2.34 mbgs
(8/9/2016)

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: August 6, 2016
LOGGED BY: MCC HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH05M**

CLIENT: Providence Health Care c/o IBI Group

PROJECT: 250/310 Prior Street and 1002 Station Street, Vancouver, BC

PGL PROJECT NO: **585-05.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE	VAPOUR READING (ppmv)	WATER LEVEL	COMPLETION NOTES
0.0–0.2	**CONCRETE**				Roadbox, J-plug; Concrete
0.2–0.5	**ROAD BASE**				Silica Sand
0.5–1.0	**SAND** dense, some silt, trace gravel, brown, moist	BH05M-1	ND		Bentonite
1.0–1.5	**SAND** some silt, some organics, dark brown, moist				Silica Sand
1.5–2.2	**CLAY AND SILT** hard to stiff, brown, wet	BH05M-2	ND	2.02	
2.2–3.6	**SAND** dense, some silt, trace gravel, brown	BH05M-3	ND		50mm 010 Slot PVC; Slough

Depth scale: 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.2, 3.4, 3.6

Column headings: DEPTH (m), SOIL TYPE, SOIL DESCRIPTION, SAMPLE TYPE, LABORATORY ANALYSES, VAPOUR READING (ppmv), WATER LEVEL, WELL COMPLETION, COMPLETION NOTES, ELEVATION (m)

End of borehole at 3.60 m

Screened interval from 1.2 m to 3.3 m below surface.
GW 2.02 mbgs
(8/9/2016)

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: August 6, 2016
LOGGED BY: MCC HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 585-05.01.GPJ PGL CANADA 2015.GDT 8/18/16

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH100M**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	COMPLETION NOTES	ELEVATION (m)
0.0	**ASPHALT**					Roadbox, J-plug	
0.1	**Gravelly SAND** coarse grained, loose, some silt, brown, wet					Concrete	
0.5	**Silty SAND** fine grained, compact, grey, moist					Silica Sand	
0.8		Auger	BH100M-01	ND		Bentonite	
1.2	moist to wet below 1.2m						
1.3		Auger	BH100M-02	ND		Silica Sand	
1.8	**SILT** trace to no coarse sand, trace gravel, trace brick fragments, trace wood chips, grey, wet	Auger	BH100M-03	ND			
2.16					▼	50mm 010 Slot PVC	
2.3	increased wood chips below 2.3m						
2.4	**SILT** soft, some peat, light and reddish brown, wet						
2.6		Auger	BH100M-04	ND			
2.9	decreased peat below 2.9m					Silica Sand	
3.0	light brown, wood pieces and sticks below 3.0m					Bentonite	
3.1	**SAND** compact, some silt, light brown, trace orange mottling, wet						
3.6		Auger	BH100M-05	250			
5.0		Auger	BH100M-06	320			
5.7	increased orange mottling below 5.7m					50mm 010 Slot PVC	
6.0	grey below 6.0m						
6.5		Auger	BH100M-07	400			
6.8	dense below 6.8m					Slough	

Depth scale (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.2, 3.4, 3.6, 3.8, 4.0, 4.2, 4.4, 4.6, 4.8, 5.0, 5.2, 5.4, 5.6, 5.8, 6.0, 6.2, 6.4, 6.6, 6.8, 7.0, 7.2, 7.4

End of borehole at 7.50 m

Screened interval from 1.4 m to 2.9 m below surface.

Nested well (-D screened 5.2-6.7)
GW 2.16 mbgs
(5/24/2018)
BH100M-D WL 2.349

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 3, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL
ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO:

BH101M

DEPTH (m)	SOIL DESCRIPTION	LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0–0.1	**CONCRETE**			Roadbox, J-plug, Concrete
0.1–1.2	**Silty SAND** coarse grained, loose, some gravel, trace wood chips, trace organics (rootlets, sticks), scrap metal debris, reddish brown, wet	BH101M-01	ND	Silica Sand
	saturated, increased gravel, increased metal debris below 0.9m	BH101M-02	ND	Bentonite
1.2–1.6	**WOOD WASTE** trace peat, trace silt, black and brown, wet, light/fluffy increased silt below 1.5m			Silica Sand
1.6–3.0	**Sandy SILT** medium grained, stiff, trace fine gravel, orange mottling, grey, wet increased orange mottling, grey/brown, dense, increased silt below 1.9m	BH101M-03	200	50mm 010 Slot PVC
		BH101M-04	25	Silica Sand
3.0–6.3	**SAND** medium grained, compact, some silt, trace to no gravel, orange mottling, saturated	BH101M-05	100	Bentonite
		BH101M-06	280	
		BH101M-07	290	50mm 010 Slot PVC
6.3–7.5	**Silty SAND** fine grained, dense, grey, wet	BH101M-08	ND	Slough

DEPTH (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.2, 3.4, 3.6, 3.8, 4.0, 4.2, 4.4, 4.6, 4.8, 5.0, 5.2, 5.4, 5.6, 5.8, 6.0, 6.2, 6.4, 6.6, 6.8, 7.0, 7.2, 7.4

SOIL TYPE | SAMPLE TYPE | WATER LEVEL | WELL COMPLETION | ELEVATION (m)

End of borehole at 7.50 m

Screened interval from 1.4 m to 2.9 m below surface.

Nested well (-D screened 5.2-6.7)
GW 1.27 mbgs
(5/25/2018)
BH101M-D WL 1.895

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 3, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

WELL RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH102M**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0–0.1	**CONCRETE**				Roadbox, J-plug; Concrete
0.1–0.6	**BRICK and COBBLES** some coarse grained sand, dry, loose				Silica Sand
0.6–1.4	**Silty SAND** medium grained, compact, reddish brown and grey, trace wood debris, trace brick fragments, moist to wet	Auger	BH102M-01/ Z100	ND	Bentonite
1.4–4.5	**SAND** fine grained, some silt, grey and brown, moist to wet	Auger	BH102M-02	105	Silica Sand
	wet, medium grained below 2.1m	Auger	BH102M-03	120	50mm 010 Slot PVC
	saturated, trace silt, orange mottling below 3.0m	Auger	BH102M-04	50	Silica Sand; Bentonite
		Auger	BH102M-05	10	
4.5–7.5	**Silty SAND** dense, grey, wet	Auger	BH102M-06	ND	Silica Sand
		Auger	BH102M-07	ND	50mm 010 Slot PVC; Slough

Water level: 2.03 m

End of borehole at 7.50 m

Screened interval from 1.4 m to 2.9 m below surface.

Nested well (-D screened 5.2-6.7)
GW 2.03 mbgs
(5/25/2018)
BH102M-D WL 2.065

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 3, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

WELL RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH103M**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**CONCRETE**						Roadbox, J-plug Concrete	
0.2		**Sandy SILT and CRUSHED BRICK** fine grained, black and red, trace gravel, dry, compact, broken glass, metal pieces, metal bolts and pulleys						Silica Sand	
0.4									
0.6				BH103M-01	ND				
0.8								Bentonite	
1.0		large brick fragments below 1.0m							
1.2		trace wood chips below 1.2m						Silica Sand	
1.4				BH103M-02	ND				
1.6		**Silty SAND** medium grained, compact, grey/brown, orange mottling, wet to saturated		BH103M-03/ Z102	ND				
1.8									
2.0									
2.2								50mm 010 Slot PVC	
2.4									
2.6		decrease moisture, no mottling below 2.5m		BH103M-04	ND				
2.8									
3.0								Slough	

End of borehole at 3.00 m

Screened interval from 1.4 m to 2.9 m below surface.
GW 2.06 mbgs
(5/25/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 3, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL
ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH104M**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		CONCRETE						Roadbox, J-plug Concrete	
0.2		**SAND** medium grained, loose, dry						Silica Sand	
0.4		**SAND AND SILT** medium grained, some gravel, trace brick fragments, wood chips, grey and brown, moist to wet		BH104M-01	ND				
0.6									
0.8								Bentonite	
1.0		**Sandy SILT** medium to coarse grained, compact, iron oxide staining, debris (broken glass, ceramics, metal, wood), moist to wet		BH104M-02	ND				
1.2								Silica Sand	
1.4		bark mulch from 1.2m to 1.4m							
1.6		wet below 1.5m		BH104M-03/ Z103	ND				
1.8									
2.0								50mm 010 Slot PVC	
2.2									
2.4									
2.6				BH104M-04	ND				
2.8									
3.0		**Silty SAND** medium grained, compact, grey, wet						Silica Sand	
3.2				BH104M-05	ND				
3.4									
3.6								Bentonite	
3.8									
4.0									
4.2									
4.4								Slough	

End of borehole at 4.50 m

Screened interval from 1.4 m to 2.9 m below surface.
GW 1.81 mbgs
(5/25/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 4, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH105M**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	COMPLETION NOTES	ELEVATION (m)
0.0–0.1	**ASPHALT**					Roadbox, J-plug, Concrete	
0.1–1.1	**Silty SAND** medium grained, compact, some gravel, grey and brown, moist	Auger	BH105M-01	ND		Silica Sand; Bentonite	
1.1–1.5	**Sandy SILT** medium grained, compact, trace gravel, trace cobbles, trace wood chips, trace metal debris, hydrocarbon-like odour, black, moist	Auger	BH105M-02	280		Silica Sand	
1.5–4.5	**Silty SAND** fine grained, compact, some silt, hydrocarbon-like odour, grey and brown, wet	Auger	BH105M-03/ Z104	90		50mm 010 Slot PVC	
	medium to coarse grained, saturated from 1.8m to 2.0m				▼ (approx. 2.4–2.5)		
		Auger	BH105M-04	30		Silica Sand	
	decreased PHC odour below 3.0m						
	trace gravel and cobbles below 3.4m	Auger	BH105M-05	ND		Bentonite	
	trace organics (natural wood pieces) below 4.0m						
4.5–4.9	**WOOD and SILT** natural wood pieces, brown, wet						
4.9–7.5	**Silty SAND** medium grained, compact, trace to no gravel, trace orange mottling, trace hydrocarbon-like odour, grey, wet	Auger	BH105M-06	15		50mm 010 Slot PVC	
	brown, decreased silt below 6.0m	Auger	BH105M-07	ND		Slough	

End of borehole at 7.50 m

Screened interval from 1.4 m to 2.9 m below surface.

Nested well (-D screened 5.2-6.7)
GW 2.47 mbgs
(5/25/2018)
BH102M-D WL 2.574

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 4, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

WELL RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH106M**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE / LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0	**GRAVEL**			Roadbox, J-plug
0.2	**Silty SAND** medium grained, compact, some gravel, grey, dry brown below 0.3m			Concrete Silica Sand
0.4		BH106M-01	ND	
0.8				Bentonite
1.0	dark brown, trace brick, trace wood chips below 0.9m			
1.2		BH106M-02	ND	Silica Sand
1.6	**SAND** medium to coarse grained, some gravel, some silt, grey and brown, wet	BH106M-03	ND	
2.2	coarse, saturated below 2.2m			50mm 010 Slot PVC
2.6		BH106M-04	ND	
3.0	increased silt, trace cobbles below 3.0m			Silica Sand
3.6		BH106M-05	ND	Bentonite
4.2				Slough

Depth scale (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.2, 3.4, 3.6, 3.8, 4.0, 4.2, 4.4

Column headings: DEPTH (m) | SOIL TYPE | SOIL DESCRIPTION | SAMPLE TYPE | LABORATORY ANALYSES | VAPOUR READING (ppmv) | WATER LEVEL | WELL COMPLETION | COMPLETION NOTES | ELEVATION (m)

End of borehole at 4.50 m

Screened interval from 1.4 m to 2.9 m below surface.
DRY

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 4, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

BOREHOLE RECORD

CLIENT: Providence Health Care
PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**
SURFACE ELEVATION: **n/a**

BOREHOLE NO: **BH107**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0–0.1		**GRAVEL**						
0.1–1.1		**Silty SAND** medium grained, compact, trace gravel, trace cobbles, grey and brown, moist wet below 0.8m Sand lense from 1.0m to 1.1m	Auger	BH107-01	ND			
1.1–2.7		**Silty SAND** medium grained, some gravel, iron oxide staining, dark brown/ black, trace brick fragments, grey and brown, moist to wet No iron oxide staining below 1.5m	Auger	BH107-02	ND		Backfilled with cuttings and bentonite	
			Auger	BH107-03	ND			
2.7–5.5		**SAND** coarse grained, some silt, some gravel, iron oxide staining, mixed fill - light brown/ dark brown/ grey, trace burnt wood fragments, wood chips, wet saturated, no iron oxide staining, no burnt wood, cresote-like odour below 3.0m globule of tar-like substance with strong creosote-like odour at 3.4m no debris below 4.5m	Auger	BH107-04	ND			
			Auger	BH107-05/ Z105	ND			
			Auger	BH107-06	ND			
			Auger	BH107-07	ND			
5.5–6.0		**SAND** compact, some silt, trace creosote-like odour, grey, wet	Auger	BH107-08	ND			

End of borehole at 6.00 m

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: May 4, 2018
LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

BOREHOLE RECORD

BOREHOLE NO: **BH108**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL**						
0.2		**Silty SAND** medium grained, compact, trace gravel, grey and brown, dry to moist						
0.4–0.6			Auger	BH108-01	ND			
0.6		moist below 0.6m						
0.8		**Silty SAND** medium grained, trace gravel, trace cobbles, iron oxide staining, dark brown, trace organics (sticks, wood pieces), moist to wet						
1.2		trace iron oxide staining below 1.2m						
1.3–1.5			Auger	BH108-02	ND		Backfilled with cuttings	
1.5		brick pieces, broken glass below 1.5m						
1.7		moist to wet below 1.7m						
2.2–2.5			Auger	BH108-03	ND			
3.0		End of borehole at 3.00 m						

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 4, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

BOREHOLE RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

BOREHOLE NO: **BH109**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0–0.1		**GRAVEL**						
0.1–1.0		**Sandy SILT** medium grained, compact, trace fine gravel, trace orange mottling, grey and brown, dry to moist	Auger	BH109-01	ND		Backfilled with cuttings	
1.0–3.0		**Silty SAND** medium grained, some gravel, trace cobbles, brown, moist to wet	Auger	BH109-02	ND			
		wet below 1.5m	Auger	BH109-03	ND			
		saturated, decreased silt, coarse grained, trace iron oxide staining below 2.1m	Auger	BH109-04	ND			

Depth scale (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0

End of borehole at 3.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 4, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH110M**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						Roadbox, J-plug	
0.2		**Silty SAND** medium grained, compact, trace gravel, brown, dry to moist						Concrete; Silica Sand	
0.4				BH110M-01	ND				
0.6									
0.8								Bentonite	
1.0		**Sandy SILT** medium grained, compact, trace gravel, iron oxide staining, dark brown, moist							
1.2				BH110M-02	ND			Silica Sand	
1.4		black/brown, moist to wet below 1.4m							
1.6		light and dark brown, medium to coarse grained, wet below 1.5m		BH110M-03	ND				
1.8									
2.0									
2.2								50mm 010 Slot PVC	
2.4						▼			
2.6		saturated below 2.5m		BH110M-04	ND				
2.8									
3.0								Slough	

End of borehole at 3.00 m

Screened interval from 1.4 m to 2.9 m below surface.
GW 2.42 mbgs
(5/24/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

BOREHOLE RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

BOREHOLE NO:

BH111

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		Silty SAND medium grained, loose, some gravel, brown, dry to moist						
0.2								
0.4			Auger	BH111-01	ND			
0.6								
0.8		moist below 0.8m					Backfilled with cuttings	
1.0		**Sandy SILT** dark brown						
		Silty SAND compact, grey and brown, moist to wet						
1.2								
1.4			Auger	BH111-02	ND			

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

BOREHOLE RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

BOREHOLE NO: **BH112**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL**						
0.0–1.5		**Silty SAND** medium grained, compact, trace gravel, trace iron oxide staining, grey and brown, moist						
0.3–0.6			Auger	BH112-01	ND			
0.7		increase gravel, trace cobbles, trace brick pieces, trace wood chips below 0.7m						
1.1–1.4			Auger	BH112-02	ND		Backfilled with cuttings and bentonite	
1.5–3.0		**Silty SAND** medium to coarse grained, trace orange mottling, grey, wet						
1.5–1.8			Auger	BH112-03	ND			
1.8		grey and brown from 1.8m to 2.2m						
2.2		sand lense from 2.2m to 2.6m						
2.7–3.0			Auger	BH112-04	ND			
3.0		End of borehole at 3.00 m						

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER   HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

BOREHOLE RECORD

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

BOREHOLE NO: **BH113**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
		Silty SAND medium grained, compact, trace gravel, brown, dry to moist						
0.2								
0.4								
0.6								
			Auger	BH113-01	ND		Backfilled with cuttings	
0.8								
1.0		moist to wet below 1.0m						
1.2		wet below 1.2m						
		Peaty SILT trace sand, trace broken glass, black, wet	Auger	BH113-02	ND			
1.4								

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

PGL ENVIRONMENTAL CONSULTANTS

BOREHOLE RECORD

BOREHOLE NO: **BH114**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** medium grained, compact, some gravel, brown, dry to moist						
0.4			Auger	BH114-01	ND			
0.6								
0.8		increase sand below 0.8m					Backfilled with cuttings	
1.0		**Peaty SILT** compact, trace sand, trace broken glass, black	Auger	BH114-02	ND			
1.2		**Silty SAND** medium grained, compact, trace to no gravel, grey and brown with orange mottling, wet						
1.4			Auger	BH114-03	ND			

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH115M / SV01**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL**						Roadbox, J-plug	
0.2		**Silty SAND** medium grained, compact, some gravel, brown, dry to moist							
0.4								Bentonite	
0.6			Auger	BH115M-01	ND				
0.8								Silica Sand	
1.0								SV Screen	
								Silica Sand	
1.2		moist to wet below 1.2m						Bentonite	
1.4			Auger	BH115M-02/ Z106	ND			Silica Sand	
1.6		**Silty SAND** coarse grained, compact, some gravel, grey, wet							
1.8			Auger	BH115M-03	ND	▼			
2.0									
2.2								50mm 010 Slot PVC	
2.4									
2.6		**Silty SAND** medium grained, grey with orange mottling, wet	Auger	BH115M-04	ND				
2.8									
3.0									

End of borehole at 3.00 m

Screened interval from 1.5 m to 3 m below surface.

SV01 screened 0.85-1.00m
GW 1.79 mbgs
(5/24/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

BOREHOLE RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

BOREHOLE NO: **BH116**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL and GRASS**						
0.2		**Silty SAND** medium to coarse grained, compact, some gravel, brown, moist						
0.4			Auger	BH116-01	ND			
1.0		trace gravel, trace iron oxide staining below 1.0m						
1.4			Auger	BH116-02	ND			
1.6		**Silty SAND** coarse grained, compact, some gravel, grey and brown, wet					Backfilled with cuttings	
1.8			Auger	BH116-03	ND			
3.0		End of borehole at 3.00 m						

Depth scale: 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL
ENVIRONMENTAL CONSULTANTS

BOREHOLE RECORD

BOREHOLE NO: **BH117**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL**						
0.0–1.0		**Silty SAND** medium to coarse grained, loose, some gravel, trace to no iron oxide staining, brown, dry to moist						
0.3–0.6			Auger	BH117-01	ND			
0.7–1.0			Auger	BH117-02	ND			
1.0–1.5		**SAND** medium to coarse grained, compact, some gravel, trace to no iron oxide staining, grey and brown, moist						
1.5–3.0		**SAND** coarse grained, compact, some silt, trace cobbles, grey, wet					Backfilled with cuttings	
1.5–1.8			Auger	BH117-03	ND			

Depth scale (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0

End of borehole at 3.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL
ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH118/SV02**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0	**GRAVEL**				Roadbox, J-plug Concrete
	Silty SAND medium grained, loose, some gravel, grey, dry				
0.2	**Sandy SILT** medium grained, compact, some gravel, iron oxide staining, brown, moist				Silica Sand
0.5	trace brick fragments, iron oxide staining below 0.5m	Auger	BH118-01/ Z107	ND	Bentonite
0.8–1.0					Stainless Steel Soil Vapour Screen
1.1	moist below 1.1m	Auger	BH118-02	ND	
1.5	**Sandy SILT** medium grained, compact, some gravel, iron oxide staining, grey, moist to wet	Auger	BH118-03	ND	Bentonite
2.2		Auger	BH118-04	ND	
2.5	wet below 2.5m				Slough and cuttings
3.0					

End of borehole at 3.00 m

Screened interval from 0.85 m to 1 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

WELL RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH119M/SV0**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE / LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	COMPLETION NOTES
0.0–0.1	**GRAVEL**				Roadbox, J-plug
0.1–1.4	**Silty SAND** fine to medium grained, loose, some gravel, grey, dry to moist; dark grey, trace wood fragments, trace organics (rootlets); trace iron oxide staining below 0.9m; moist, some crushed brick below 1.2m	BH119M-01 (~0.5 m); BH119M-02 (~1.0 m)	ND; ND		Bentonite; SV Screen; Bentonite
1.4–1.7	**CONCRETE** solid				Silica Sand
1.7–3.0	**Silty SAND** coarse grained, compact, trace fine gravel, trace brick pieces, trace wood fragments, peat-like odour, grey, moist to wet; wet below 1.7m	BH119M-03 (~1.8 m); BH119M-04 (~2.7 m)	ND; ND	2.88 m	50mm 010 Slot PVC
3.0–4.5	**Silty SAND** medium grained, compact, grey; some brick, wood, ceramic debris from 3.4 to 3.6m	BH119M-05 (~3.1 m)	ND		Silica Sand
4.5–6.0	**WOOD and PEATY SILT** black/brown, saturated, trace cobbles	BH119M-06 (~5.1 m)	ND		Bentonite
6.0–7.0	**Sandy SILT** soft, trace to no wood fragments, shells, grey	BH119M-07 (~6.1 m)	ND		
7.0–7.5	**SILT** stiff, trace sand, grey, moist to wet				Slough

End of borehole at 7.50 m

Screened interval from 1.6 m to 3.1 m below surface.
GW 2.88 mbgs
(5/23/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 7, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH120M**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE / LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0	**GRAVEL**			Roadbox, J-plug
0.2–1.0	**Silty SAND** fine to medium grained, compact, trace fine gravel, trace to no brick fragments, trace organics (rootlets), grey, dry to moist; iron oxide staining below 0.4m; cobbles below 0.7m	BH120M-01	ND	Silica Sand
1.0–1.9	**SAND** fine to medium grained, compact, some silt, trace gravel, grey, moist	BH120M-02	ND	Bentonite
1.9–3.0	**Silty SAND** medium to coarse grained, compact, trace gravel, black/brown, crushed brick, ceramic debris, trace iron oxide staining, moist to wet; wet, brown, increase silt below 2.7m; slight sheen, asphalt-like odour below 2.8m	BH120M-03; BH120M-04	ND; ND	Silica Sand
3.0–4.6	**Silty SAND** trace gravel, trace iron oxide staining, trace dimensional wood pieces, creosote odour; some brick, wood, ceramic debris from 3.4 to 3.6m; band of brown wood debris and black peaty silt, strong creosote odour from 3.7m-3.8m; "globs" of black peaty silt, and brown wood debris, strong creosote odour below 3.8m	BH120M-05; BH120M-06	ND; ND	50mm 010 Slot PVC
4.6–5.6	**WOOD and PEATY SILT** brown, wet			
5.6–5.9	**SILT** soft, organic odour, black, wet	BH120M-07	ND	
5.9–6.0	**SILT** soft, trace medium sand, grey			

End of borehole at 6.00 m

Screened interval from 2.4 m to 3.9 m below surface.
GW 3.31 mbgs
(5/18/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 8, 2018

LOGGED BY: AER   HOLE DIAM (mm): 152

Sample Notes: Auger

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH121M**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE / LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	COMPLETION NOTES	ELEVATION (m)
0.0–0.1	**GRAVEL**				Roadbox, J-plug	
0.1–1.0	**Silty SAND** fine to medium grained, compact, some gravel, dark grey, trace brick fragments, trace wood chips, dry to moist black, increase silt, moist below 0.3m	BH121M-01	ND		Silica Sand	
1.0–4.2	**SAND** medium to coarse grained, compact, some silt, brown, moist	BH121M-02	ND		Bentonite	
	moist to wet below 1.6m	BH121M-03	ND			
	wet below 2.3m				Silica Sand	
	trace ceramic debris, iron oxide staining below 2.6m	BH121M-04/ Z108	ND	▼		
	chunks of brick, glass, metal below 3.0m				50mm 010 Slot PVC	
		BH121M-05	ND			
4.2–4.6	**Silty SAND** trace gravel, trace iron oxide staining, trace dimensional wood pieces, creosote odour					
4.6–6.0	**WOOD and ORGANICS** black/brown, wet, organic odour					
6.0–7.5	**SILT** soft, some fine to medium sand, trace shells, trace natural wood pieces, grey, wet trace to no wood below 6.3m	BH121M-06	ND			
	increase sand below 6.8m					

End of borehole at 7.50 m

Screened interval from 2.4 m to 3.9 m below surface.
GW 2.75 mbgs
(5/18/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 8, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes ▮ Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH122M**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL**						Roadbox, J-plug	
0.2		**Silty SAND** fine to medium grained, compact, some gravel, dark grey, trace brick fragments, dry to moist						Silica Sand	
0.4				BH122M-01	ND				
0.8		**SAND** medium to coarse grained, compact, some silt, trace cobbles, grey and brown, moist							
1.3				BH122M-02	ND			Bentonite	
1.5		moist to wet, coarse grained, increase cobbles, brown and grey below 1.5m						Silica Sand	
1.8				BH122M-03	ND				
2.1								50mm 010 Slot PVC	
2.5		wet below 2.5m							
2.6				BH122M-04	ND				
3.0		**Gravelly SAND** coarse grained, grey and brown, saturated							
3.9				BH122M-05	ND				
5.5				BH122M-06	ND				
5.7		**SILT** soft, some fine to medium sand, trace to no shell fragments, grey and brown							
6.0		End of borehole at 6.00 m							

Screened interval from 1.4 m to 2.9 m below surface.
GW 2.30 mbgs
(5/18/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 8, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

WELL RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH123M**

DEPTH (m)	SOIL DESCRIPTION	LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0	**GRAVEL and GRASS**			Roadbox, J-plug
0.1–0.9	**Silty SAND** fine to medium grained, compact, trace gravel, trace cobbles, medium brown, moist	BH123M-01	ND	Silica Sand; Bentonite
0.9–1.5	**SAND** medium grained, compact, some silt, dark brown, moist	BH123M-02	ND	Silica Sand
1.5–2.5	**SILT** soft, some fine to medium sand, trace to no shell fragments, grey and brown, moist to wet; wet below 1.8m	BH123M-03	ND	50mm 010 Slot PVC
2.5–3.0	**SILT** stiff, grey and black, wet	BH123M-04	ND	Slough

End of borehole at 3.00 m

Screened interval from 1.4 m to 2.9 m below surface.
GW 1.93 mbgs
(5/18/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH124M**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0	**GRAVEL**				Roadbox, J-plug
0.2	**Silty SAND** medium to coarse grained, compact, trace gravel, trace cobbles, brown, moist				Silica Sand
0.4		Auger	BH124M-01	ND	
0.8					Bentonite
1.4		Auger	BH124M-02	ND	
1.5	**Silty SAND** coarse grained, compact, trace gravel, trace cobbles, brown, moist to wet	Auger	BH124M-03	ND	Silica Sand
2.4					50mm 010 Slot PVC
2.5	wet below 2.5m	Auger	BH124M-04	ND	
3.4		Auger	BH124M-05	ND	Silica Sand
4.0					Slough
4.2	**SILT** soft, some medium sand, trace shell fragments, grey and brown	Auger	BH124M-06	ND	

End of borehole at 4.50 m

Screened interval from 1.4 m to 2.9 m below surface.
GW 2.32 mbgs
(5/18/2018)

INVESTIG. METHOD: Solid Stem Auger	Sample Notes: Auger
INVESTIG. DATE: May 9, 2018	
LOGGED BY: AER HOLE DIAM (mm): 152	

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

WELL RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO: **BH125M**

DEPTH (m)	SOIL DESCRIPTION	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	COMPLETION NOTES
0.0–0.2	**GRAVEL**				Roadbox, J-plug
0.2–1.1	**SILT AND SAND** fine to medium grained, compact, some gravel, grey with orange mottling, trace organics (rootlets), dry to moist	BH125M-01	ND		
1.1–4.8	**Silty SAND** medium grained, compact, dark brown, trace dimensional wood debris, dry to moist moist below 1.5m	BH125M-02	ND		Bentonite
		BH125M-03	ND		Silica Sand
		BH125M-04	ND		
	wet, coarse grained sand below 2.5m			▼	50mm 010 Slot PVC
		BH125M-05	ND		
	some brick, wood, ceramic debris from 3.4 to 3.6m				Silica Sand
		BH125M-06	ND		
4.8–6.0	**WOOD** brown, wet, organic odour				Bentonite
6.0–6.7	**SILT** fine grained, soft, trace sand, trace shell fragments, grey, wet	BH125M-07	ND		
6.7–7.5	**SAND** coarse grained, compact, trace silt, dark grey, trace silt, wet medium grained, some silt below 7.0m				Slough

End of borehole at 7.50 m

Screened interval from 1.6 m to 3.1 m below surface.
GW 2.87 mbgs
(5/23/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

BOREHOLE RECORD

BOREHOLE NO: **BH126**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** medium grained, compact, some gravel, trace cobbles, dark brown, dry to moist						
0.4			Auger	BH126-01	ND			
0.6								
0.8							Backfilled with cuttings	
1.0								
1.2								
1.4		moist to wet below 1.4m	Auger	BH126-02	ND			

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

SOIL VAPOUR RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

SOIL-VAPOUR LOG NO:

BH127/ SV05

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** medium grained, compact, some gravel, dark brown, dry to moist					Roadbox Silica Sand	
0.4				BH127-01	ND			
0.6							Bentonite	
0.8								
1.0							Silica Sand SV Screen	
1.2								
1.4				BH127-02	ND		Slough	

End of borehole at 1.50 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care
PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

BOREHOLE RECORD

PGL PROJECT NO: **5355-01.01**
SURFACE ELEVATION: **n/a**

BOREHOLE NO: **BH128**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0–0.05		**GRAVEL**						
0.05–1.8		**Silty SAND** medium grained, loose, some gravel, brown, dry to moist	Auger	BH128-01/ Z110	ND			
		moist, trace iron oxide staining below 1.2m	Auger	BH128-02/ Z113	ND			
1.8–2.7		**SAND** medium grained, compact, some silt, grey and brown, wet	Auger	BH128-03	ND		Backfilled with cuttings	
2.7–3.8		**SILT** soft, some fine sand, grey and brown with orange mottling	Auger	BH128-04	ND			
3.8–4.0		**SAND** coarse grained, compact, grey						
4.0–4.5		**Sandy SILT** medium to coarse grained, soft, trace, fine gravel, trace shell fragments, wet	Auger	BH128-05	ND			

Depth scale (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.2, 3.4, 3.6, 3.8, 4.0, 4.2, 4.4

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: May 9, 2018
LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO:

BH129M

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE / LABORATORY ANALYSES	VAPOUR READING (ppmv)	COMPLETION NOTES
0.0	**GRAVEL** GRAVEL and GRASS			Roadbox, J-plug
0.2	**Silty SAND** medium grained, grey			Silica Sand
0.4	**Silty SAND** fine to medium grained, compact, trace gravel, light brown and medium brown with orange mottling, trace iron oxide staining, dry to moist	BH129M-01/ Z111	ND	
0.8				Bentonite
1.0	**Silty SAND** medium to coarse grained, compact, some gravel, dimensional wood fragments, grey and brown, wet	BH129M-02	ND	
1.6	dark brown, some dimensional wood fragments, moist to wet from 1.5m to 1.6m	BH129M-03	ND	
1.9	**Silty SAND** medium grained, compact, grey reddish brown natural wood fragments and black silt from 2.2m to 3.0m			
2.4				50mm 010 Slot PVC
2.9	band of black silt from 2.8 to 3.0m	BH129M-04	ND	
3.0	brown and black below 3.0m			
3.4				Silica Sand
3.5	mixed grey and black silt below 3.5m	BH129M-05	ND	
4.0	black saturated silt and trace natural wood fragments below 4.0m			
4.5				Bentonite
4.6	decrease wood, increase grey/black silt below 4.6m			
4.7	**SILT** soft, trace sand, grey, moist to wet stiff, some orange mottling below 4.8m	BH129M-06	ND	
5.7				Slough

End of borehole at 6.00 m

Screened interval from 1.7 m to 3.2 m below surface.
GW 2.16 mbgs
(5/28/2018)

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH130M**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL**						Roadbox, J-plug	
0.2		**Silty SAND**						Silica Sand	
0.4		medium grained, dimensional wood fragments, trace brick and glass fragments, brown, dry to moist		BH130M-01/ Z111	ND				
1.2				BH130M-02	ND			Bentonite	
1.4		increased silt below 1.4m							
1.6		wet, increased dimensional wood fragments below 1.5		BH130M-03	ND				
2.0						▼		Silica Sand	
2.5		trace cobbles below 2.5m		BH130M-04	ND			50mm 010 Slot PVC	
2.8		increased dimensional wood fragments below 2.7m							
3.3		**Sandy SILT**							
3.4		soft, trace sand, grey, wet		BH130M-05	ND			Silica Sand	
4.2		trace orange mottling below 4.2m						Bentonite	
5.6		grey and brown, stiff, increased sand below 5.6m						Slough	
6.0									

End of borehole at 6.00 m

Screened interval from 1.6 m to 3.1 m below surface.
GW 1.96 mbgs
(5/18/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 10, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL
ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

WELL RECORD

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

WELL NO:

BH131M

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL and GRASS**						Roadbox, J-plug	
0.2		**Silty SAND** medium to coarse grained, compact, trace dimensional wood fragments, trace brick fragments, brown, dry to moist						Silica Sand	
0.4				BH131M-01	ND				
1.0								Bentonite	
1.2				BH131M-02	ND				
1.5		wet, increased dimensional wood fragments below 1.5		BH131M-03	ND				
1.8								Silica Sand	
2.0						▼			
2.4								50mm 010 Slot PVC	
2.8		**SAND** coarse grained, compact, some silt, grey, wet		BH131M-04	ND				
3.2		grey and brown below 3.2m							
3.5		medium grained, increase silt, grey below 3.5m		BH131M-05	ND			Silica Sand	
3.7		**SILT and WOOD PIECES** black, soft, organic odour							
4.0		**SILT** some sand, trace shell fragments, trace natural wood fragments, grey		BH131M-06	ND			Bentonite	
4.4		light grey, no wood below 4.4m						Slough	

End of borehole at 4.50 m

Screened interval from 1.6 m to 3.1 m below surface.

grey and brown, stiff, increased sand below 5.6m
GW 1.96 mbgs
(5/18/2018)

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: May 10, 2018
LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

BOREHOLE RECORD

PGL ENVIRONMENTAL CONSULTANTS

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

BOREHOLE NO: **BH132**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0–0.1		**GRAVEL**						
0.1–3.8		**Silty SAND** medium to coarse grained, compact, trace brick fragments, brown, dry to moist; no brick fragments, trace iron oxide staining below 0.2m; coarse grained, wet, grey and brown, increased silt below 1.5m	Auger	BH132M-01 (0.4); BH132M-02 (1.2); BH132M-03 (1.8); BH132M-04 (2.7)	ND; ND; ND; ND		Backfilled with cuttings and bentonite	
3.8–4.4		**SILT** soft, grey, wet	Auger	BH132M-05 (4.0)	ND			
4.4–5.7		**SAND** coarse grained, some silt, grey, saturated; some large wood pieces from 4.9m to 5.2m; some small wood pieces from 5.2m to 5.7m	Auger	BH132M-06 (5.6)	ND			
5.7–6.0		**Sandy SILT** medium grained, stiff, trace natural wood pieces, grey, wet						

End of borehole at 6.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 10, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **BH133/ SV06**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
		Silty SAND medium grained, loose, grey and brown, dry to moist					Roadbox	
0.2		**Sandy SILT** soft, dark brown, trace organic (wood, sticks), trace debris (metal wire), trace iron oxide staining, dry to moist					Silica Sand	
0.4			Auger	BH133-01	ND			
0.6		**Silty SAND** medium to coarse grained, compact, trace gravel, trace cobbles, grey and brown, dry to moist					Bentonite	
0.8								
1.0							Silica Sand	
							Stainless Steel SV Screen	
1.2								
1.4			Auger	BH133-02	ND		Slough	

End of borehole at 1.50 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH134M**

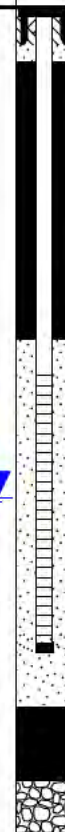
CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.0		**GRAVEL**						Roadbox, J-plug	
0.2		**Silty SAND** medium grained, compact, trace cobbles, crushed brick fragments, brown, dry to moist						Silica Sand	
0.4				BH134M-01	ND				
1.2				BH134M-02	ND			Bentonite	
1.6		no brick, wet, coarse, trace iron oxide staining below 1.5m		BH134M-03	ND				
2.0								Silica Sand	
2.6		saturated below 2.5m		BH134M-04	ND	2.66		50mm 010 Slot PVC	
2.8		**SILT** soft, some sand, grey, wet							
3.0		**Silty SAND** coarse grained, trace gravel, wet							
3.6				BH134M-05	ND			Silica Sand	
4.0								Bentonite	
4.4								Slough	
5.4				BH134M-06	ND				
6.0									



End of borehole at 6.00 m

Screened interval from 2 m to 3.5 m below surface.
GW 2.66 mbgs
(5/25/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 10, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

WELL RECORD

WELL NO: **BH135M**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WATER LEVEL	COMPLETION NOTES	ELEVATION (m)
0.0–0.1	**GRAVEL**					Roadbox, J-plug	
0.1–0.5	**SAND** medium grained, compact, trace silt, moist	Auger	BH135M-01/ Z112	ND		Silica Sand	
0.5–1.6	**Silty SAND** fine grained, dark brown/ black, trace brick fragments; dark grey below 1.2m; brown, some natural wood pieces below 1.5m	Auger	BH135M-02	ND		Bentonite	
1.6–2.5	**SILT** some medium sand, grey, moist	Auger	BH135M-03	ND		Silica Sand	
2.5–3.0	**SILT** some sand, organic odour, trace wood pieces, black, wet	Auger	BH135M-04	ND	2.56	50mm 010 Slot PVC	
3.0–5.5	**Sandy SILT** soft, trace gravel, trace shell fragments, grey; grey, black and brown below 4.5m	Auger	BH135M-05	ND		Silica Sand	
		Auger	BH135M-06	ND		Bentonite	
5.5–7.5	**Sandy SILT** fine grained, compact, trace orange mottling, grey, wet; stiff, moist to wet below 5.7m	Auger	BH135M-06	ND		Slough	
		Auger	BH135M-07				

End of borehole at 7.50 m

Screened interval from 2 m to 3.5 m below surface.
GW 2.56 mbgs
(5/24/2018)

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 10, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL ENVIRONMENTAL CONSULTANTS

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **BH136/ SV07**

CLIENT: Providence Health Care

PROJECT: 1002 Station Street, 250 and 310 Prior Street, Vancouver, BC

PGL PROJECT NO: **5355-01.01**

SURFACE ELEVATION: **n/a**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
		Silty SAND medium grained, compact, trace gravel, trace cobbles, grey and brown, dry to moist					Roadbox	
0.2							Silica Sand	
0.4			Auger	BH136-01	ND			
0.6							Bentonite	
0.8								
1.0								
		grey, dense below 1.1m					Stainless Steel SV Screen	
1.2								
1.4			Auger	BH136-02	ND		Slough	

End of borehole at 1.50 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes: Auger

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.