BOREHOLE RECORD

BOREHOLE NO: **BH139**

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**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.2–0.6		**GRAVEL**						
0.4–0.6		**Silty SAND** fine to medium grained, loose, brown, dry to moist		BH139-01	ND			
0.6–1.0		**Sandy SILT** fine grained, soft, grey, dry to moist						
1.2–2.0		**Silty SAND** medium grained, some gravel, black; grey below 1.2m; grey and black below 1.5m		BH139-02	ND		Backfilled with cuttings and bentonite	
2.2–2.6		grey, coarse sand, trace wood debris (chips) below 2.2m		BH139-03	ND			
3.0–4.4		saturated below 3.0m						
3.6–4.0				BH139-04	ND			
4.6–5.4		**WOOD** orange/brown, wet						
5.6–6.0		**SILT** soft, some fine sand, dark grey, trace shell fragments, wet		BH139-05	ND			
7.2–7.4		coarse grained sand lens from 7.2m to 7.4m		BH139-06	ND			

End of borehole at 9.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 15, 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

BOREHOLE NO: **BH140**

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**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.2–0.8		**GRAVEL**						
0.4		**Sandy SILT** fine to medium grained, loose, trace orange mottling, grey and brown, dry		BH140-01/ Z117	ND			
1.0–1.6		**Silty SAND** medium grained, trace gravel, dark grey and brown, trace organics (rootlets, sticks, wood fragments), dry to moist		BH140-02	ND		Backfilled with cuttings and bentonite	
1.8–3.0		**SAND** medium grained, compact, grey, moist; coarse, moist to wet, trace wood debris (chips) below 2.1m; grey below 2.2m; coarse sand, trace wood debris (chips) below 2.2m; wet below 3.0m		BH140-03	ND			
2.8				BH140-04	ND			
3.8				BH140-05	ND			
4.6–6.2		**WOOD** orange/brown, wet						
6.4–7.4		**SILT** soft, trace fine sand, trace shell fragments, wet; increased shells, wood pieces below 7.1m		BH140-06	ND			
7.6–9.0		**SILT** stiff, grey, moist to wet		BH140-07	ND			

End of borehole at 9.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 15, 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

BOREHOLE NO: **BH141**

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**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.2		**GRAVEL**						
0.4		**Sandy SILT** fine grained, soft, trace gravel, grey, dry to moist		BH141-01	ND			
0.6		**Silty SAND** fine to medium grained, loose, trace gravel, dark grey and brown, trace organics (sticks, rootlets), dry to moist						
0.8				BH141-02	ND			
1.0								
1.2		dark grey and black, medium grained below 1.1m						
1.4				BH141-03	ND		Backfilled with cuttings and bentonite	
1.6		**SAND** medium grained, compact, trace silt, grey						
1.8								
2.0								
2.2		wet below 2.2m						
2.4				BH141-04	ND			
2.6								
2.8		trace to no silt below 2.7m						
3.0		coarse, saturated below 3.0m						
3.2								
3.4								
3.6								
3.8				BH141-05	ND			
4.0								
4.2								
4.4								
4.6				BH141-06	ND			
4.8								
5.0								
5.2		**WOOD** reddish brown, wet						
5.4								
5.6								
5.8								
6.0								
6.2		**SILT** soft, trace fine sand, trace shell fragments, wet						
6.4								
6.6				BH141-07	ND			
6.8								
7.0								
7.2		increased shells, wood pieces below 7.1m						
7.4								

End of borehole at 7.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 15, 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: **BH142**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** fine grained, compact, some gravel, grey and brown, dry		BH142-01	ND			
0.6		**SAND** fine to medium grained, compact, trace gravel, some silt, trace orange mottling, brown, dry to moist						
1.0								
1.4				BH142-02/ Z118	ND		Backfilled with cuttings and bentonite	
1.6		**SAND** coarse grained, compact, trace silt, brown, moist						
2.0								
2.6		wet below 2.6m						
2.8				BH142-03	ND			
3.0		grey and brown below 2.9m some silt below 3.0m						
3.8		grey silt lens from 3.8m to 3.9m						
4.0								
4.2				BH142-04	ND			
5.0								
5.4				BH142-05	ND			
6.0								
6.8		**SILT and WOOD** black, wet increased wood below 6.9		BH142-06	ND			
7.2		increased shells, wood pieces below 7.1m						
7.4		**SILT** soft, some fine sand, trace shell fragments, wet		BH142-07	ND			

End of borehole at 7.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 15, 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: **BH143**

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)
0.2		**GRAVEL**						
0.4		**Sandy SILT** fine grained, compact, some gravel, grey and brown, dry		BH143-01	ND			
0.6		**SAND** fine to medium grained, compact, trace gravel, some silt, trace iron oxide staining, brown, dry to moist						
1.0								
1.2		trace metal debris (nails) below 1.2m						
1.4				BH143-02	ND		Backfilled with cuttings and bentonite	
1.6		**SAND** medium to coarse grained, compact, trace silt, brown, moist						
1.8								
2.0								
2.2								
2.4								
2.6		wet below 2.5m		BH143-03	ND			
2.8								
3.0		**SAND** coarse grained, trace silt, trace iron oxide staining, grey and brown, saturated						
3.2								
3.4								
3.6		trace organics (sticks, rootlets) below 3.5m		BH143-04	ND			
3.8		grey silt lense from 3.8m to 3.9m						
4.0								
4.2								
4.4								
4.6								
4.8								
5.0								
5.2				BH143-05	ND			
5.4								
5.6								
5.8								
6.0		**SILT** black, wet, organic odour						
6.2				BH143-06	ND			
6.4		**SILT** soft, some fine sand, trace shell fragments, trace wood fragments, wet						
6.6								
6.8		stiff below 6.7m		BH143-07	ND			
7.0		increased wood below 6.9						
7.2		increased shells, wood pieces below 7.1m						
7.4								

End of borehole at 7.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 14, 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: **BH144**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** medium grained, compact, some gravel, trace cobbles, brown, dry		BH144-01	ND			
0.6								
0.8		**SAND** fine to medium grained, compact, trace gravel, some silt, trace iron oxide staining, brown, dry to moist						
1.0								
1.2		trace iron oxide staining below 1.0m						
1.4		increase medium to coarse grained sand below 1.0m		BH144-02	ND		Backfilled with cuttings and bentonite	
1.6		**SAND** medium grained, compact, trace silt, grey and brown, moist						
1.8								
2.0								
2.2								
2.4								
2.6		moist to wet below 2.5m		BH144-03	ND			
2.8								
3.0		**SAND** medium to coarse grained, grey, wet						
3.2								
3.4								
3.6				BH144-04	ND			
3.8								
4.0								
4.2								
4.4								
4.6								
4.8		**SILT** some peat/organics (wood pieces), black, wet, organic odour		BH144-05	ND			
5.0								
5.2		**SILT** stiff, trace fine sand, grey, moist to wet some sand below 5.5m						
5.4								
5.6								
5.8		some brown/ orange mottling below 5.8m		BH144-06	ND			
6.0								

End of borehole at 6.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 14, 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

BOREHOLE NO: **BH145**

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**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.2		**GRAVEL**						
0.4		**SAND** fine grained, compact, some silt, grey and brown, dry trace crushed asphalt from 0.4m to 0.5m		BH145-01	ND			
0.6		grey, moist below 0.5m						
0.8								
1.0		**Silty SAND** medium grained, compact, trace fine gravel, black and grey, dry to moist						
1.2				BH145-02	ND			
1.4		**Silty SAND** medium grained, compact, light grey, moist					Backfilled with cuttings and bentonite	
1.6		moist, dimensional wood pieces, creosote-like odour below 1.5m		BH145-03	ND			
1.8								
2.0								
2.2								
2.4								
2.6		decrease dimensional wood pieces below 2.5m		BH145-04	ND			
2.8								
3.0								
3.2								
3.4		black silt lens, creosote-like odour, dimensional wood pieces from 3.4m to 3.8m						
3.6								
3.8								
4.0				BH145-05	ND			
4.2								
4.4								
4.6		**SILT and ORGANICS** black, wet, soft, organic odour						
4.8								
5.0				BH145-06	ND			
5.2								
5.4								
5.6								
5.8		**SILT** stiff, some fine sand, trace shell fragments, grey, moist to wet		BH145-07	ND			
6.0		End of borehole at 6.00 m						

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 15, 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: **BH146**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** medium grained, compact, trace gravel, grey and brown, dry		BH146-01	ND			
0.6		grey, moist below 0.5m						
0.8		black, trace broken glass from 0.8m to 0.9m						
1.0		**SAND**						
1.2		medium grained, compact, some silt, some gravel, grey and brown, dry to moist		BH146-02/ Z114	ND		Backfilled with cuttings and bentonite	
1.4								
1.6		moist, dimensional wood debris, creosote-like odour below 1.5m						
1.8								
2.0								
2.2								
2.4								
2.6		wet, medium to coarse grained below 2.5m		BH146-03/ Z115	ND			
2.8								
3.0								
3.2								
3.4								
3.6								
3.8								
4.0								
4.2								
4.4								
4.6								
4.8				BH146-04	ND			
5.0		**SILT and ORGANICS**						
5.2		trace medium grained sand, black, wet, soft, organic odour						
5.4								
5.6								
5.8		increased silt, grey below 5.7m		BH146-05	ND			
6.0								
6.2		**SILT**						
6.4		soft, trace fine to medium sand, trace shell fragments, grey, wet		BH146-06	ND			
6.6								
6.8								
7.0								
7.2								
7.4				BH146-07	ND			

End of borehole at 7.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 15, 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: **BH147**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** medium grained, compact, some gravel, dark brown, dry		BH147-01	ND			
0.6								
0.8								
1.0								
1.2								
1.4				BH147-02	ND		Backfilled with cuttings and bentonite	
1.6		**SAND** medium grained, compact, some silt, some gravel, grey and brown, dry to moist						
1.8								
2.0								
2.2								
2.4				BH147-03	ND			
2.6		silt band from 2.5m to 2.6m						
2.8		coarse grained sand below 2.6m		BH147-04	ND			
3.0								
3.2								
3.4								
3.6		wet, increased gravel below 3.5m		BH147-05	ND			
3.8								
4.0								
4.2								
4.4								
4.6								
4.8								
5.0								
5.2								
5.4				BH147-06	ND			
5.6								
5.8								
6.0								
6.2								
6.4								
6.6								
6.8								
7.0				BH147-07	ND			
7.2								
7.4								
7.6								
7.8		**SILT** soft, trace fine sand, trace shell fragments, trace wood fragments, grey, wet						
8.0				BH147-08	ND			
8.2								
8.4								
8.6								
8.8		**SILT** soft, some organics, marine/organic odour, wet						
9.0		End of borehole at 9.00 m						

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 14, 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

BOREHOLE NO: **BH148**

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)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.2	**GRAVEL**						
0.4	**Silty SAND** medium grained, compact, grey and brown, dry		BH148-01	ND			
0.6							
0.8	brown, some silt below 0.8m						
1.0							
1.2							
1.4			BH148-02	ND		Backfilled with cuttings and bentonite	
1.6	**SAND** medium grained, compact, some silt, some gravel, grey and brown, dry to moist						
1.8							
2.0							
2.2							
2.4							
2.6	wet below 2.5m		BH148-03	ND			
2.8							
3.0							
3.2							
3.4	grey and brown below 3.3m		BH148-04	ND			
3.6	increased gravel below 3.5m						
3.8	**Silty SAND** medium to coarse grained, trace organic (rootlets, wood fragments), grey and brown, wet						
4.0							
4.2							
4.4			BH148-05	ND			
4.6	grey, no rootlets below 4.5						
4.8							
5.0	**Silty SAND** medium grained, grey, saturated						
5.2			BH148-06	ND			
5.4							
5.6							
5.8	**SAND** some silt, grey, wet						
6.0							
6.2							
6.4							
6.6							
6.8							
7.0							
7.2			BH148-07	ND			
7.4							
7.6	**SILT** soft, trace fine sand, trace to no shell fragments, grey, wet		BH148-08	ND			
7.8							
8.0	**SILT** stiff, grey, wet						
8.2							
8.4							
8.6							
8.8							
9.0	End of borehole at 9.00 m						

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 14, 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: **BH149**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** medium grained, compact, trace cobbles, trace brick fragments, grey and brown, dry to moist		BH149-01/ Z116	ND			
0.6								
0.8								
1.0								
1.2								
1.4				BH149-02	ND		Backfilled with cuttings and bentonite	
1.6		**SAND** coarse grained, compact, some silt, some gravel, grey and brown, moist						
1.8								
2.0								
2.2								
2.4		wet below 2.3m		BH149-03	ND			
2.6								
2.8								
3.0								
3.2								
3.4								
3.6		**SILT AND SAND** fine to medium grained, grey and brown, wet						
3.8								
4.0				BH149-04	ND			
4.2								
4.4								
4.6		**Silty SAND** medium grained, grey, wet						
4.8								
5.0								
5.2				BH149-05	ND			
5.4								
5.6								
5.8								
6.0								
6.2								
6.4		band of coarse grained sand from 6.4m to 6.5m						
6.6								
6.8		**WOOD**						
7.0		trace coarse sand, brown, wet						
7.2		**SILT**						
7.4		soft, dark brown and grey, organic odour, grey, wet						

End of borehole at 7.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 14, 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: **BH150**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** fine to medium grained, compact, trace gravel, dark grey and brown, dry to moist		BH150-01	ND			
0.6		trace brick fragments, wood fragments, organics (sticks, roots) below 0.4m						
1.0		**SAND** medium grained, compact, some silt, trace gravel, grey and brown, dry						
1.2				BH150-02	ND		Backfilled with cuttings and bentonite	
1.4								
1.6		**SAND** coarse grained, compact, some silt, trace gravel, grey and brown, moist						
1.8				BH150-03/ Z120	ND			
2.0		wet below 2.0m						
2.2								
2.4								
2.6		trace cobbles below 2.5m						
2.8		**SAND** coarse grained, compact, brown, saturated						
3.0								
3.2				BH150-04	ND			
3.4								
3.6								
3.8								
4.0								
4.2								
4.4				BH150-05	ND			
4.6		grey below 4.5m						
4.8								
5.0		**SILT and WOOD** black and brown, wet						
5.2								
5.4		**Silty SAND** medium to coarse grained, soft, grey, wet		BH150-06	ND			
5.6								
5.8								
6.0		increased silt below 5.9m						
6.2		trace orange mottling below 6.0m						
6.4								
6.6		trace to no cobbles below 6.5m		BH150-07	ND			
6.8								
7.0								
7.2		increased sand below 7.2m						
7.4								

End of borehole at 7.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 15, 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: **BH151**

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)
		ASPHALT						
0.2		**Silty SAND** medium grained, loose, trace gravel, brown, dry						
0.4								
0.6								
0.8				BH151-01/ Z123	ND			
1.0		**Silty SAND** medium grained, compact, trace gravel, trace orange mottling, grey and brown, moist						
1.2								
1.4				BH151-02	ND		Backfilled with cuttings	
1.6		wet below 1.5m						
1.8								
2.0								
2.2								
2.4								
2.6		**SAND** coarse grained, compact, grey and brown, wet						
2.8				BH151-03	ND			
3.0								

End of borehole at 3.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 17, 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: **BH152**

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)
		ASPHALT					Concrete	
0.2		**Silty SAND** medium grained, loose, trace gravel, brown, dry						
0.4				BH152-01	ND			
0.6								
0.8								
1.0								
1.2		thin band of grey silt at 1.2m						
1.4				BH152-02	ND			
1.6		wet below 1.5m						
1.8				BH152-03/ Z124	ND			
2.0								
2.2							Backfilled with cuttings	
2.4								
2.6		**SAND** coarse grained, compact, some silt, grey and brown, saturated						
2.8				BH152-04	ND			
3.0								
3.2								
3.4								
3.6				BH152-05	ND			
3.8								
4.0								
4.2								
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 17, 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: **BH153**

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		**SAND** medium grained, loose, trace gravel, some silt, trace iron oxide staining, brown, moist						
0.4								
0.6								
0.8				BH153-01	ND			
1.0								
1.2		thin band of grey silt at 1.2m						
1.4								
1.6		moist to wet below 1.5m					Backfilled with cuttings	
1.8		**Silty SAND** fine to medium grained, compact, some silt, trace orange mottling, grey and brown, wet						
2.0				BH153-02	ND			
2.2								
2.4		thin band of black organic material above 2.5m						
2.6		**SAND** some silt, grey, saturated						
2.8		coarse sand lense from 2.8m to 2.9m		BH153-03	ND			
3.0								

End of borehole at 3.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 17, 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: **BH154**

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)
0.2		**GRAVEL**						
0.4		**Sandy SILT** fine to medium grained, compact, some silt, trace crushed brick, grey and brown, moist						
0.6				BH154-01	ND			
0.8		**Silty SAND** medium to coarse grained, compact, some gravel, grey and light brown, dry to moist						
1.0								
1.2		trace crushed brick from 1.2m to 1.5m						
1.4				BH154-02	ND		Backfilled with cuttings and bentonite	
1.6		**Silty SAND** medium grained, compact, black and grey, some wood waste (hog fuel-like), wet						
1.8								
2.0								
2.2								
2.4				BH154-03/ Z121	ND			
2.6		black, grey, and brown, increased sand below 2.5m						
2.8		**Sandy SILT** soft, brown, black, and grey, trace wood waste, trace to no crushed brick, wet		BH154-04	ND			
3.0								
3.2								
3.4				BH154-05	ND			
3.6								
3.8								
4.0		brown below 4.0m						
4.2								
4.4				BH154-06	ND			
4.6		increased sand, no brick below 4.5m						
4.8								
5.0								
5.2								
5.4								
5.6								
5.8		**SILT** stiff, grey, moist to wet		BH154-07	ND			
6.0								
6.2								
6.4								
6.6				BH154-08	ND			
6.8								
7.0		some coarse sand below 7.0m						
7.2								
7.4								

End of borehole at 7.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 14, 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: **BH155**

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)
0.2–0.4		**GRAVEL**						
0.4–1.4		**Silty SAND** medium to coarse grained, compact, some gravel, grey and light brown, dry to moist		BH155-01	ND		Backfilled with cuttings and bentonite	
1.6–3.0		**Silty SAND** medium grained, compact, trace gravel, moist; medium to coarse grained, wet below 2.5m		BH155-02; BH155-03	ND; ND			
3.0–4.6		**Sandy SILT** coarse grained, soft, trace organics (rootlets, sticks), wet		BH155-04	ND			
4.6–5.2		**SILT and ORGANICS** black, wet						
5.2–6.0		**Sandy SILT** medium grained, soft, grey		BH155-05	ND			

End of borehole at 6.00 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 14, 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

SOIL VAPOUR 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**

SOIL-VAPOUR LOG NO: **BH156/ SV08**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.2		**GRAVEL**					Roadbox	
0.4		**Silty SAND** medium grained, compact, trace gravel, trace metal debris, trace brick fragments, trace organics (sticks), reddish brown, dry to moist		BH156-01	ND		Silica Sand	
0.6							Bentonite	
0.8		**Silty SAND** medium grained, trace gravel, trace iron oxide staining, grey and brown, dry to moist						
1.0							Stainless Steel SV Screen	
1.2								
1.4				BH156-02	ND			
1.6		moist to wet below 1.5m						
1.8		**Silty SAND** coarse grained, compact, some gravel, dark brown, trace ceramic debris, broken glass, wet		BH156-03	ND			
2.0								
2.2								
2.4								
2.6								
2.8							Bentonite	
3.0		increased debris, saturated, black and grey, trace organics (sticks) below 3.0m						
3.2				BH156-04	ND			
3.4		**WOOD** brown, trace black silt, wet						
3.6								
3.8								
4.0								
4.2		trace grey silt below 4.1m					Slough	
4.4		**SILT** soft, grey		BH156-05	ND			

End of borehole at 4.50 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 17, 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

BOREHOLE NO: **BH157**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** medium to coarse grained, compact, some gravel, grey and light brown, dry to moist		BH157-01	ND			
0.6								
0.8								
1.0								
1.2		**Silty SAND** medium grained, compact, trace gravel, trace hydrocarbon-like odour, moist						
1.4				BH157-02	ND		Backfilled with cuttings and bentonite	
1.6		wet, grey below 1.5m		BH157-03	ND			
1.8								
2.0								
2.2								
2.4								
2.6		medium to coarse grained, wet below 2.5m						
2.8								
3.0								
3.2								
3.4								
3.6				BH157-04	ND			
3.8								
4.0								
4.2								
4.4								
4.6		**WOOD**						
4.8		brown, trace grey silt, wet						
5.0		increased silt below 4.7						
5.2		**Sandy SILT** medium grained, soft, grey						
5.4				BH157-05	ND			
5.6								
5.8		lens of coarse grey sand from 5.7m to 5.8m						
6.0		End of borehole at 6.00 m						

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 17, 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: **BH158**

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)
0.2		**GRAVEL**						
0.4		**Silty SAND** medium to coarse grained, loose, trace gravel, black, trace metal debris, trace hydrocarbon-like odour, dry		BH158-01	ND			
0.6								
0.8								
1.0								
1.2		**Silty SAND** medium to coarse grained, compact, trace gravel, grey, moist		BH158-02	ND		Backfilled with cuttings and bentonite	
1.4								
1.6		wet, increased hydrocarbon odour below 1.5m		BH158-03/ Z122	ND			
1.8								
2.0								
2.2								
2.4								
2.6		**SAND** coarse grained, trace silt, trace to no hydrocarbon-like odour, grey, wet		BH158-04	ND			
2.8								
3.0		trace gravel below 3.0m						
3.2								
3.4								
3.6								
3.8		some gravel below 3.7m						
4.0								
4.2				BH158-05	ND			
4.4								
4.6		**WOOD** brown, trace grey silt, wet						
4.8		increased silt below 4.7						
5.0		trace black silt below 5.0m						
5.2		**Sandy SILT** medium grained, soft, grey		BH158-06/ Z125	ND			
5.4								
5.6								
5.8		lens of coarse grey sand from 5.7m to 5.8m						
6.0		End of borehole at 6.00 m						

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 17, 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

SOIL VAPOUR 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**

SOIL-VAPOUR LOG NO: **BH160/ SV09**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		ASPHALT						
0.2		**Silty SAND** fine to coarse grained, compact, brown with grey, some iron oxide staining, dry to moist					Roadbox Silica Sand	
0.4								
0.6		some crushed brick, trace metal debris from 0.5m to 0.8m		BH160-01/ Z201	ND 6		Bentonite	
0.8								
1.0		**Silty SAND** fine to medium grained, compact, trace gravel, orange mottling, grey and brown, moist		BH160-02	ND ND		Stainless Steel SV Screen	
1.2								
1.4								
1.6		**PEAT** soft, trace silt, black/brown, moist		BH160-03	ND ND			
1.8		**Sandy SILT** stiff, grey and brown with orange mottling, moist						
2.0								
2.2								
2.4								
2.6				BH160-04	ND ND		Bentonite	
2.8								
3.0								
3.2		**SAND** fine grained, brown, wet						
3.4								
3.6								
3.8				BH160-05	ND ND			
4.0								
4.2							Slough	
4.4								

End of borehole at 4.50 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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: **BH161**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		ASPHALT						
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, trace cobbles, trace iron oxide staining, trace wood chips, grey and brown, dry to moist						
0.4								
0.6				BH161-01	■ND ●ND			
0.8								
1.0								
1.2		**Sandy SILT** fine to medium grained, loose, orange/brown, trace organics (peat), moist						
1.4				BH161-02	■ND ●ND			
1.6		**SAND** fine grained, compact, grey with trace orange mottling, moist to wet						
1.8								
2.0		wet below 1.9m						
2.2				BH161-03	■ND ●ND		backfilled with cuttings and bentonite	
2.4								
2.6								
2.8				BH161-04	■ND ●ND			
3.0		brown below 3.0m						
3.2								
3.4								
3.6								
3.8				BH161-05	■ND ●ND			
4.0								
4.2								
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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

SOIL VAPOUR 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**

SOIL-VAPOUR LOG NO: **BH162/ SV10**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		CONCRETE					Roadbox	
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, iron oxide staining, black/brown/grey, trace organics (sticks, rootlets), moist					Silica Sand	
0.4								
0.6				BH162-01	ND ND		Bentonite	
0.8								
1.0							Stainless Steel SV Screen	
1.2								
1.4				BH162-02	ND ND			
1.6		some wood debris (dimensional lumber) below 1.6m						
1.8								
2.0		**SAND** medium grained, compact, trace silt, grey, wet						
2.2								
2.4								
2.6								
2.8				BH162-03	ND ND		Bentonite	
3.0								
3.2								
3.4		**Peaty SILT** soft, organic odor, trace organics (sticks, rootlets), black, wet						
3.6		**SILT** stiff, trace sand, trace gravel, grey with orange mottling, wet						
3.8				BH162-04	ND ND			
4.0								
4.2							Slough	
4.4								

End of borehole at 4.50 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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: **BH163**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
		Silty SAND fine to medium grained, compact, trace gravel, trace cobbles, trace iron oxide staining, brown, dry						
0.2								
0.4								
0.6				**BH163-01**	■ND ●ND			
0.8							Backfilled with cuttings	
1.0								
1.2				**BH163-02/ Z202**	■ND ●ND			
1.4								

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 14, 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: **BH164**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
		Silty SAND fine to medium grained, compact, trace gravel, trace cobbles, trace iron oxide staining, brown, dry						
0.2								
0.4								
0.6				BH164-01	■ND ●ND			
0.8							Backfilled with cuttings	
1.0								
1.2				BH164-02	■ND ●ND			
1.4								

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 14, 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: **BH165**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, trace to some gravel, trace iron oxide staining, brown, dry to moist						
0.4								
0.6				**BH165-01**	■ND ●ND			
0.8							Backfilled with cuttings	
1.0								
1.2				**BH165-02**	■ND ●ND			
1.4								

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 14, 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

SOIL VAPOUR 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**

SOIL-VAPOUR LOG NO: **BH166/ SV11**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	● PID READING (ppmv) ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, some gravel, trace cobbles, iron oxide staining, brown and grey, hydrocarbon-like odour, dry					Roadbox Silica Sand	
0.4								
0.6				BH166-01	■ 25 ● 50		Bentonite	
0.8								
1.0		increased hydrocarbon-like odour below 1.0m					Stainless Steel SV Screen	
1.2				BH166-02	● 130 ● 140			
1.4								
1.6		**Sandy SILT** medium grained, compact, trace silt, black/brown, some wood debris (dimensional, bark mulch, burnt wood), trace brick fragments, moist		BH166-03	■ ND ● 7			
1.8							Bentonite	
2.0								
2.2								
2.4								
2.6		some coarse-grained sand, decreased wood debris below 2.5m						
2.8				BH166-04	■ 25 ● 2		Slough	
3.0								

End of borehole at 3.00 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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

SOIL VAPOUR 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**

SOIL-VAPOUR LOG NO: **BH167/ SV12**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	● PID READING (ppmv) ■ VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, trace fine gravel, black/brown/grey, trace to no brick fragments, trace organics (sticks), trace broken glass, dry to moist					Roadbox; Silica Sand	
0.4								
0.6				BH167-01	■ 25; ● 50		Bentonite	
0.8		**SAND** medium grained, compact, trace silt, trace to no gravel, grey, moist						
1.0								
1.2				BH167-02	● 130; ● 140		Stainless Steel SV Screen	
1.4							Bentonite	

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: August 13, 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: **BH168**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, grey and brown, moist						
0.4				BH168-01	■ND ●ND			
0.6								
0.8		brown below 0.8m		BH168-02	■ND ●ND			
1.0								
1.2								
1.4								
1.6		**SAND** medium grained, compact, some silt, some gravel, grey and brown, dry to moist		BH168-03	■ND ●ND			
1.8								
2.0								
2.2							Backfilled with cuttings	
2.4								
2.6								
2.8				BH168-04	■ND ●ND			
3.0		**SAND** coarse grained, grey and brown, wet						
3.2								
3.4								
3.6		increased gravel below 3.5m						
3.8				BH168-05	■ND ●ND			
4.0								
4.2								
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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

BOREHOLE NO: **BH169**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, trace iron oxide staining, grey and brown, dry to moist						
0.4		trace crushed brick below 0.4m		BH169-01	■ND ●ND			
0.6								
0.8				BH169-02	■ND ●ND			
1.0								
1.2								
1.4								
1.6		trace to no crushed brick below 1.5m		BH169-03	■ND ●ND			
1.8								
2.0								
2.2							Backfilled with cuttings	
2.4		moist to wet below 2.4m						
2.6								
2.8				BH169-04	■ND ●ND			
3.0		grey, wet, coarse below 3.0m						
3.2								
3.4								
3.6								
3.8				BH169-05	■ND ●ND			
4.0								
4.2								
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 14, 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: **BH170**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine grained, compact, trace gravel, dark brown, trace brick fragments, trace iron oxide staining, dry light and dark brown, trace cobbles below 0.3m						
0.4				BH170-01	ND ND			
0.6								
0.8				BH170-02	ND ND			
1.0								
1.2								
1.4								
1.6		**SAND** medium grained, compact, trace gravel, brown, moist to wet						
1.8				BH170-03	ND ND			
2.0		coarse-grained, wet below 2.0m						
2.2							Backfilled with cuttings	
2.4		silt band from 2.3m to 2.5m						
2.6								
2.8				BH170-04	ND ND			
3.0								
3.2								
3.4								
3.6								
3.8				BH170-05	ND ND			
4.0								
4.2								
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 14, 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

BOREHOLE NO: **BH171**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
0.2		**GRAVEL**						
		Silty SAND fine to medium grained, compact, trace gravel, dark brown and brown, moist						
0.4		increase sand, brown, trace orange mottling below 0.2m		BH171-01	■ND ●ND			
0.6								
0.8								
1.0		trace to some gravel below 1.0m						
1.2				BH171-02	■ND ●ND			
1.4								
1.6		**SAND** coarse grained, compact, some gravel, grey and brown, wet						
1.8				BH171-03	■ND ●ND			
2.0								
2.2							Backfilled with cuttings	
2.4								
2.6								
2.8				BH171-04	■ND ●ND			
3.0								
3.2								
3.4								
3.6								
3.8				BH171-05	■ND ●ND			
4.0								
4.2								
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 14, 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: **BH172**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, trace organics (rootlets, sticks), grey and brown, dry to moist						
0.4				BH172-01	ND ND			
0.6								
0.8								
1.0		brown below 1.0m						
1.2				BH172-02	ND ND			
1.4								
1.6		**SAND** medium to coarse grained, compact, some silt, trace gravel, trace cobbles, brown, moist		BH172-03	ND ND			
1.8								
2.0		wet below 2.0m						
2.2				BH172-04	ND ND		Backfilled with cuttings	
2.4								
2.6								
2.8								
3.0		coarse-grained, trace organics (rootlets, sticks) below 3.0m						
3.2								
3.4				BH172-05	ND ND			
3.6								
3.8								
4.0								
4.2								
4.4				BH172-06	ND ND			

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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: **BH173**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, trace brick debris, grey and brown, dry						
0.4				BH173-01	ND ND			
0.6		no brick debris, increase gravel below 0.6m						
0.8								
1.0								
1.2				BH173-02/ Z200	ND ND			
1.4								
1.6		**SAND** medium to coarse grained, compact, some silt, trace gravel, trace cobbles, iron oxide staining, trace rootlets, grey and brown, wet						
1.8								
2.0								
2.2				BH173-03	ND ND		Backfilled with cuttings	
2.4								
2.6								
2.8								
3.0		grey below 3.0m						
3.2								
3.4				BH173-04	ND ND			
3.6								
3.8								
4.0								
4.2								
4.4				BH173-05	ND ND			

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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: **BH174**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, brown, dry to moist						
0.4		trace silt, some iron oxidizing staining below 0.3m		BH174-01	■ND ●ND			
0.6								
0.8								
1.0		**SAND** medium to coarse grained, compact, trace gravel, brown, moist						
1.2				BH174-02	■ND ●ND			
1.4								
1.6		**SAND** coarse grained, some gravel, trace silt, trace organics (sticks, rootlets), grey and brown, wet						
1.8								
2.0								
2.2							Backfilled with cuttings	
2.4				BH174-03	■ND ●ND			
2.6		dry, medium grained below 2.6m						
2.8								
3.0		coarse-grained, wet below 3.0m						
3.2								
3.4		trace iron oxide staining below 3.4m		BH174-04	■ND ●ND			
3.6								
3.8		increased silt below 3.7m						
4.0								
4.2				BH174-05	■ND ●ND			
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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

BOREHOLE NO: **BH175**

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**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	● PID READING (ppmv) ■ VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, some gravel, dark grey and brown, dry		BH175-01	ND ND			
0.4		**SAND** medium grained, compact, some silt, brown, dry to moist						
0.6								
0.8				BH175-02	ND ND			
1.0		**SAND** medium grained, compact, trace silt, trace cobbles, trace iron oxide staining, brown, moist						
1.2								
1.4								
1.6								
1.8								
2.0		medium to coarse grained, wet below 2.0m						
2.2				BH175-03	ND ND		Backfilled with cuttings	
2.4								
2.6								
2.8								
3.0								
3.2		band of silt from 3.1m to 3.2m						
3.4				BH175-04	ND ND			
3.6								
3.8								
4.0								
4.2								
4.4				BH175-05	ND ND			

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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: **BH176**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, some gravel, dark grey and brown, dry		BH176-01	■ND ●ND			
0.4		**SAND** medium grained, compact, trace gravel, trace silt, brown, dry to moist						
0.6								
0.8				BH176-02	■ND ●ND			
1.0								
1.2		coarse grained, moist to wet below 1.2m						
1.4								
1.6								
1.8								
2.0								
2.2				BH176-03	■ND ●ND		Backfilled with cuttings	
2.4								
2.6								
2.8								
3.0		wood debris, chemical odour below 3.0m						
3.2								
3.4		trace coal debris between 3.3m and 4.2m		BH176-04	■ND ●ND			
3.6								
3.8								
4.0								
4.2								
4.4				BH176-05	■ND ●ND			

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: August 13, 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: **BH177**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
		Sandy SILT fine to medium grained, compact, some gravel, dark brown, dry						
0.2				BH177-01	■ND ●ND			
0.4								
0.6								
0.8				BH177-02	■ND ●ND		Backfilled with cuttings	
1.0								
1.2				BH177-03	■ND ●ND			
1.4								

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: September 5, 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: **BH178**

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	● PID READING (ppmv) ■ VAPOUR READING (ppmv)	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
		Silty SAND fine to medium grained, compact, some gravel, brown and black, trace wood debris, trace organics (sticks, rootlets), dry						
0.2				**BH178-01/ Z203**	ND ND			
0.4								
0.6								
		decreased silt and wood debris, less black below 0.7m					Backfilled with cuttings	
0.8				**BH178-02/ Z204**	ND ND			
1.0								
1.2				**BH178-03**	ND ND			
1.4								

End of borehole at 1.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: September 5, 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

BOREHOLE NO: **BH179**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, some gravel, some cobbles, dark grey, dry						
0.4								
0.6								
0.8								
1.0		trace gravel below 1.0m						
1.2				BH179-01	■ND ●ND			
1.4								
1.6		moist, trace wood chips below 1.5m						
1.8								
2.0		black/grey, coarse-grained, trace PHC-like odour, hog fuel-like wood debris below 2.0m						
2.2				BH179-02/ Z205	■ND ●ND		Backfilled with cuttings	
2.4								
2.6								
2.8								
3.0		wet, grey below 3.0m						
3.2				BH179-03/ Z206	■ND ●ND			
3.4								
3.6								
3.8								
4.0		**Peat and Wood Debris** brown/red, wet						
4.2				BH179-04	■ND ●ND			
4.4								

End of borehole at 4.50 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: September 5, 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

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **BH180/SV13**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		ASPHALT						
		ROAD BASE					Roadbox	
0.2		**Sandy SILT** fine to medium grained, compact, wood debris, trace to no brick fragments, grey and brown, dry					Silica Sand	
0.4		decreased wood debris, dry to moist, stiff, trace gravel, trace iron oxide staining below 0.4m		BH180-01/ Z207	ND; 100		Bentonite	
0.6								
		SAND compact, trace silt, grey and brown, moist						
0.8								
1.0							Stainless Steel SV Screen	
1.2		dark brown, increased silt below 1.2m		BH180-02	ND			
1.4		trace wood debris below 1.4m			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: September 5, 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

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **BH181/SV14**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, some gravel, dark brown, dry					Roadbox Silica Sand	
0.4								
0.6				BH181-01	■ND ●ND		Bentonite	
		increased sand below 0.7m						
0.8								
1.0		**SAND** medium grained, compact, brown, dry to moist					Stainless Steel SV Screen	
1.2								
1.4				BH181-02	■ND ●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: September 5, 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

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **BH182/SV15**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		CONCRETE						
0.2		**Silty SAND** medium grained, compact, trace gravel, dark brown, trace organics (sticks), dry to moist					Roadbox Silica Sand	
0.4								
0.6				**BH182-01**	■ND ●ND		Bentonite	
0.8		**SAND** medium grained, compact, trace silt, brown/ orange, dry to moist						
1.0		grey with orange mottling below 1.0m					Stainless Steel SV Screen	
1.2								
1.4				**BH182-02**	■ND ●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: September 5, 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

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **BH183/SV16**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		CONCRETE						
0.2		**Silty SAND** fine to medium grained, compact, trace gravel, dark brown, trace organics (sticks), grey, dry to moist					Roadbox Silica Sand	
0.4								
0.6				BH183-01	■ND ●ND		Bentonite	
0.8								
		some iron oxide staining below 0.9m						
1.0								
1.2							Stainless Steel SV Screen	
1.4				BH183-02	■ND ●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: September 5, 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

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **BH184/SV17**

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	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**SAND** medium grained, compact, trace silt, brown, dry to moist					Roadbox Silica Sand	
0.4								
0.6		**Sandy SILT** fine to medium grained, compact, some gravel, grey and brown					Bentonite	
0.8								
1.0							Stainless Steel SV Screen	
1.2				BH184-01	■ND ● 1			
1.4								
1.6		**SILT** trace peat, brown, moist						
1.8								
2.0		increase peat, trace metal debris below 2.0m						
2.2				BH184-02	■ND ●ND		Bentonite	
2.4								
2.6		moist to wet, soft below 2.5m						
2.8								
3.0								

End of borehole at 3.00 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: September 5, 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

SOIL VAPOUR 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**

SOIL-VAPOUR LOG NO: **BH185/SV18**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	LABORATORY ANALYSES	● PID READING (ppmv) ● ■ VAPOUR READING (ppmv) ■	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL						
0.2		**Silty SAND** fine to medium grained, compact, iron oxide staining, grey, dry to moist					Roadbox Silica Sand	
0.4								
0.6							Bentonite	
0.8								
1.0							Stainless Steel SV Screen	
1.2				BH185-01	■ND ●ND			
1.4								
1.6		grey and brown below 1.5m						
1.8								
2.0		moist to wet, trace brick pieces, trace coal fragments below 2.0m						
2.2				BH185-02	■ND ●ND			
2.4								
2.6								
2.8		**Sandy SILT** some peat, organic odor, black, wet						
3.0		increase peat, some organics (sticks), trace brick pieces below 3.0m					Bentonite	
3.2				BH185-03	■ND ●ND			
3.4								
3.6								
3.8								
4.0		some coarse grained sand below 4.0m						
4.2		trace ceremic debris below 4.1m		BH185-04	■ND ●ND			
4.4								

End of borehole at 4.50 m

Screened interval from 1.05 m to 1.2 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: September 5, 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

SOIL VAPOUR RECORD

SOIL-VAPOUR LOG NO: **SV04**

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	WELL COMPLETION	COMPLETION NOTES	ELEVATION (m)
		GRAVEL			
		Silty SAND fine to medium grained, compact, some gravel, dark grey, trace brick fragments, dry to moist		Roadbox, J-plug	
0.2				Silica Sand	
0.4					
0.6					
0.8				Bentonite	
		SAND medium to coarse grained, compact, some silt, trace cobbles, grey and brown, moist			
1.0					
1.2					
1.4				Stainless Steel Soil Vapour Screen	

End of borehole at 1.50 m

Screened interval from 1.25 m to 1.4 m below surface.

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: May 9, 2018

LOGGED BY: AER HOLE DIAM (mm): 152

Sample Notes

THIS LOG IS FOR ENVIRONMENTAL PURPOSES ONLY.

PGL MULTI-TEST VAPOR LOG 2015 5355-01.GPJ PGL CANADA 2015.GDT 1/11/19

HYDROGEOLOGIC LOG

DRILLHOLE No.: TH23
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: TEST HOLE
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Lithology	Completed Construction	Sample	Comments
0m			0m
Grey medium to coarse SAND with some fine gravel and fine sand	No Piezometer Installed		
1m		SS: 0.8m	BC: 16,13,14 @ 0.8m Recovery: 0.28m 1m
		SS: 1.5m	BC: 9,6,6 @ 1.5m Recovery: 0m
2m 2.0m			2m
Grey to grey brown, fine to medium SAND 2.7m		SS: 2.3m	BC: 1,2,1 @ 2.3m Recovery: 0.20m
3m Grey, fine to medium SAND with some coarse sand to fine gravel 3.5m		SS: 3.0m	BC: 0,1,2 @ 3.0m Recovery: 0.20m 3m
Grey, fine to medium SAND 4m		SS: 3.8m	BC: 1,1,1 @ 3.8m Recovery: 0m 4m
		SS: 4.6m	BC: 1,2,2 @ 4.6m Recovery: 0m
5m 5.0m			5m
END OF BOREHOLE			

LEGEND
SS: Split-Spoon Soil Sample
BC: Blow Counts

Contractor: SDS Drilling Ltd.
Date Started: December 17, 1991
Date Finished: December 17, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH24
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.36m above ground

Lithology	Completed Construction	Sample	Comments
0m			0m
Grey, uniform, fine to medium SAND; slight oil smell	50mm ID PVC Pipe 0.3–0.9m: Bentonite		
1m 1.2m	0.9–1.2m: Filter Sand	SS: 0.8m	BC: 8,8,9 @ 0.8m Recovery: 0.30m 1m
Grey, medium to coarse SAND with fine gravel with zone of dark grey to black fine to medium SAND with wood; slight oil smell	1.2–2.1m: Slotted 50mm PVC Pipe WL: 1.64m	SS: 1.5m	BC: 5,6,6 @ 1.5m Recovery: 0.33m
2m 2.0m			2m
Green grey, dense SILT and fine SAND and zone of black, fine to medium SAND with wood; odourless 2.7m		SS: 2.3m	BC: 4,5,3 @ 2.3m Recovery: 0.38m
3m			3m
END OF BOREHOLE			
4m			4m
5m			5m

LEGEND
SS: Split-Spoon Soil Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 17, 1991
Date Finished: December 17, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH25
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.55m above ground

Lithology	Completed Construction	Sample	Comments
0m			0m
Grey brown, fine to medium SAND with coarse sand to fine gravel	50mm ID PVC Pipe		
1m		SS: 0.9m	BC: 4,5,2 @ 0.8m Recovery: 0.38m 1m
1.2m			
Grey brown, fine to medium SAND with coarse to fine gravel with zone of SILT and fine SAND	WL: 1.8m	SS: 1.5m	BC: 1,2,1 @ 1.5m Recovery: 0.25m
2m 2.0m			2m
Grey, uniform, fine to medium SAND		SS: 2.3m	BC: 0,0,0 @ 2.3m Recovery: 0m
3m		SS: 3.0m	BC: 0,1,0 @ 3.0m Recovery: 0.15m 3m
4m	3.7–4.3m: Bentonite	SS: 3.8m	BC: 0,0,1 @ 3.8m Recovery: 0m 4m
	4.3–6.1m: Filter Sand		
5m	4.6–6.1m: Slotted 50mm PVC Pipe		5m
6m 6.1m			6m
		SS: 6.1m	BC: 10,22,24 @ 6.1m Recovery: 0.43m
Grey green with rusty brown, very dense, SILT and fine SAND with occassional fine gravel 6.6m	Fill		
END OF BOREHOLE			

LEGEND
SS: Split-Spoon Soil Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 17, 1991
Date Finished: December 17, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH26
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: TEST HOLE
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Lithology	Completed Construction	Sample	Comments
0m	No Piezometer Installed		0m
Brown, medium to coarse SAND with fine gravel and some medium gravel 1m 1.2m		SS: 0.8m	BC: 9,16,17 @ 0.8m Recovery: 0.33m 1m
Brown, fine to medium SAND with coarse sand with zone of medium SAND to fine GRAVEL with some coarse to medium gravel 2m 2.0m		SS: 1.5m	BC: 7,22,34 @ 1.5m Recovery: 0.20m 2m
Brown, fine SAND with zone of fine to medium SAND with some medium to coarse gravel 2.7m		SS: 2.3m	BC: 3,2,2 @ 2.3m Recovery: 0.25m
3m Brown grey, fine to medium SAND with some silt 3.5m		SS: 3.0m	BC: 1,2,4 @ 3.0m Recovery: 0.15m 3m
Brown grey, fine to medium SAND with fine gravel and some medium gravel 4m 4.3m		SS: 3.8m	BC: 7,8,9 @ 3.8m Recovery: 0.23m 4m
Grey, fine to coarse SAND with some fine 5m 5.0m		SS: 4.6m	BC: 10,5,5 @ 4.6m Recovery: 0.20m 5m
Grey, uniform, fine to medium SAND 5.8m		SS: 5.3m	BC: 0,1,2 @ 5.3m Recovery: 0.05m
END OF BOREHOLE	LEGEND SS: Split-Spoon Soil Sample BC: Blow Counts		

Contractor: SDS Drilling Ltd.
Date Started: December 17, 1991
Date Finished: December 17, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH27
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: TEST HOLE
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Lithology	Completed Construction	Sample	Comments
0m	No Piezometer Installed		0m
Dark brown SILT and fine SAND with fine gravel and zone of grey fine to medium SAND with some silt and zone of brown, very dense SILT and fine SAND with some medium sand 1m 1.2m		SS: 0.8m	BC: 17,33,45 @ 0.8m Recovery: 0.56m 1m
Brown, very dense SILT and fine SAND with fine gravel, medium sand and some medium gravel 2m 2.0m		SS: 1.5m	BC: 16,24,32 @ 1.5m Recovery: 0.46m 2m
Grey green, fine SAND and SILT with fine gravel, medium sand and some medium gravel 2.7m		SS: 2.3m	BC: 6,12,19 @ 2.3m Recovery: 0.43m
3m Grey green, very dense SILT and CLAY with fine sand 3.5m		SS: 3.0m	3m BC: 8,12,26 @ 3.0m Recovery: 0.43m
END OF BOREHOLE 4m			4m
5m			5m

LEGEND
SS: Split-Spoon Soil Sample
BC: Blow Counts

Contractor: SDS Drilling Ltd.
Date Started: December 18, 1991
Date Finished: December 18, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH28
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: TEST HOLE
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Lithology	Completed Construction	Sample	Comments
0m Black, fine SAND, SILT and medium GRAVEL 0.6m	No Piezometer Installed		0m
1m Light brown, dense, fine SAND and SILT with some fine gravel and medium sand 1.2m		SS: 0.8m	BC: 17,31,29 @ 0.8m Recovery: 0.38m 1m
Brown, very dense, fine SAND and SILT with some medium sand and fine gravel 2m 2.0m		SS: 1.5m	BC: 18,11,12 @ 1.5m Recovery: 0.41m 2m
END OF BOREHOLE 3m		SS: 2.3m	BC: 21,30,36 @ 2.3m Recovery: 0.36m 3m
4m		SS: 3.0m	BC: 8,12,26 @ 3.0m Recovery: 0.43m 4m
5m			5m

LEGEND
SS: Split-Spoon Soil Sample
BC: Blow Counts

Contractor: SDS Drilling Ltd.
Date Started: December 18, 1991
Date Finished: December 18, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH29
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.92m above ground

Lithology	Completed Construction	Sample	Comments
0m			0m
Brown, fine to medium GRAVEL with medium sand and zone of brown, dense, fine to medium SAND and SILT with some fine gravel (1m – 1.2m)	50mm ID PVC Pipe; WL: 0.46m	SS: 0.8m	BC: 6,9,10 @ 0.8m; Recovery: 0.25m (1m)
Brown, SILT and fine SAND with some fine gravel and medium sand and zone of CLAY and SILT with some medium sand (2m – 2.0m)	1.5–2.1m: Bentonite	SS: 1.5m	BC: 1,20,14 @ 1.5m; Recovery: 0.23m (2m)
Grey, fine to medium SAND with some silt (3m – 3.5m)	2.1–4.6m: Filter Sand; 3.0–4.6m: Slotted 50mm PVC Pipe	SS: 2.3m; SS: 3.0m	BC: 2,4,4 @ 2.3m; Recovery: 0m (3m); BC: 1,3,4 @ 3.0m; Recovery: 0.15m
Grey, fine to medium SAND with some fine gravel and silt (4m – 4.3m)		SS: 3.8m	BC: 2,3,4 @ 3.8m; Recovery: 0.23m (4m)
END OF BOREHOLE (5m)			5m

LEGEND
SS: Split-Spoon Soil Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 18, 1991
Date Finished: December 18, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH30
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.70m above ground

Lithology	Completed Construction	Sample	Comments
0m Black, medium SAND to fine GRAVEL with some silt; wet, no smell 0.5m	50mm ID PVC Pipe WL: 0.15m	GS: 0.3m	0m
1m Brown, fine to coarse SAND with some fine to medium gravel 1.2m		SS: 0.9m	BC: 4,5,6 @ 0.9m Recovery: 0.30m 1m
Brown, fine to medium SAND with zone of fine sand with some medium to coarse gravel 2m 2.0m		SS: 1.5m	BC: 2,6,7 @ 1.5m Recovery: 0.15m 2m
Grey, uniform, fine to medium SAND with trace medium gravel 2.7m		SS: 2.3m	BC: 4,3,1 @ 2.3m Recovery: 0.20m
3m Grey, fine to medium SAND with trace medium gravel and zone of brown SILT and fine SAND 3.5m		SS: 3.0m	BC: 1,2,2 @ 3.0m Recovery: 0.20m 3m
Grey, fine to medium SAND 4m	3.7–4.3m: Bentonite 4.3–6.1m: Filter Sand 4.6–6.1m: Slotted 50mm PVC Pipe	SS: 3.8m	BC: 4,6,5 @ 3.8m Recovery: 0.03m 4m
5m 6m 6.1m			5m 6m
Grey, uniform, fine to medium SAND with zone of CLAY, SILT and fine SAND 6.6m	Fill	SS: 6.1m	BC: 0,1,1 @ 6.1m Recovery: 0.13m
END OF BOREHOLE			

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 18, 1991
Date Finished: December 18, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH31
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 1.00m above ground

Lithology	Completed Construction	Sample	Comments
0m Brown, fine to medium SAND with fine gravel and zone of black, medium sand to medium gravel 0.6m	50mm ID PVC Pipe	GS: 0.3m	0m
1m Brown, medium SAND to fine GRAVEL wilth medium gravel 1.2m	WL: 0.89m	SS: 0.8m	BC: 10,22,22 @ 0.8m Recovery: 0.41m 1m
Brown, medium SAND to fine GRAVEL with some medium gravel 2m 2.0m	1.8–2.4m: Bentonite	SS: 1.5m	BC: 18,12,11 @ 1.5m Recovery: 0.15m 2m
Brown, medium SAND to fine GRAVEL with some fine SAND and medium gravel 2.7m	2.4–4.6m: Filter Sand	SS: 2.3m	BC: 9,6,8 @ 2.3m Recovery: 0.30m
3m Brown, medium SAND to fine GRAVEL with zones of fine SAND 3.5m	3.0–4.6m: Slotted 50mm PVC Pipe	SS: 3.0m	BC: 3,7,9 @ 3.0m Recovery: 0.41m 3m
4m Grey, fine to medium SAND and SILT with some coarse gravel 4.3m		SS: 3.8m	BC: 4,2,10 @ 3.8m Recovery: 0.20m 4m
Grey, medium to coarse SAND with fine gravel and some silt and clay with zone of grey SILT 5m and CLAY with some fine sand 5.0m		SS: 4.6m	BC: 6,8,13 @ 4.6m Recovery: 0.10m 5m

END OF BOREHOLE

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 19, 1991
Date Finished: December 19, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH32
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.65m above ground

Lithology	Completed Construction	Sample	Comments
0m			0m
Rusty brown, fine SAND with silt and fine gravel 0.6m	50mm ID PVC Pipe	GS: 0.3m	
1m Brown, fine to medium SAND with fine to medium GRAVEL and some coarse gravel 1.2m		SS: 0.8m	BC: 12,18,19 @ 0.8m Recovery: 0.36m 1m
Brown, medium to coarse SAND with fine to medium gravel and zone of dark brown fine to medium SAND with fine gravel 2m 2.0m	WL: 1.6m 1.8–2.4m: Bentonite	SS: 1.5m	BC: 6,9,12 @ 1.5m Recovery: 0.18m 2m
Grey, fine to medium GRAVEL with medium sand 2.7m	2.4–4.6m: Filter Sand	SS: 2.3m	BC: 1,1,1 @ 2.3m Recovery: 0.03m
3m Brown grey, fine to medium SAND with fine to medium gravel and zone of fine SAND and SILT 3.5m	3.0–4.6m: Slotted 50mm PVC Pipe	SS: 3.0m	BC: 0,0,1 @ 3.0m Recovery: 0.20m 3m
Grey, fine SAND with silt and medium sand and 4m some fine gravel 4.3m		SS: 3.8m	BC: 1,7,5 @ 3.8m Recovery: 0.20m 4m
Grey, uniform, fine SAND with medium sand and some fine gravel and silt 5m 5.0m		SS: 4.6m	BC: 0,0,0 @ 4.6m Recovery: 0.08m 5m
Grey, uniform, fine to medium SAND with some silt 5.8m		SS: 5.3m	BC: 1,3,1 @ 5.3m Recovery: 0.15m

END OF BOREHOLE

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 19, 1991
Date Finished: December 19, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH33
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.80m above ground

Lithology	Completed Construction	Sample	Comments
0m Dark brown to black, fine to medium SAND with fine gravel; odourless 0.6m	50mm ID PVC Pipe	GS: 0.3m	0m
1m Black with zones of brown and rusty brown, fine to medium SAND with fine gravel and some medium gravel 1.2m		SS: 0.8m	BC: 4,4,5 @ 0.8m Recovery: 0.28m 1m
Grey, medium SAND to fine GRAVEL with medium gravel and zone of brown SILT and fine SAND 2m 2.0m	WL: 1.4m 1.5–2.1m: Bentonite	SS: 1.5m	BC: 6,6,7 @ 1.5m Recovery: 0.23m 2m
Grey brown, coarse SAND to medium GRAVEL with metal debris 3m 3.5m	2.1–4.0m: Filter Sand 2.4–4.0m: Slotted 50mm PVC Pipe	SS: 2.3m SS: 3.0m	BC: 6,7,7 @ 2.3m Recovery: 0.03m 3m BC: 4,1,1 @ 3.0m Recovery: 0m
4m Grey, medium to coarse SAND with zone of SILT and fine SAND 4.3m		SS: 3.8m	BC: 0,0,1 @ 3.8m Recovery: 0.08m 4m
Grey, uniform, fine SAND with silt and occassional medium gravel with bottom zone of 5m CLAY and SILT 5.0m		SS: 4.6m	BC: 5,1,1 @ 4.6m Recovery: 0.10m 5m

END OF BOREHOLE

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 19, 1991
Date Finished: December 19, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH34
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.60m above ground

Lithology	Completed Construction	Sample	Comments
0m			0m
Brown, fine to medium SAND with fine gravel 0.5m	50m ID PVC Pipe	GS: 0.6m	
Black CLAY, SILT and fine SAND 0.6m			
1m Brown, fine SAND with some silt and fine gravel with zones of SILT 1.2m		SS: 0.8m	BC: 4,6,9 @ 0.8m Recovery: 0.38m 1m
Brown, fine SAND with silt and zones of dense SILT 2m 2.0m	WL: 1.93m	SS: 1.5m	BC: 4,5,7 @ 1.5m Recovery: 0.25m 2m
Brown, fine to medium SAND with fine gravel and zones of SILT and CLAY 2.7m		SS: 2.3m	BC: 1,7,5 @ 2.3m Recovery: 0.43m
3m Brown, fine to medium SAND with fine gravel and some medium gravel 3.5m		SS: 3.0m	BC: 3,5,6 @ 3.0m Recovery: 0.36m 3m
Black, fine to medium SAND with fine gravel 4m and wood with zone of brown, fine to medium SAND; slight organic smell 4.3m	4.0–4.6m: Bentonite	SS: 3.8m	BC: 2,3,5 @ 3.8m Recovery: 0.20m 4m
Black, fine to medium SAND with fine gravel and wood; slight organic smell 5m 6m 6.0m	4.6–6.1m: Filter Sand 4.8–6.1m: Slotted 50mm PVC Pipe	SS: 4.6m	BC: 4,2,2 @ 4.6m Recovery: 0.20m 5m 6m
Grey brown, SILT and CLAY 6.6m		SS: 6.1m	BC: 6,1,3 @ 6.1m Recovery: 0.56m

END OF BOREHOLE

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 19, 1991
Date Finished: December 19, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH35
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.45m above ground

Lithology	Completed Construction	Sample	Comments
0m			0m
Brown, fine to medium SAND with fine gravel and silt 0.6m	50mm ID PVC Pipe	GS: 0.3m	
Brown, fine to medium SAND with fine gravel and zones of dense, brown SILT and CLAY and fine SAND 2.0m (1m, 2m)	WL: 1.3m	SS: 0.8m	BC: 3,4,5 @ 0.8m Recovery: 0.30m (1m)
		SS: 1.5m	BC: 2,4,5 @ 1.5m Recovery: 0.15m (2m)
Brown, medium SAND with fine gravel 2.7m		SS: 2.3m	BC: 1,1,2 @ 2.3m Recovery: 0.03m
Brown, fine to medium SAND with coarse sand 3.5m (3m)		SS: 3.0m	BC: 1,0,0 @ 3.0m Recovery: 0.25m (3m)
Grey, uniform, fine to medium SAND 5.8m (4m, 5m)	3.4–4.0m: Bentonite 4.0–5.8m: Filter Sand 4.3–5.8m: Slotted 50mm PVC Pipe	SS: 3.8m	BC: 1,3,4 @ 3.8m Recovery: 0.18m (4m)
		SS: 4.6m	BC: 4,3,3 @ 4.6m Recovery: 0m (5m)
6m			6m
Blue green, very dense, SILT to medium SAND with fine gravel and bottom zone of brown SILT and CLAY 6.6m		SS: 6.1m	BC: 21,28,16 @ 6.1m Recovery: 0.38m

END OF BOREHOLE

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 20, 1991
Date Finished: December 20, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH36
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.0m above ground

Lithology	Completed Construction	Sample	Comments
0m Dark brown, medium SAND to coarse GRAVEL 1m 1.2m	50mm ID PVC Pipe	GS: 0.3m SS: 0.8m	0m BC: 16,9,9 @ 0.8m Recovery: 0m 1m
Brown, fine to medium SAND with fine gravel 2m 2.0m	1.2–1.8m: Bentonite 1.8–3.7m: Filter Sand	SS: 1.5m	BC: 4,7,7 @ 1.5m Recovery: 0.20m 2m
Grey, fine to medium SAND with fine gravel and bottom zone of fine SAND with medium sand; slight oil smell 2.7m	2.1–3.7m: Slotted 50mm PVC Pipe	SS: 2.3m	BC: 5,7,6 @ 2.3m Recovery: 0.25m
3m Grey, fine to medium SAND with zone of SILT and CLAY; slight oil smell 3.5m		SS: 3.0m	3m BC: 1,2,1 @ 3.0m Recovery: 0.05m
Grey, fine SAND and SILT with medium sand 4m and fine gravel; odourless 4.3m		SS: 3.8m	BC: 3,2,1 @ 3.8m Recovery: 0.38m 4m
Grey, dense, SILT to medium SAND with fine gravel; slight oil smell 5m 5.0m		SS: 4.6m	BC: 5,6,8 @ 4.6m Recovery: 0.46m 5m

END OF BOREHOLE

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 20, 1991
Date Finished: December 20, 1991

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HYDROGEOLOGIC LOG

DRILLHOLE No.: TH37
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.0m above ground

Lithology	Completed Construction	Sample	Comments
0m Brown with upper black zone, fine to medium SAND with fine gravel and silt 0.6m	50mm ID PVC Pipe	GS: 0.3m	0m
1m Brown, fine to medium SAND with fine to medium gravel with upper zone of black, medium to coarse SAND with fine gravel 1.2m		SS: 0.8m	BC: 8,5,5 @ 0.8m Recovery: 0.33m 1m
Brown, fine to medium SAND with fine gravel 2m 2.0m	1.5–2.1m: Bentonite	SS: 1.5m	BC: 8,5,6 @ 1.5m Recovery: 0.23m 2m
Brown, fine to medium SAND with fine gravel and zone of SILT and CLAY 2.7m	2.1–4.0m: Filter Sand 2.4–4.0m: Slotted 50mm PVC Pipe	SS: 2.3m	BC: 2,5,10 @ 2.3m Recovery: 0.23m
3m Grey, fine to medium SAND with fine gravel and upper zone of brown, fine to medium SAND with fine gravel 3.5m		SS: 3.0m	BC: 4,3,3 @ 3.0m Recovery: 0.25m 3m
Grey, very dense, fine SAND, SILT and CLAY 4m with fine gravel 4.3m		SS: 3.8m	BC: 17,24,18 @ 3.8m Recovery: 0.30m 4m
END OF BOREHOLE			

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 20, 1991
Date Finished: December 20, 1991

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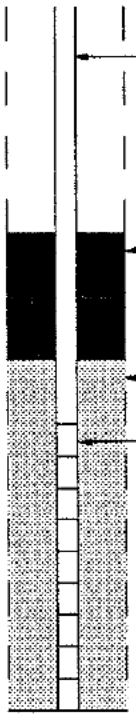
HYDROGEOLOGIC LOG

DRILLHOLE No.: TH38
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.0m above ground

Lithology	Completed Construction	Sample	Comments
0m Dark brown, medium SAND with some fine to medium gravel and organics 0.6m		GS: 0.3m	0m
1m Brown, fine to medium SAND with some fine gravel 1.2m		SS: 0.8m	BC: 5,6,8 @ 0.8m Recovery: 0.15m 1m
Grey to black brown fine to coarse SAND with some silt, wood and debris; slight smell 2m 2.0m		SS: 1.5m	BC: 3,4,6 @ 1.5m Recovery: 0.18m 2m
Black to dark brown, medium SAND with some medium to coarse gravel and wood 2.7m		SS: 2.3m	BC: 7,>50 @ 2.3m Recovery: 0.05m
3m Black, medium to coarse SAND; strong oil smell 3.5m		SS: 3.0m	BC: 1,1,>50 @ 3.0m Recovery: 0.20m 3m
Grey, fine to medium SAND with silt and some coarse gravel and wood 4m 4.3m		SS: 3.8m	BC: 7,3,3 @ 3.8m Recovery: 0.05m 4m
Grey SILT with fine gravel and zone of SILT and CLAY 5m 5.0m		SS: 4.6m	BC: 0,0,0 @ 4.6m Recovery: 0.46m 5m
END OF BOREHOLE			

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 23, 1991
Date Finished: December 23, 1991

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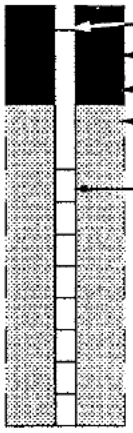
HYDROGEOLOGIC LOG

DRILLHOLE No.: TH39
Sheet 1 of 1

BURLINGTON NORTHERN RAIL YARD
Purpose of Well: MONITORING WELL
Type of Drilling: HOLLOW STEM AUGER
Reference Elevation: GROUND SURFACE

Top of Piezometer: 0.90m above ground

Lithology	Completed Construction	Sample	Comments
0m Black with upper brown zone, medium SAND with some fine to medium gravel and wood 0.6m		GS: 0.3m	0m
1m Black, medium SAND to fine GRAVEL with some coarse gravel and zone of grey SILT; very slight smell 1.2m		SS: 0.8m	BC: 0,4,7 @ 0.8m Recovery: 0.38m 1m
Black, fine to medium SAND with some medium gravel and zone of grey brown, fine to medium SAND with fine gravel and some coarse gravel 2m 2.0m		SS: 1.5m	BC: 1,3,4 @ 1.5m Recovery: 0.33m 2m
Brown, medium to coarse SAND with some silt and fine gravel 2.7m		SS: 2.3m	BC: 3,2,2 @ 2.3m Recovery: 0.13m
3m Grey brown, medium to coarse SAND with some fine gravel and silt		SS: 3.0m	BC: 1,4,12 @ 3.0m Recovery: 0.41m 3m
4m		SS: 3.8m	BC: 2,3,4 @ 3.8m Recovery: 0.20m 4m
5m 5.0m		SS: 4.6m	BC: 2,2,4 @ 4.6m Recovery: 0.10m 5m
Grey brown, medium to coarse SAND with some fine to medium gravel and zone of CLAY and SILT 5.8m		SS: 5.3m	BC: 1,4,1 @ 5.3m Recovery: 0.43m
6m END OF BOREHOLE			

LEGEND
SS: Split-Spoon Soil Sample
GS: Grab Sample
BC: Blow Counts
WL: Water level as depth below ground (December 23, 1991)

Contractor: SDS Drilling Ltd.
Date Started: December 23, 1991
Date Finished: December 23, 1991

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TABLE I
SUMMARY OF TEST HOLE INFORMATION AND WATER LEVELS

BOREHOLE NO.	COORDINATES	HOLE DEPTH (m)	BOTTOM OF SCREEN (m below ground)	SCREEN LENGTH (m)	STICK UP (m)	ELEVATION		FIELD TESTS				
						Ground (m-asl)	Top of Casing (m-asl)	Date	Depth to Water (m-BTOC)	Elev. of Water (m-asl)	pH	EC[1] (µS/cm)
TH23	E5	5.0	–	–	–	4.593	–	–				
TH24	C11	2.7	2.1	0.9	0.39	4.042	4.432	24-Dec-91	2.00	2.43		
								06-Jan-92	1.78	2.65		503
TH25	G3	6.6	6.1	1.5	0.61	3.985	4.592	24-Dec-91	2.35	2.24		
								04-Jan-92	2.15	2.44		
								06-Jan-92	2.14	2.45		195
TH26	G33	5.8	–	–	–	4.014	–	–	–	–	–	
TH27	F24	3.5	–	–	–	4.194	–	–	–	–	–	
TH28	D30	2.0	–	–	–	4.321	–	–	–	–	–	
TH29	H42	4.3	4.6	1.6	0.92	3.917	4.833	27-Dec-91	0.85	3.98		
								04-Jan-92	1.25	3.58		
								06-Jan-92	1.39	3.44	6.3	562
TH30	F38	6.6	6.1	1.5	0.68	4.176	4.856	27-Dec-91	0.96	3.90		
								03-Jan-92	0.83	4.03		
								07-Jan-92	0.89	3.97	6.2	444
TH31	I48	5.0	4.6	1.6	1.06	4.077	5.14	27-Dec-91	2.89	2.25		
								04-Jan-92	2.7	2.44		
								07-Jan-92	2.79	2.35		592
TH32	J16	5.8	4.6	1.6	0.72	4.216	4.94	27-Dec-91	2.24	2.70		
								31-Dec-91	2.04	2.90		
								07-Jan-92	2	2.94	6.2	361
TH33	I16	5.0	4.0	1.6	0.88	4.141	5.016	27-Dec-91	2.15	2.87		
								31-Dec-91	1.92	3.10		
								06-Jan-92	1.85	3.17		121
TH34	G14	6.6	6.1	1.3	0.81	3.77	4.583	24-Dec-91	2.51	2.07		
								04-Jan-92	2.41	2.17		
								06-Jan-92	2.4	2.18		587
TH35	E19	6.6	5.8	1.5	0.41	4.29	4.703	27-Dec-91	1.59	3.11		
								31-Dec-91	1.49	3.21		
								06-Jan-92	1.32	3.38		260
TH36	K60	5.0	3.7	1.6	0.06	3.897	3.956	02-Jan-92	0.73	3.23		
								07-Jan-92	0.91	3.05	8.6	1370
TH37	M66	4.3	4.0	1.6	0.00	4.004	4.004	02-Jan-92	1.65	2.35		
								07-Jan-92	1.8	2.20	6.2	180
TH38	P68	5.0	3.7	1.6	-0.02	4.243	4.225	02-Jan-92	2.15	2.07		
								08-Jan-92	2.1	2.12	6.7	897
TH39	H39	5.8	2.1	1.5	1.01	3.879	4.889	27-Dec-91	1.06	3.83		
								03-Jan-92	1.03	3.86		
								07-Jan-92	1.14	3.75	7.3	228

Note: 1. EC = Electrical Conductivity measured in lab

TABLE II
SUMMARY OF SEDIMENT SAMPLES COLLECTED DURING DECEMBER 1991 FIELD PROGRAM AND CHEMICAL ANALYSES PERFORMED

	BOREHOLE NO.	SAMPLE DEPTH	COORDINATES	SAMPLE DATE	SAMPLE DESCRIPTION	ASL SAMPLE ID
SHALLOW AUGER HOLES	EA1	1'	L16	20-Dec-91	lt-med brown m cobbly SAND, tr f sand, gravel, well sorted,	
	EA2	4'	L16	20-Dec-91	light brown cobbly m SAND, tr gravel, f.sand, damp	EA2
	EA3	1'	L35	20-Dec-91	brown m-c SAND, some f gravel, cobbles, ceramic shards, damp	EA3
	EA4	4'	L35	20-Dec-91	brown m-c SAND, some f gravel, cobbles, damp	EA4
	EA5	1'	L51	20-Dec-91	grey brown m SAND, some gravel, cobbles, damp	EA5
	EA6	4'	L51	20-Dec-91	black ORGANIC, some cobbles, faint chemical smell, peaty, plant frags	EA6
	EA7	COMP 1'-4'	L51	20-Dec-91	dk brown m SAND and COBBLES, some gravel, damp	
	JY1	1'	G38	20-Dec-91	black stain cobbly SAND and GRAVEL, wood scraps, nails, heavy chem smell	
	JY2	6'	G38	20-Dec-91	blk stain cobbly SAND and GRAVEL, wood scraps, heavy chem smell	
	JY3	COMP 1'-6'	H39	20-Dec-91	dk grey SAND and GRAVEL, some cobbles, wood pieces	
	JY4	COMP 1'-6'	L61	20-Dec-91	brown m-c SAND, some gravel, tr cobbles, upper 5 " blk stained	JY4
	JY5	COMP 1'-6'	P71	20-Dec-91	med brown c SAND, tr gravel, cobbles, damp	JY5
	JY6	COMP 1'-6'	N70	20-Dec-91	med brown SAND, many wood fragments, wet, auger failed 2X	JY6
	JY7	COMP 1'-6'	M67	20-Dec-91	med-dk brown f-m SAND, some gravel, tr. cobbles, greasy stain on glove	JY7
	JY8	1'	L64	20-Dec-91	grey f-m SAND, tr cobbles, oily odour, black stain on ground3	JY8
	JY9	6'	L64	20-Dec-91	grey f-m SAND, tr. cobbles, oily smelling	JY9
	JY10	COMP 1'-6'	L63	20-Dec-91	lt-med brown m-c SAND, some cobbles, no odour, 2-3- black stained lens	JY10
	NW1	1'	C3	20-Dec-91	brown SAND and COBBLE, oily appearance, no stain	
	NW2	COMP	D1	20-Dec-91	brown SILT and COBBLES, wood frags, screws, oily smell	NW2
	NW3	4'	C3	20-Dec-91	brown SAND and COBBLES, oily appearance, no stain	
	NW4	COMP	C4	20-Dec-91	brown SAND and GRAVEL, some cobbles, faint hy-carb odour	NW4
	NW5	COMP	C6	20-Dec-91	deep brown SAND and GRAVEL, damp	NW5/6 Comp.
	NW6	COMP	C7	20-Dec-91	grey brown SAND and GRAVEL, rounded 4" cobbles, damp	NW5/6 Comp.
	NW7	COMP	B9	20-Dec-91	med-grey brn m SAND, some gravel, tr. cobbles, faint acrid odour	
	NW8	COMP	C11	20-Dec-91	light brown SAND, no odour, refusal at 1.5'	
	NW9	COMP	C11	20-Dec-91	light brown SAND, tr.gravel, refusal at 1.5'	
	NW10	COMP	C11	20-Dec-91	med.brown SAND, tr. gravel, cobbles, refusal at 1.5'	
	NW11	COMP	C11	20-Dec-91	brown SAND and GRAVEL, tr. cobbles, moist	
	NW12	COMP	C14	20-Dec-91	brown m SAND, tr. f-m gravel, damp	
	SH1	1'	C14	20-Dec-91	brown m SAND, some gravel, tr. cobbles, dry	SH1/7/9 Comp.
	SH2	4'	C14	20-Dec-91	brown m SAND, some gravel, tr. cobbles, damp	SH2/8/11 Comp.
	SH3	1'	D15	20-Dec-91	brown f-m SAND, some gravel, cobbles, wood and root frags, damp	
	SH4	4'	D15	20-Dec-91	brown f-m SAND, some gravel, cobbles, wood and root frags, damp	
	SH5	1'	C16	20-Dec-91	brown m-c SAND, some gravel, damp	
	SH6	4'	C16	20-Dec-91	brown m-c SAND, some gravel, damp	
	SH7	1'	B16	20-Dec-91	grey f SAND, some cobbles, tr silt, wet, faint oily odour	SH1/7/9 Comp.
	SH8	4'	B16	20-Dec-91	grey f SAND, some cobbles, tr silt, wet, faint oily odour	SH2/8/11 Comp.
	SH9	1'	B17	20-Dec-91	grey sandy COBBLES, some silt, tr clay, wet, faint ash smell	SH1/7/9 Comp.
	SH10	4'	B17	20-Dec-91	grey sandy COBBLES, some silt, tr clay, faint ash smell	
	SH11	1'	B17	20-Dec-91	grey f-m SAND, pockets of silt, tr gravel	SH2/8/11 Comp.
	SH12	4'	B17	20-Dec-91	grey f-m SAND, pockets of silt, tr gravel	SH12/14/16 Comp.
	SH13	1'	B18	20-Dec-91	grey brown m SAND, some gravel, damp	SH11/13/15 Comp.
	SH14	4'	B18	20-Dec-91	grey brown m SAND, some gravel, damp	SH12/14/16 Comp.
	SH15	1'	B19	20-Dec-91	brown m SAND, tr gravel, cobbles, damp	SH11/13/15 Comp.
	SH16	4'	B19	20-Dec-91	grey f SAND, some silt, black grains, damp	SH12/14/16 Comp.
	SH17	1'	C19	20-Dec-91	grey brown SAND and GRAVEL, some cobbles, damp	SH17/21 Comp.
	SH18	4'	C19	20-Dec-91	grey brown SAND and GRAVEL, pockets of fine sand and silt, moist	SH18/23 Comp.
	SH19	1'	C19	20-Dec-91	brown m-c SAND, some gravel, cobbles, faint oil odour, damp	SH19
	SH20	4'	C19	20-Dec-91	brown m-c SAND, some gravel, cobbles, damp	SH20
	SH21	1'	C17	20-Dec-91	brown m SAND and GRAVEL, some cobbles, some organics, damp	SH17/21 Comp.
	SH23	4'	C17	20-Dec-91	brown m SAND and GRAVEL, some cobbles, organics, damp	SH18/23 Comp.
	SH24	COMP		20-Dec-91	brown m SAND and GRAVEL, tr cobbles, upper 2' blackened, damp	SH24
	TR1	1'	D1	20-Dec-91	brn-dk brn m SAND, some gravel, tr cobles	
	TR2	4'		20-Dec-91	brn-dk brn m SAND, some gravel, tr cobbles	
	TR3	COMP 1'-4'	G20	20-Dec-91	brown m SAND, some cobbles, tr gravel, wet	
	TR4	4'	G20	20-Dec-91	brown m SAND, some gravel, moist	
	TR5	COMP 1-2'	F25	20-Dec-91	blk-brn m SAND, some gravel, cobbles, oily appearance, no odour, damp	
	TR6	2'-4'	F25	20-Dec-91	brn m SAND, some gravel, cobbles, moist	
	TR7	1'	G32	20-Dec-91	grey f-m SAND, wood pieces, tr gravel, cobbles, dry	
	TR8	4'	G32	20-Dec-91	grey f-m SAND, wood pieces, tr gravel, cobbles, damp	
	TR9	1'	G39	20-Dec-91	blk stain m-c SAND and GRAVEL, some cobbles, metal strap, oily odour	
	TR10	4'	G39	20-Dec-91	blk stain m-c SAND and GRAVEL, some cobbles, oily smell	
	TR11	1'	I46	20-Dec-91	dark brn m SAND and GRAVEL, some cobbles, stone chips, damp	
	TR12	4'	I46	20-Dec-91	m-dk brown m SAND and GRAVEL, some cobbles, stone chips, moist	

TABLE ii
SUMMARY OF SEDIMENT SAMPLES COLLECTED DURING DECEMBER 1991 FIELD PROGRAM AND CHEMICAL ANALYSES PERFORMED

	BOREHOLE NO.	SAMPLE DEPTH	COORDINATES	SAMPLE DATE	SAMPLE DESCRIPTION	ASL SAMPLE ID
DRILLED BOREHOLES	TH23 10–11.	10–11.5	E5	17–Dec–91	grey f to m sand with some c sand, gravel	TH23/25 10–11.5' Comp.
	TH23 2.5–4'	2.5–4		17–Dec–91	m–c grey SAND with some gravel (FILL)	TH23/25 2.5–4' Comp.
	TH23 7.5–9'	7.5–9		17–Dec–91	grey and grey brown f–m SAND	TH23/25 7.5–9' 5–6.5'
	TH24 2.5–4'	2.5–4	C11	17–Dec–91	grey uniform f–m SAND, slight smell?	TH24 2.5–4'
	TH24 5–6.5'	5–6.5		17–Dec–91	m–c SAND with f gravel and zone of dk blk f–m SAND slight oil smell	TH24 5–6.5'
	TH24 7.5–9'	7.5–9		17–Dec–91	grey SILT f sand dense wood	TH24 7.5–9'
	TH25 2.5–4'	2.5–4	G3	17–Dec–91	grey brown f–m SAND with c sand (FILL)	TH23/25 2.5–4' Comp.
	TH25 5–6.5'	5–6.5		17–Dec–91	wet grey f–m SAND with c sand and f gravel some silt	TH23/25 7.5–9' 5–6.5'
	TH25 10–11.	10–11.5		17–Dec–91	grey wet f–m SAND	TH23/25 10–11.5' Comp.
	TH26 2.5–4'	2.5–4	G33	17–Dec–91	brown m–c SAND with f gravel some m gravel wet	TH26/29 2.5–4' Comp.
	TH26 5–6.5'	5–6.5		17–Dec–91	brown f–m SAND with c sand and zone of m SAND to f gravel	
	TH26 7.5–9'	7.5–9		17–Dec–91	brown wet f SAND with some c. gravel	
	TH26 10–11.	10–11.5		17–Dec–91	grey uniform f–m SAND; water sand	
	TH26 12.5–1	12.5–14		17–Dec–91	grey brown f to m SAND with f–m gravel	
	TH26 15–16.	15–16.5		17–Dec–91	grey f to c SAND with some gravel wet	
	TH26 17.5–1	17.5–19		17–Dec–91	grey f to m SAND wet no smell	
	TH27 2.5–4'	2.5–4	F24	18–Dec–91	native grey f–m SAND with some silt and zone of brown SILT and f SAND	TH27 2.5–4'
	TH27 5–6.5'	5–6.5		18–Dec–91	native brown SILT and f SAND with f gravel	TH27 5–6.5'
	TH27 7.5–9'	7.5–9		18–Dec–91	native grey green f SAND and SILT with f gravel	
	TH27 10–11.5	10–11.5		18–Dec–91	native grey green SILT CLAY and f SAND	TH27 10–11.5'
	TH28 1'	1	D30	18–Dec–91	black f SAND and SILT and m gravel	TH28 1'
	TH28 2.5–4'	2.5–4		18–Dec–91	light brown dense f SAND and SILT with some f gravel	
	TH28 5–6.5'	5–6.5		18–Dec–91	brown dense f SAND SILT and some m sand and f gravel	TH28/30 5–6.5' Comp.
	TH28 7.5–9'	7.5–9		18–Dec–91	brown dense f SAND and SILT with m sand	TH28/30 7.5–9' Comp.
	TH29 2.5–4'	2.5–4	H42	18–Dec–91	brown f–m GRAVEL with m sand and zone of dense f–m SAND SILT	TH26/29 2.5–4' Comp.
	TH29 5–6.5'	5–6.5		18–Dec–91	brown SILT f SAND with some f gravel and zone CLAY and SILT	TH29 5–6.5'
	TH29 10–11.	10–11.5		18–Dec–91	grey f–m SAND with silt	TH29 10–11.5'
	TH29 12.5–1	12.5–14		18–Dec–91	grey f–m SAND with some f gravel	
	TH30 1'	1	F38	18–Dec–91	black wet goopy fill, no smell	TH30 1'
	TH30 2.5–4'	2.5–4		18–Dec–91	brown f–c SAND with some m gravel	
	TH30 5–6.5'	5–6.5'		18–Dec–91	brown f–m SAND with m gravel	TH28/30 5–6.5' Comp.
	TH30 7.5–9'	7.5–9		18–Dec–91	grey f–m SAND with trace m gravel	TH28/30 7.5–9' Comp.
	TH30 10–11.	10–11.5		18–Dec–91	grey f–m SAND with trace m gravel and zone of brown SILT and f SAND	
	TH30 20–21.	20–21.5		18–Dec–91	grey uniform f–m SAND with zone of CLAY SILT and f SAND	
	TH31 1'	1	I48	19–Dec–91	brown f–m SAND with f gravel and zone of black gravel no smell	TH31/38 1' Comp.
	TH31 2.5–4'	2.5–4		19–Dec–91	brown m SAND to f GRAVEL with m gravel	
	TH31 5–6.5'	5–6.5		19–Dec–91	brown m SAND to f GRAVEL with some m gravel	
	TH31 7.5–9'	7.5–9		19–Dec–91	brown m SAND to f GRAVEL with some f sand and m gravel	TH31/38 7.5–9' Comp.
	TH31 10–11.	10–11.5		19–Dec–91	brown m SAND to f GRAVEL with zone of f SAND	
	TH31 12.5–1	12.5–14		19–Dec–91	grey f–m SAND and SILT with some c gravel	
	TH31 15–16.	15–16.5		19–Dec–91	grey m–c SAND with f gravel with zone of grey SILT and CLAY	TH31/38 15–16.5' Comp.
	TH32 1'	1	J16	19–Dec–91	rusty brown f SAND with silt and f gravel	TH32 1'
	TH32 2.5–4'	2.5–4		19–Dec–91	brown f–m SAND with f–m GRAVEL and some c gravel	
	TH32 5–6.5'	5–6.5		19–Dec–91	brown m–c SAND with f–m gravel	TH32 5–6.5'
	TH32 10–11.	10–11.5		19–Dec–91	brown grey f–m SAND with f–m gravel	TH32 10–11.5'
	TH32 12.5–1	12.5–14		19–Dec–91	grey f SAND with silt and m sand and some f gravel	
	TH32 15–16.	15–16.5		19–Dec–91	grey uniform f SAND with m sand	
	TH32 17.5–1	17.5–19		19–Dec–91	grey uniform f–m SAND with some silt	
	TH33 1'	1	I16	19–Dec–91	dark brown f–m SAND with f gravel	TH33 1'
	TH33 2.5–4'	2.5–4		19–Dec–91	black f–m SAND with f gravel and m gravel	
	TH33 5–6.5'	5–6.5		19–Dec–91	grey m SAND to f GRAVEL with m gravel and zone of SILT and f SAND	TH33 5–6.5'
	TH33 12.5–1	12.5–14		19–Dec–91	grey m–c SAND with zone of SILT and f SAND	TH33 12.5–14'
	TH33 15–16.	15–16.5		19–Dec–91	grey uniform f SAND with silt occ m gravel and zone of CLAY and SILT	
	TH34 1'	1	G14	19–Dec–91	brown f–m SAND with fine gravel	TH34 1'
	TH34 2.5–4'	2.5–4		19–Dec–91	brown f SAND with some silt and some fine gravel	TH34 2.5–4'
	TH34 5–6.5'	5–6.5		19–Dec–91	brown f SAND with silt and zone of SILT	
	TH34 7.5–9'	7.5–9		19–Dec–91	brown f–m SAND with f gravel and zone of SILT and CLAY	TH34 7.5–9'
	TH34 10–11.	10–11.5		19–Dec–91	brown f–m SAND with f gravel and some m gravel	
	TH34 12.5–1	12.5–14		19–Dec–91	black f–m SAND with f gravel and wood slight smell	
	TH34 15–16.	15–16.5		19–Dec–91	black f–m SAND with f gravel and wood some smell	TH34 15–16.5'
	TH34 20–21.	20–21.5		19–Dec–91	grey brown SILT CLAY and f SAND slight smell	

TABLE II
SUMMARY OF SEDIMENT SAMPLES COLLECTED DURING DECEMBER 1991 FIELD PROGRAM AND CHEMICAL ANALYSES PERFORMED

	BOREHOLE NO.	SAMPLE DEPTH	COORDINATES	SAMPLE DATE	SAMPLE DESCRIPTION	ASL SAMPLE ID
DRILLED BOREHOLES	TH35 1'	1	E19	20-Dec-91	brown f-m SAND with f gravel and silt	TH35 1'
	TH35 2.5-4'	2.5-4		20-Dec-91	brown f-m SAND with f gravel and zone of brown SILT and CLAY	
	TH35 5-6.5'	5-6.5		20-Dec-91	brown f-m SAND with f gravel and zone of SILT and CLAY	TH35 5-6.5'
	TH35 7.5-9'	7.5-9		20-Dec-91	brown m SAND with f gravel	
	TH35 10-11.	10-11.5		20-Dec-91	brown f-m SAND with c sand	TH35 10-11.5'
	TH35 12.5-1	12.5-14		20-Dec-91	grey uniform f-m SAND with c sand	
	TH35 20-21.	20-21.5		20-Dec-91	blue green very dense SILT to m SAND with f gravel	
	TH36 1'	1	K60	20-Dec-91	dark brown m SAND to c GRAVEL	TH31/36 1' Comp.
	TH36 5-6.5'	5-6.5		20-Dec-91	brown f-m SAND with f gravel	
	TH36 7.5-9'	7.5-9		20-Dec-91	grey f-m SAND with f gravel slight oil smell	TH31/36 7.5-9' Comp.
	TH36 10-11.	10-11.5		20-Dec-91	grey f-m SAND with zone SILT and CLAY slight oil smell	
	TH36 12.5-1	12.5-14		20-Dec-91	grey f SAND and SILT with m sand and f gravel	
	TH36 15-16.	15-16.5		20-Dec-91	grey dense SILT to m SAND with f gravel slight oil smell	TH31/36 15-16.5' Comp.
	TH37 1'	1	M66	20-Dec-91	brown f-m SAND with f gravel and silt	TH37 1'
	TH37 2.5-4'	2.5-4		20-Dec-91	brown f-m SAND with f-m gravel with zone of black m-c SAND	TH37 2.5-4'
	TH37 5-6.5'	5-6.5		20-Dec-91	brown f-m SAND with f gravel	
	TH37 7.5-9'	7.5-9		20-Dec-91	brown f-m SAND with f gravel and zone of SILT and CLAY	TH37 7.5-9'
	TH37 10-11.	10-11.5		20-Dec-91	grey f-m SAND with f gravel	TH37 10-11.5'
	TH37 12.5-1	12.5-14		20-Dec-91	grey very dense f SAND SILT and CLAY with f gravel	
	TH38-1'	1	P68	23-Dec-91	dark brown m SAND with some f-m gravel and organics	
	TH38-2.5'	2.5-4		23-Dec-91	brown f-m SAND with some f gravel	TH38 2.5'
	TH38-5'	5-6.5		23-Dec-91	grey f-c SAND with some silt wood and debris slight smell	TH38 5'
	TH38-7.5'	7.5-9		23-Dec-91	black to dark brown m SAND with some m-c gravel and wood	TH38 7.5'
	TH38-10'	10-11.5		23-Dec-91	black m-c SAND strong oil smell	TH38 10'
	TH38-12.5'	12.5-14		23-Dec-91	grey f-m SAND with silt and some c gravel and wood	TH38 12.5'
	TH38-15'	15-16.5'		23-Dec-91	grey SILT with f gravel and zone of SILT and CLAY	
	TH39-1'	1	H39	23-Dec-91	black m SAND with f-m gravel	TH39 0'
	TH39-2.5'	2.5-4		23-Dec-91	black m SAND to f GRAVEL and some c gravel with zone of SILT	
	TH39-5'	5-6.5		23-Dec-91	black f-m SAND with some m gravel	
	TH39-7.5'	7.5-9		23-Dec-91	brown m-c SAND with some f gravel and silt	
	TH39-10'	10-11.5		23-Dec-91	grey brown m-c SAND with some f gravel and silt	TH39 10'
	TH39-12.5'	12.5-14		23-Dec-91	grey brown m-c SAND with some f gravel and silt	
	TH39-15'	15-16.5		23-Dec-91	grey brown m-c SAND with some f gravel and silt	TH39 15'
	TH39-17.5'	17.5-19		23-Dec-91	grey brown m-c SAND with some f-m gravel and zone of CLAY and SILT	

PROJECT: 932-1820

LOCATION: IBI/METALS/STATION STREET

SAMPLER HAMMER,63kg; DROP,760mm

RECORD OF BOREHOLE BH-1

BORING DATE: DEC. 13, 1993

SHEET 1 OF 1

DATUM: G.S.

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat.V - + Q - ●; rem.V - ⊕ U - O) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT, PERCENT (Wp ⊢—○W—⊣ Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface									
0	SONIC DRILLING LTD. SONIC	Moist, loose, brown SAND and GRAVEL.		0.00	1	CS					
		Moist, loose, brown, silty SAND, some organics and dark brown staining.		0.30	2	CS					
1		Damp, loose, light brown, fine to medium SAND.		0.90	3	CS					
					4	CS					
2		Moist, compact, brown SAND, some organics and debris. (nails)		2.13	5	CS					
					6	CS					
3		Black, sandy SILT, stained with wood shavings.		3.05	7	CS					
					8	CS					
4		Damp, compact, grey, clayey SILT, trace dark grey stain.		3.81	9	CS					
		Damp, loose, brown, medium to coarse SAND.		4.27	10	CS					
5					11	CS					
		Damp, compact to dense, brown, silty fine SAND and SILT.		5.49	12	CS					
6					13	CS					
		Compact, grey, fine, silty SAND, trace gravel.		6.40	14	CS					
7											
					15	CS					
8											
9		End of Borehole		6.84							
10											

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1820

RECORD OF BOREHOLE BH-2

SHEET 1 OF 1

LOCATION: IBI/METALS/STATION STREET

BORING DATE: DEC. 13, 1993

DATUM: G.S.

SAMPLER HAMMER,63kg; DROP,760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE – DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES – NUMBER	TYPE	BLOWS/0.3m
		Ground Surface					
0	SONIC DRILLING LTD. SONIC	Moist, loose, brown SAND with gravel, some silt, trace black orange staining.		0.00	1	CS	
					2	CS	
1		Moist, loose, grey, fine to medium SAND, some silt and gravel.		0.90	3	CS	
2					4	CS	
		Dark brown, medium to coarse SAND, some woodwaste.		2.44	5	CS	
3		Grey/brown medium to coarse SAND, some gravel.		3.05	6	CS	
4					7	CS	
		Grey, silty, fine SAND, some orange weathering.		4.27			
		Compact to dense, light brown fine SAND and SILT.		4.57	8	CS	
5							
6					9	CS	
7		Compact to dense, grey, fine, silty SAND, trace gravel, rock.		7.01	10	CS	
8		End of Borehole		8.08			
9							
10							

DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m: 20 40 60 80

SHEAR STRENGTH Cu, kPa: nat.V - + Q - ● rem.V - ⊕ U - O; 20 40 60 80

HYDRAULIC CONDUCTIVITY, k, cm/s

WATER CONTENT, PERCENT: Wp ⊢—O W—⊣ Wl; 10 20 30 40

ADDITIONAL LAB. TESTING

PIEZOMETER OR STANDPIPE INSTALLATION

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1820

LOCATION: IBI/METALS/STATION STREET

SAMPLER HAMMER,63kg; DROP,760mm

RECORD OF BOREHOLE BH-3

BORING DATE: DEC. 13, 1993

SHEET 1 OF 1

DATUM: G.S

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (20 40 60 80) nat.V - + Q - ● rem.V - ⊕ U - O	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT Wp ⊢—○W—⊣ Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface											
0	SONIC DRILLING LTD. SONIC	Loose, brown, silty SAND and GRAVEL.		0.00	1	CS							
		Black SAND, some silt and red brick.		0.61	2	CS							
1		Brown sandy SILT.		0.91	3	CS							
		Compact, grey-green SILT and fine SAND. Sa. 5 - some black staining and woodwaste.		1.22	4	CS							
2					5	CS							
3		Compact, black stained SILT and SAND, trace woodwaste and oily sheen. Moderate odour.		2.44	6	CS							
					7	CS							
4		Compact, grey-green SILT, some black stain.		3.66	8	CS							
		Compact to dense, grey-green, silty fine SAND.		4.27	9	CS							
5													
		End of Borehole		5.49									
6													
7													
8													
9													
10													

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

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RECORD OF BOREHOLE BH-4

PROJECT: 932-1820
LOCATION: IBI/METALS/STATION STREET
SAMPLER HAMMER,63kg; DROP,760mm

BORING DATE: DEC. 13, 1993

SHEET 1 OF 1
DATUM: G.S.
PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (20 40 60 80) nat.V - + Q - ● rem.V - ⊕ U - O	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT, PERCENT Wp ⊢—○W—⊣ Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface									
0	SONIC DRILLING LTD. SONIC	Loose, brown SAND and GRAVEL.		0.00	1	CS					
		Black stain SAND, some gravel.		0.61	2	CS					
1		Grey, silty, fine SAND, some brown staining.		0.91	3	CS					
2					4	CS					
3		Black stained, sandy SILT with small wood shavings.		2.44	5	CS					
					6	CS					
4		Compact grey SILT.		3.96	7	CS					
		Compact, light brown, silty, fine SAND.		4.27	8	CS					
5											
		End of Borehole		5.49							
6											
7											
8											
9											
10											

DATA INPUT: BAD - DEC. '93

DEPTH SCALE
1 to 50

Golder Associates

LOGGED: R.P.
CHECKED: G.H.

PROJECT: 932-1820

RECORD OF BOREHOLE BH-5

SHEET 1 OF 1

LOCATION: IBI/METALS/STATION STREET

BORING DATE: DEC. 13, 1993

DATUM: G.S.

SAMPLER HAMMER,63kg; DROP,760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat.V - + Q - ●; rem.V - ⊕ U - O; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT (Wp — W — Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	SONIC DRILLING LTD. SONIC	Ground Surface		0.00									
		Moist, loose, brown SAND and GRAVEL.			1	CS							
1		Moist, compact, black, silty SAND, some gravel, trace red brick.		0.61	2	CS							
		Compact, grey, clayey SILT, some light grey staining. Moderate odour.		1.22	3	CS							
2		Black stained WOODWASTE with silt and sand.		1.83	4	CS							
		Loose, light brown, medium SAND.		2.29	5	CS							
		Black SILT, some wood shavings.		2.74	6	CS							
3		Compact, grey, fine, silty SAND.		3.05	7	CS							
4					8	CS							
5		End of Borehole		5.49									
6													
7													
8													
9													
10													

DATA INPUT: BAD - DEC '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1820

LOCATION: IBI/METALS/STATION STREET

SAMPLER HAMMER,63kg; DROP,760mm

RECORD OF BOREHOLE BH-6

BORING DATE: DEC. 13, 1993

SHEET 1 OF 1

DATUM: G.S.

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (20 40 60 80) nat.V - + Q - ● rem.V - ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT Wp ⊢—○W—⊣ Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface		0.00									
0	SONIC DRILLING LTD. SONIC	Loose, grey/brown SAND and GRAVEL. Sa. 5: Black stain.			1	CS							
1					2	CS							
		Grey, sandy SILT, patches of dark staining.		1.22	3	CS							
2		Dark brown, fine to medium SAND.		1.83	4	CS							
3					5	CS							
4					6	CS							
		Rock		4.42									
5		End of Borehole		4.88									
6													
7													
8													
9													
10													

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1820

RECORD OF BOREHOLE BH-7

SHEET 1 OF 1

LOCATION: IBI/METALS/STATION STREET

BORING DATE: DEC. 14, 1993

DATUM: G.S.

SAMPLER HAMMER,63kg; DROP,760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (20 40 60 80) natV - + Q - ● rem.V - ⊕ U - O	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT Wp — W — Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface											
0	SONIC DRILLING LTD. SONIC	Loose, grey/brown SAND and GRAVEL		0.00	1	CS							
1		Compact, grey, sandy SILT, some clay. Sa. 3: Some brown staining and organics.		0.91	2	CS							
2					3	CS							
		Grey SILT, some clay.		2.44	4	CS							
3		Brown, fine to medium SAND.		3.05	5	CS							
4													
		Dark brown SAND, some organics.		4.57	6	CS							
5													
		End of Borehole		5.79									
6													
7													
8													
9													
10													

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1620

RECORD OF BOREHOLE BH-8

SHEET 1 OF 1

LOCATION: IBI/METALS/STATION STREET

BORING DATE: DEC. 14, 1993

DATUM: G.S.

SAMPLER HAMMER, 63kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat.V - + Q - ●; rem.V - ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT Wp — W — Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface											
0	SONIC DRILLING LTD. SONIC	Loose, brown, silty SAND and GRAVEL. Sa. 2: Dark grey staining.		0.00	1	CS							
					2	CS							
1		Loose, grey, medium SAND.		0.76	3	CS							
2													
		Brown, sandy SILT with organics.		2.13	4	CS							
3					5	CS							
		Wet, black-stained SILT with fine SAND and WOOD SHAVINGS.		3.66	6	CS							
4					7	CS							
					8	CS							
5		Compact, grey, fine, silty SAND.		4.68	9	CS							
		End of Borehole		5.49									
6													
7													
8													
9													
10													

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1820

RECORD OF BOREHOLE BH-9

SHEET 1 OF 1

LOCATION: IBI/METALS/STATION STREET

BORING DATE: DEC. 14, 1993

DATUM: G.S.

SAMPLER HAMMER,63kg; DROP,760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat.V - + Q - ●; rem.V - ⊕ U - O; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT (Wp ⊢—O W—⊣ Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface											
0	SONIC DRILLING LTD. SONIC	Loose, dark grey to black-stained SAND and GRAVEL, some organics.		0.00	1	CS							
		Loose, grey, medium SAND, trace gravel.		0.61	2	CS							
1													
2					3	CS							
3					4	CS							
4													
		Black WOOD SHAVINGS, some silty sand.		4.57	5	CS							
5		Brown WOOD SHAVINGS, no soil.		4.87	6	CS							
		Compact, grey SILT, some clay and fine sand.		5.33	7	CS							
		End of Borehole		5.79									
6													
7													
8													
9													
10													

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1820

RECORD OF BOREHOLE BH-10

SHEET 1 OF 1

LOCATION: IBI/METALS/STATION STREET

BORING DATE: DEC. 14, 1993

DATUM: G.S.

SAMPLER HAMMER 63kg; DROP 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20, 40, 60, 80)	SHEAR STRENGTH Cu, kPa (nat.V - +, rem.V - ⊕; Q - ●, U - O) (20, 40, 60, 80)	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT (Wp, W, Wl) (10, 20, 30, 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface											
0	SONIC DRILLING LTD. SONIC	Loose, grey SAND, some gravel.		0.00	1	CS							
1													
2					2	CS							
3													
4													
5					3	CS							
		Brown WOOD SHAVINGS, no soil.		5.49	4	CS							
6		Compact, grey SILT and CLAY.		6.40	5	CS							
7		Compact, grey, silty, fine SAND, some loose coarse sand pockets.		7.01	6	CS							
8													
9													
		End of Borehole		9.45									
10													

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

LOGGED: R.P.

CHECKED: G.H.

Golder Associates

PROJECT: 932-1820

LOCATION: IBI/METALS/STATION STREET

SAMPLER HAMMER,63kg; DROP,760mm

RECORD OF BOREHOLE BH-11

BORING DATE: DEC. 14, 1993

SHEET 1 OF 1

DATUM: G.S.

PENETRATION TEST HAMMER, 63.5kg; DROP,760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (20 40 60 80) nat.V - + Q - ● rem.V - ⊕ U - O	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT, PERCENT Wp ⊢—O W—⊣ Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface									
0	SONIC DRILLING LTD. SONIC	Loose, grey/brown SAND and GRAVEL.		0.00	1	CS					
		Black-stained SAND and GRAVEL, some wood, metal and slag.		0.61	2	CS					
1		Grey/brown, fine to medium SAND, some clay and silt.		1.07	3	CS					
2					4	CS					
3		Brown WOOD SHAVINGS, no soil.		3.05	5	CS					
4		Dense, grey-green, silty CLAY.		4.27	6	CS					
5		End of Borehole		5.49							
6											
7											
8											
9											
10											

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

PROJECT: 932-1820

LOCATION: IBI/METALS/STATION STREET

SAMPLER HAMMER,63kg; DROP,760mm

RECORD OF BOREHOLE BH-12

BORING DATE: DEC. 14, 1993

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

SHEET 1 OF 1

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (20 40 60 80) nat.V - + Q - ● rem.V - ⊕ U - O	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT, PERCENT Wp ⊢—O—⊣ Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	SONIC DRILLING LTD. SONIC	Ground Surface									
		Loose, brown/grey SAND and GRAVEL		0.00	1	CS					
1		Wet, dark grey to black, sandy SILT with organic woodwaste, trace red brick.		0.61	2	CS					
					3	CS					
2		Loose, grey, sandy SILT, some brown weathering.		1.83	4	CS					
3		Compact, grey/brown, sandy SILT, some pockets of pebbles.		2.44	5	CS					
4											
5					6	CS					
6		Dense, grey-green, clayey SILT, some fine sand.		6.10							
7		End of Borehole		7.01							
8											
9											
10											

DATA INPUT: BAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

RECORD OF BOREHOLE BH-13

PROJECT: 932-1820
LOCATION: IBI/METALS/STATION STREET
SAMPLER HAMMER,63kg; DROP,760mm

BORING DATE: DEC. 14, 1993

SHEET 1 OF 1
DATUM: G.S.
PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE – DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES – NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V · + Q · ● rem V · ⊕ U · ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT, PERCENT (Wp ⊢—○ W —⊣ Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface									
0	SONIC DRILLING LTD. SONIC	Loose, grey/brown SAND and GRAVEL. Sa. 2: Some black staining.		0.00	1	CS					
					2	CS					
1		Damp, grey, medium to coarse SAND, trace gravel.		0.76	3	CS					
					4	CS					
2		Dark brown, sandy SILT, some wood.		2.13	5	CS					
		Grey-green, sandy SILT.		2.43	6	CS					
3		WOOD SHAVINGS with some black staining and patches of soil. Sa. 8: Some slag and metal debris.		3.05	7	CS					
4					8	CS					
5					9	CS					
		Grey SAND, some pebbles.		5.49	10	CS					
6		Dense, grey-green, clayey SILT, some fine sand.		6.10							
7		End of Borehole		7.32							
8											
9											
10											

DATA INPUT: BAD - DEC. '93

DEPTH SCALE
1 to 50

Golder Associates

LOGGED: R.P.
CHECKED: G.H.

PROJECT: 932-1820

LOCATION: IBI/METALS/STATION STREET

SAMPLER HAMMER,63kg; DROP,760mm

RECORD OF BOREHOLE BH-14

BORING DATE: DEC. 14, 1993

SHEET 1 OF 1

DATUM: G.S.

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (20 40 60 80) nat.V - + Q - ● rem.V - ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT Wp ⊢—○W—⊣ Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface											
0	SONIC DRILLING LTD. SONIC	Loose, brown, coarse SAND and GRAVEL		0.00	1	CS							
		Dark grey stained SAND and GRAVEL		0.61	2	CS							
1		Light brown, medium SAND.		1.22	3	CS							
2		Grey, silty, fine SAND, some clay and silt.		2.13	4	CS							
3		Stiff, grey CLAY, some silt and sand. Sa. 6: Some black wood (large pieces)		3.05	5	CS							
4					6	CS							
5		Dense, grey-green, silty CLAY, some brown weathering.		4.57	7	CS							
		End of Borehole		5.49									
6													
7													
8													
9													
10													

DATA INPUT: SAD - DEC. '93

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: R.P.

CHECKED: G.H.

RECORD OF BOREHOLE HY-MW98-1

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 22,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20 40 60 80) / WATER CONTENT, PERCENT (Wp W Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Mail Technologies, Hollow Stem Auger	Compact, moist, dark brown, fine to medium SAND, some gravel, some glass, wood debris, no stain, no odour. (FILL).		0.00	1	AS				Cement Grout; Sand; Bentonite Seal
1					2	AS				
2		Compact, moist to wet, grey, sandy SILT, some black stain, trace organics, no odour. (FILL).		1.82	3	AS				Sand
3					4	AS				
		Compact, wet, grey, coarse SAND, trace silt, some gravel, no stain, no odour. (Native ?)		3.04	5	DO				
4		Dense, wet, tan, silty SAND, some orange mottling, no stain, no odour. (Native).		3.98	6	DO				
		End of Borehole.		4.26						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-MW98-2

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 22, 1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20, 40, 60, 80) / WATER CONTENT, PERCENT (Wp, W, Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	M5T Mact Technologies, Hollow Stem Auger	Loose grading to compact, moist grading to wet, dark brown, fine to medium SAND, some wood, glass, charcoal debris, some black staining, no odour. (FILL).		0.00	1	AS				Cement Grout; Sand; Bentonite Seal
1					2	AS				
2					3	AS				Sand
		Dense, wet, grey, changing to light brown, silty SAND, some orange mottling, no stain, no odour. (Native).		2.28	4	AS				
3					5	DO				Slough
4		End of Borehole.		3.96						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-MW98-3

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23, 1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20, 40, 60, 80) / WATER CONTENT, PERCENT (Wp, W, Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Mail Technologies, Hollow Stem Auger	Loose, moist, dark grey and brown, mottled, fine to medium SAND, some gravel, some black stain, trace brick, no odour. (FILL).		0.00	1	AS				Cement Grout; Sand; Bentonite Seal
1		Compact, wet, dark brown, silty SAND, trace organics, no stain, no odour. (FILL).		1.06	2	AS				Sand
2		Dense, wet, light brown and mottled orange SILT, no stain, no odour. (Native).		1.67	3	AS				
		Dense, wet, grey brown, silty SAND, no stain, no odour. (Native).		2.28	4	AS				Slough
3		End of Borehole.		3.04						
4										
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-4

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 22, 1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20, 40, 60, 80) / WATER CONTENT, PERCENT (Wp, W, Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	M5T Mast Technologies, Solid Stem Auger	Dense, grading to compact, moist grading to wet, dark brown, fine to medium SAND, some wood, charcoal, glass debris, no odour. (FILL).		0.00	1	AS				
1					2	AS				
2					3	AS				
		Compact, wet, dark brown, sandy SILT, some wood debris, slight sulfur odour. (FILL).		2.43	4	AS				
3		Hogfuel. (FILL).		3.35	5	AS				
4		Dense, wet, grey, silty SAND, trace wood debris, no stain, no odour.		3.65	6	DO				
		End of Borehole.		4.26						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-5

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 22,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm - 20 40 60 80 / WATER CONTENT, PERCENT Wp W Wl	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Mail Technologies Solid Stem Augur	Loose grading to compact, moist grading to wet, fine to medium SAND, some charcoal, brick, wood debris, no odour. (FILL).		0.00	1	AS				
1					2	AS				
2		Compact, wet, grey and mottled orange, medium SAND, trace wood debris, no stain, no odour. (FILL).		1.82	3	AS				▽
3										
4		Black stained hogfuel. (FILL).		3.65	4	DO				
5		Dense, wet, grey, silty SAND, trace gravel, no stain, no odour. (Native).		4.41	5	DO				
		End of Borehole.		5.48						
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-6

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23, 1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm - □ (20, 40, 60, 80) / WATER CONTENT, PERCENT (Wp, W, Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Marl Technologies, Solid Stem Auger	Loose, moist, dark brown and black stained, fine to medium SAND, some wood debris, no odour. (FILL).		0.00	1	AS				
1		Dense, wet, light brown, silty SAND, some orange mottling on top of unit, no stain, no oodur. (Native).		1.06	2	0				▽
2					3	AS				
3		End of Borehole.		3.04						
4										
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-7

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20 40 60 80) / WATER CONTENT, PERCENT (Wp — W — Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Mast Technologies, Solid Stem Auger	Loose, grading to compact, moist, black stained and dark brown, fine to medium SAND, trace to some charcoal, glass, wood debris, no odour. (FILL).		0.00	1	AS				
1					2	AS				
		Hogfuel. (FILL).		1.37						
2		Compact, wet, dark brown, silty SAND, some black stain, some wood debris, no odour. (FILL).		1.67	3	AS				
		Dense, wet, light brown, orange mottled SILT, no stain, no odour. (Native).		2.13	4	AS				
3		Dense, wet, light brown, silty SAND, no stain, no odour. (Native).		2.74	5	DO				
4		End of Borehole.		3.98						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-8

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20 40 60 80) / WATER CONTENT, PERCENT (Wp W Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Mail Technologies Solid Stem Auger	Loose, moist, light brown SAND and GRAVEL, no stain, no odour. (FILL).		0.00	1	AS				
1		Compact, moist, dark borwn, fine to medium SAND, some silt, some gravel, some black staining, some brick, glass, charcoal debris in upper unit, no odour. (FILL).		0.60	2	AS				
2					3	AS				▽
		Dense, wet, grey and mottled, orange, sandy SILT, no stain, no odour. (Native).		2.43	4	AS				
3		Dense, wet, grey on orange, mottled, silty SAND, no staining, no odour. (Native).		3.20	5	AS				
4		End of Borehole.		3.81						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-9

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23, 1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20, 40, 60, 80) / WATER CONTENT, PERCENT (Wp — W — Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	M5T Mart Technologies Solid Stem Auger			0.00						
					1	AS				
1		Loose grading to compact, moist, grading to wet, light brown and grey, fine to medium SAND, trace silt, trace gravel, trace black stain, no odour. (FILL).			2	AS				
2										
					3	AS				
3				3.35						
		Compact, wet, dark grey, sandy SILT, trace charcoal and wood debris, some black stain, no odour. (FILL).			4	AS				
4		Hogfuel. (FILL).		4.11						
		Dense, wet, grey, sandy SILT, no stain, no odour. (Native).		4.26	5	AS				
5		End of Borehole.		4.67						
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-10

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE – DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES – NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm - □ (20, 40, 60, 80) / WATER CONTENT, PERCENT Wp ⊢—○ W —⊣ Wl	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Marl Technologies, Solid Stem Auger	Loose, grading to compact, moist, dark stained and light brown, fine to medium SAND, trace silta, gravel, no odour. (FILL).		0.00	1	AS		□		
1					2	AS		□		
2		Compact, wet, brown, fine to medium SAND, some black stain, some wood, rope, (coal tar ?), glass, debris, slight creosote odour. (FILL).		1.98	3	AS		□		▽
3		Loose, wet, black stained coal tar (?) debris, some sand, slight creosote odour. (FILL).		3.04	4	AS			□	
4		Compact, wet, grey SILT, some brown mottling, no stain, no odour. (Native ?).		4.26	5	AS		□		
5		Dense, wet, light brown, silty SAND, no stain, no odour. (Native).		5.48	6	AS		□		
6		End of Borehole.		6.09						
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-11

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20, 40, 60, 80) / WATER CONTENT, PERCENT (Wp, W, Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	MST Mad Technologies Solid Stem Auger	Loose, grading to compact, moist, dark brown, fine to medium SAND, black stain in upper unit, trace brick, some wood debris, no odour. (FILL).		0.00	1	AS				
1					2	AS				
2		Compact, wet, grey and light brown, silty SAND, some orange mottling, no stain, no odour. (Native).		1.52	3	AS				▽
3										
4					4	AS				
		End of Borehole.		4.41						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: M.T.

CHECKED: M.T.

RECORD OF BOREHOLE HY-BH98-12

PROJECT: 982-1919

LOCATION: Prior Street, Vancouver

SHEET 1 OF 1

BORING DATE: Sept. 23, 1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm (20, 40, 60, 80) / WATER CONTENT, PERCENT (Wp, W, Wl)	PIEZOMETER OR STANDPIPE INSTALLATION
0	M&T Mari Technologies, Solid Stem Auger	Loose, grading to compact, moist grading to wet, black stained fine to medium SAND, trace silt, trace metal, glass, brick, charcoal debris grading to wood debris, no odour. (FILL).		0.00	1	AS				
1					2	AS				
2					3	AS				
		Compact, grading to dense, wet, dark and light brown, silty SAND, tarce wood, glass debris, some orange mottling, no stain, no odour. (Native).		2.59	4	AS				
3										
4					5	AS				
		End of Borehole.		4.57						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

LOGGED: M.T.

CHECKED: M.T.

Golder Associates

PROJECT: 962-1841

LOCATION:

SAMPLER HAMMER,63.5kg; DROP,760mm

RECORD OF BOREHOLE MW 96-1

BORING DATE: May 24,1996

SHEET 1 OF 1

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	SHEAR STRENGTH Cu, kPa (nat.V - + Q - ● rem.V - ⊕ U - O)	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT, PERCENT (Wp — W — Wl)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	Solid Stem	Ground Surface											
		Dense, moist, dark brown SAND, some gravel, trace silt.		0.00	1								Sand
				0.20	2								
		Compact, moist to wet, grey SAND, trace to some gravel.											Bentonite Seal
1				1.06									50mm Sched 40 PVC Pipe
		Compact, moist to wet, dark grey SAND, some silt.			3								
2													
		Loose, wet, black, silty SAND, some woodwaste.		2.28	4								Sand
				2.74	5								
3		Loose, saturated, light brown HOGFUEL, some sand, some silt. (FILL).			6								#10 Slot PVC Pipe
4					7								
		End of Borehole.		4.57									
5													
6													
7													
8													
9													
10													

DATA INPUT: S.S. June/96

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: B.L.

CHECKED: I.H.

TEST PIT 96-1

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.15	Compact, moist, light brown, gravelly SAND, trace organics.		
0.15 - 0.46	Compact, moist, dark brown and black, gravelly SAND, trace silt, trace organics.	Sa. 1 (0.15 - 0.41) [0]	Black staining may be from old surface layer.
0.45 - 1.07	Compact, moist, light brown SAND, some gravel, some silty pockets (FILL).	Sa. 2 (0.61 - 0.91) [0]	

Remarks: Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.07 m
Dry headspace readings with 10.2 eV lamp photoionization detector

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TEST PIT 96-2

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.18	Dense, moist, light greyish brown to brown, gravelly SAND, trace silt, trace organics.	Sa. 1 (0 - 0.15) [0]	
0.18 - 0.25	Compact, moist, dark grey SAND, some gravel, trace to some silt.	Sa. 2 (0.18 - 0.25) [0]	
0.25 - 1.07	Compact, moist, light grey SAND, some gravel, trace cobbles (FILL).	Sa. 3 (0.30 - 0.91) [0]	

Remarks:
Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.07 m
Dry headspace readings with 10.2 eV lamp photoionization detector

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TEST PIT 96-3

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 -0.08	Compact, wet, brown SAND, some gravel, some silt, some organics.		
0.08 - 0.25	Compact, saturated, grey SAND, some gravel, trace silt.	Sa. 1 (0.08 - 0.22) [0]	Seepage at 0.2 to 0.25 (small organic seam here)
0.25 - 0.51	Dense, wet, mottled, light rust brown SAND, some gravel, trace silt.	Sa. 2 (0.36 - 0.46) [0]	
0.51 - 1.07	Compact, moist, dark brown to black, silty SAND, with some wood waste and brick debris (FILL).	Sa. 3 (0.61 - 0.91) [0]	

Remarks: Depth to seepage: 0.22 m to 0.25 m
Depth to standing water: None
Rate of seepage: Low
Terminated: 1.07 m
Dry headspace readings with 10.2 eV lamp photoionization detector

TEST PIT 96-4

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.15	Loose, moist, brown SAND, some gravel, tace to some silt, some organics.		
0.15 - 0.56	Dense, moist, mottled brown SAND, some gravel, trace silt.	Sa. 1 (0.051 - 0.46) [0]	
0.56 - 1.07	Dense, moist, brownish grey, gravelly SAND, trace silt, trace organics.	Sa. 2 (0.61 - 0.97) [0]	
1.07 - 1.12	Compact, moist, light grey, fine, silty SAND (TILL-like) (FILL).	Sa. 3 (1.07 - 1.12) [0]	

Remarks: Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.12 m
Dry headspace readings with 10.2 eV lamp photoionization detector

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TEST PIT 96-5

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval,m) [Headspace, ppm]	Comments
0 - 0.20	Compact, moist, greyish brown SAND, trace cobbles, some gravel, trace to some silt, some organics.	Sa. 1 (0.051 - 0.15) [0]	
0.20 - 0.46	Dense, saturated, brown SAND and GRAVEL.	Sa. 2 (0.25 - 0.41) [0]	
0.46 - 0.76	Compact, moist, dark brown to black SAND, some gravel, some silt.	Sa. 3 (0.46 - 0.61) [0]	
0.76 - 1.07	Compact, moist, light greyish brown SAND, some gravel (FILL).	Sa. 4 (0.86 - 1.02) [0]	
	NOTE: Fill features and stratigraphy are highly variable from wall to wall in the testpit. The North Wall has considerable gravel content and there is moderate seepage along this face. The South Wall does not have the same abundance of coarse material and contains a darker layer at 0.46 m that the North face does not have. A service line was noted in the first TP running East/West moved to the South ~2 m.		

Remarks:
Depth to seepage: 0.3 m
Depth to standing water: Moderate
Rate of seepage: None
Terminated: 1.07 m
Dry headspace readings with 10.2 eV lamp photoionization detector

J:\TP\962-1841.DOC

TEST PIT 96-6

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval,m) [Headspace, ppm]	Comments
0 - 0.15	Dense, moist, brown SAND and GRAVEL, trace silt, trace organics.	Sa. 1 (0.051 - 0.15) [0]	
0.15 - 0.38	Compact, moist, black and brown FILL layer consisting of SLAG and COAL-like material.	Sa. 2 (0.20 - 0.36) [0]	
0.38 - 1.22	Compact, moist, greyish brown SAND, trace to some gravel.	Sa. 3 (0.61 - 0.91) [0]	

Remarks:
Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.22 m
Dry headspace readings with 10.2 eV lamp photoionization detector

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TEST PIT 96-7

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.08	Dense, moist, brown SAND & GRAVEL, trace silt, trace organics.		
0.08 - 0.30	Dense, moist, brown to black SAND and GRAVEL, some silt, trace fragments of slag and coal-like materials.	Sa. 1 (0.10 - 0.25) [0]	
0.30 - 0.91	Compact, moist, brown SAND, some gravel, trace cobbles, trace silt (FILL).	Sa. 2 (0.46 - 0.76) [0]	

Remarks:
Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 0.91 m
Dry headspace readings with 10.2 eV lamp photoionization detector

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TEST PIT 96-8

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 1.22	Compact, moist, brown SAND, some gravel, trace cobbles, trace silt (FILL).	Sa. 1 (0.15 - 0.46) [0] Sa. 2 (0.76 - 1.07) [0]	

Remarks: Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.22 m
Dry headspace readings with 10.2 eV lamp photoionization detector

TEST PIT 96-9

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.23	Dense, moist, brown, gravelly SAND, trace cobbles, trace silt, trace organics at surface.	Sa. 1 (0.051 - 0.18) [0]	
0.23 - 1.07	Compact, moist, brown SAND with some gravel, trace cobbles (FILL). Isolated pocket of black stained material (possibly degraded asphalt).	Sa. 2 (0.30 - 0.91) [0] Sa. 3 (0 - 0.36) [0]	

Remarks:
Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.07 m
Dry headspace readings with 10.2 eV lamp photoionization detector

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TEST PIT 96-10

Location: Freighthouse
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.25	Dense, moist, brown, gravelly SAND, trace silt, trace organics.	Sa. 1 (0.051 - 0.20) [0]	
0.25 - 0.71	Compact, moist, black and brown stained FILL material consisting of SLAG. Black layer is situated above brown layer.	Sa. 2 (0.30 - 0.61) [0]	
0.71 - 1.07	Compact, moist, brown SAND, some gravel (FILL).	Sa. 3 (0.76 - 0.91) [0]	

Remarks:
Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.07 m
Dry headspace readings with 10.2 eV lamp photoionization detector

TEST PIT 96-101

Location: Sequence 1706
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.36	Compact, moist, brownish, grey, gravelly SAND, trace silt, trace organics.	Sa. 1 (0.051 - 0.30) [0]	
0.36 - 0.81	Dense, moist, light brown SAND, some gravel, trace cobbles, trace silt. Contains occasional woodwaste, metal and slag debris (FILL).	Sa. 2 (0.46 - 0.76) [0]	
0.81 - 1.22	Compact, moist, black SAND, some silt, some gravel, trace cobbles. Matrix contains occasional woodwaste, trace glass and metal (FILL).	Sa. 3 (0.91 - 1.22) [0]	

Remarks:
Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.22 m
Dry headspace readings with 10.2 eV lamp photoionization detector

TEST PIT 96-102

Location: Sequence 1706
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 0.15	Compact, moist to wet, brownish grey SAND and GRAVEL, trace cobbles, trace silt.	Sa. 1 (0.051 - 0.15) [0]	
0.15 - 0.53	Dense, moist, light brown, SAND, some gravel, some silt. Matrix contains occasional slag, metal and glass debris (FILL).	Sa. 2 (0.20 - 0.51) [0]	
0.53 - 1.07	Compact, moist, dark grey SAND, some gravel, some silt (FILL).	Sa. 3 (0.61 - 0.91) [0]	

Remarks: Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.07 m
Dry headspace readings with 10.2 eV lamp photoionization detector

TEST PIT 96-103

Location: Sequence 1706
Elevation:
Date: May 23, 1996
Logged By: I. Hers

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0 - 1.07	Dense, moist, brown SAND, some gravel, some silt, trace cobbles. Matrix contains occasional slag, brick, asphalt, glass, woodwaste and metal debris. Organics with silt at surface.	Sa. 1 (0.15 - 0.76) [0]	
1.07 - 1.22	Loose, moist to wet, intermixed layers of silty SAND, trace gravel (FILL).	Sa. 2 (0.91 - 1.07) [0]	

Remarks:
Depth to seepage: None
Depth to standing water: None
Rate of seepage: None
Terminated: 1.22 m
Dry headspace readings with 10.2 eV lamp photoionization detector

PROJECT: 932-1841

RECORD OF BOREHOLE MW-93-1

SHEET 1 OF 1

LOCATION: IBI/ESA/TERMINAL AVE.

BORING DATE: MAY 10, 1993

DATUM:

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Ground Surface							
0	SDS TRACK, SCOUT 90	Compact, moist, medium to dark brownish grey, fine to coarse silty SAND to SAND, trace to some fine to coarse gravel, trace of demolition debris (wood, metal). (FILL)		0.00	1	50 DO	10		Grout; Bentonite Seal; Cuttings
1									
2									
3					2	50 DO	11		
4				4.11					3:00 pm May 13, 1993; Bentonite Seal
5		Very loose, moist to wet, light to medium brownish grey, fine to coarse silty SAND, trace of fine to coarse gravel, trace of clay.			3	50 DO	0		Silica Sand
6					4	50 DO	0		
7		Loose, moist to wet, light to medium brownish grey, fine to coarse SAND, trace of silt.		6.85					50mm dia. #10 PVC Screen
8					5	50 DO	6		
9		Soft, light to medium grey SILT, some clay. (Native)		8.27	6	50 DO	9		Slough
		End of Borehole		9.60					
10									

DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m

SHEAR STRENGTH Cu, kPa — nat.V - + Q - ● rem.V - ⊕ U - O

HYDRAULIC CONDUCTIVITY, k, cm/s

WATER CONTENT, PERCENT — Wp W Wl — 20 40 60 80

DATA INPUT: BAD MAY '93

DEPTH SCALE 1 to 50

LOGGED: A.S.

CHECKED:

Golder Associates

RECORD OF BOREHOLE MW98-1

PROJECT: 982-1919

LOCATION: Freighthouse Lands

SHEET 1 OF 1

BORING DATE: Sept. 22,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE – DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES – NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm - □ (20, 40, 60, 80) / WATER CONTENT, PERCENT Wp ⊢—○W—⊣ Wl	PIEZOMETER OR STANDPIPE INSTALLATION
0	Hollow Stem Auger	Loose to medium, dense, moist, brown SAND, some gravel, trace wood debris. (FILL).		0.00						Cement Grout; Bentonite Seal
1				1.37						
2		Dense, moist, grading to wet, grey, brown and black stained SAND, some silt, some glass debris, trace wood debris. (FILL).			1					
3										Sand
4		HOGFUEL (FILL).		4.11						
		End of Borehole.		4.26						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: T.C.

CHECKED: M.T.

RECORD OF BOREHOLE MW98-3

PROJECT: 982-1919

LOCATION: Freighthouse Lands

SHEET 1 OF 1

BORING DATE: Sept. 14,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm - □ (20, 40, 60, 80) / WATER CONTENT, PERCENT Wp ⊢—○W—⊣ Wl	PIEZOMETER OR STANDPIPE INSTALLATION
0	Hollow Stem Auger	Loose, grading to maximum dense, moist, grading to wet, brown and grey SAND, trace to some gravel. (FILL).		0.00						Cement Grout; Bentonite Seal; Filter Sand
1										
2					1					
3										
4		HOGFUEL (FILL).		3.96						
		End of Borehole.		4.26						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: T.C.

CHECKED: M.T.

RECORD OF BOREHOLE MW98-5

PROJECT: 982-1919

LOCATION: Freighthouse Lands

SHEET 1 OF 1

BORING DATE: Sept. 14,1998

DATUM: G.S.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (M)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ADDITIONAL LAB. TESTING	HEADSPACE OVM READING ppm - □ (20, 40, 60, 80) / WATER CONTENT, PERCENT Wp — w — Wl	PIEZOMETER OR STANDPIPE INSTALLATION
0	Hollow Stem Auger	Loose, grading to medium dense, moist grading to wet, brown grading to grey and brown SAND, trace gravel, trace silt, wood debris 2.7 - 2.9m (FILL).		0.00	1					Cement Grout; Bentonite Seal; Filter Sand
1										
2										
3										
4										
		End of Borehole.		4.26						
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: T.C.

CHECKED: M.T.

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH 99-1 (MW-1)

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 17 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - O) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp ⊢—○W—⊣ Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	Mud Bay Drilling Ltd., Hollow Stem Auger	Asphalt											
		Asphalt		0.05									
1		Dense to compact, brown and dark brown, silty SAND and GRAVEL FILLS, trace to some organics, Photovac = 0 ppm			1	SS	50						Bentonite Seal
					2	SS	10						10/20 Sand
2		Loose, brown and dark brown, silty SAND, trace gravel and organics, FILLS, Photovac = 0 ppm.		1.52	3	SS	6						Slotted Pipe
				2.74	4	SS	23						
3		Compact to dense, grey, silty SAND, trace gravel, Till, native, Photovac = 5-8 ppm.			5	SS	30						50mm dia. sch. 40 PVC pipe
		End of Hole.		3.66									
4													
5													
6													
7													
8													
9													
10													

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: L.W.
CHECKED: .

BOREHOLE 9921888B.GPJ GLDR_CAN.GDT 17/2/00

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH99-29 (MW-2)

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 17 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (20 40 60 80) nat V. + Q - ● rem V. ⊕ U - O	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊢—⊖W—⊣ Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		Concrete									
		Concrete		0.08	1	SS	36				Bentonite Seal
1	Mud Bay Drilling Ltd., Hollow Stem Auger	Compact, brown and dark brown, silty SAND, some gravel and organics FILLS, some black staining, Photovac = 7-9 ppm			2	SS	15				10/20 Sand
2		Loose, dark brown and black stained wood chips and fibres, trace silt and sand FILLS, Photovac = 9 ppm.		1.52	3	SS	10				Slotted Pipe
					4	SS	9				
3		Firm to stiff, grey, clayey SILT, trace sand and gravel, Photovac = 6 ppm.		3.05	5	SS	7				50mm dia. sch. 40 PVC pipe
4		Stiff to hard, grey, silty SAND, trace gravel, Photovac = 6 ppm.		3.81	6	SS	36				
		End of Hole.		4.11							
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: L.W.
CHECKED: .

BOREHOLE 9921888B.GPJ GLDR_CAN.GDT 17/2/00

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH99-3 (MW-3)

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 17 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl, 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		Asphalt									
		Concrete		0.06							Bentonite Seal
		Rocks, gravel and drain tiles.		0.61							
1		Compact, brown SAND and GRAVEL, trace silt and staining FILLS, Photovac = 5.5 ppm			1	SS	12				10/20 Sand
	Mud Bay Drilling Ltd., Hollow Stem Auger	Loose, brown wood chips and fibres, Photovac = 1 ppm.		1.22	2	SS	6				Slotted Pipe
2											
		Stiff to very stiff, brown and grey mottled clayey SILT, trace gravel, Photovac = 5-7 ppm. till-like silty sand at 3.2 - 3.5m.		2.13	3	SS	18				50mm dia. sch. 40 PVC pipe
3					4	SS	42				
		End of Hole.		3.51							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: L.W.
CHECKED: .

BOREHOLE 992-1888B.GPJ GLDR_CAN.GDT 17/2/00

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH99-4

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 17 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (20 40 60 80) nat V. + rem V. ⊗ Q - ● U - O	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp ⊢—⊖W—⊣ Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		Asphalt									
	Mud Bay Drilling Ltd., Hollow Stem Auger	Asphalt		0.05							
		Loose, brown, silty SAND and GRAVEL FILLS, Photovac = 0 ppm			1	SS	9				
1		Loose, brown, silty SANDand clayey silt pockets, trace gravel, Photovac = 1 ppm.		0.91	2	SS	3				
2		Stiff to very stiff, brown mottled, clayey SILT, trace sand and gravel, native, Photovac = 5-6 ppm. at 2.4- 2.7m dense silty sand.		1.52	3	SS	21				
					4	SS	41				
		End of Hole.		2.74							
3											
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: L.W.
CHECKED:

BOREHOLE 992188B.GPJ GLDR_CAN.GDT 17/2/00

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH99-5

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 17 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa: nat V. + Q - ●, rem V. ⊕ U - O (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT: Wp ⊖W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Asphalt									
0	Mud Bay Drilling Ltd., Hollow Stem Auger	Asphalt		0.05							
		Compact, brown, silty SAND, some gravel and black staining, FILLS, Photovac = 5.5-6.5 ppm			1	SS	25				
1				0.91	2	SS	5				
		Loose to compact, brown, silty SAND and trace gravel, native, Photovac = 1 ppm.			3	SS	28				
2		End of Hole.		1.83							
3											
4											
5											
6											
7											
8											
9											
10											

BOREHOLE 992188B6.GPJ GLDR_CAN.GDT 17/2/00

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: L.W.
CHECKED: .

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH99-6

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 17 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - O) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0	Mud Bay Drilling Ltd., Hollow Stem Auger	Asphalt									
		Concrete		0.08							
		Compact to dense, brown GRAVEL and SAND, few cobbles, trace silt, FILLS, Photovac = 3-4 ppm.			1	SS	Vibro				
1				0.91	2	SS	Vibro				
		Loose to compact, dark brown and black, oily stained, silty SAND, some gravel, FILLS, Photovac = 5.5 ppm., organic at 2.1m.			3	SS	Vibro				
2				2.44							
		Compact, brown Sand, trace silt and gravel, native soils, Photovac = 3 ppm.			4	SS	Vibro				
3		End of Hole.		3.05							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: L.W.
CHECKED: .

BOREHOLE 9921888B.GPJ GLDR_CAN.GDT 17/2/00

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH99-7

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 17 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - O) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W W; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		Asphalt									
0		Concrete		0.00							
	Mud Bay Drilling Ltd., Hollow Stem Auger	Compact, brown SAND and GRAVEL, FILLS trace silt, trace black sands, rock at 0.6m., Photovac = 8 ppm.		0.11	1	SS	Vibro				
		Loose to compact, brown and dark grey, silty SAND, some gravel, trace black stains, FILLS, Photovac = 9-10 ppm		0.61	2	SS	Vibro				
1											
2					3	SS	Vibro				
		Soft, brown wood chips and fibres, trace silt, Photovac = 10 ppm.		2.44	4	SS	Vibro				
3											
		Compact, grey, silty SAND and clayey silt layers, nativel, Photovac = 6 ppm.		3.35	5	SS	Vibro				
		End of Hole.		3.81							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: L.W.

CHECKED: .

BOREHOLE 9921888B.GPJ GLDR_CAN.GDT 17/2/00

PROJECT: 992-1888b

RECORD OF BOREHOLE: AH99-8

SHEET 1 OF 1

LOCATION: 310 Prior Street, vancouver, B.C.

BORING DATE: 19 November 1999

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 64mm

PENETRATION TEST HAMMER, 64kg; DROP, 64mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊢—○W—⊣ Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		Asphalt									
		Concrete		0.00							
	Mud Bay Drilling Ltd., Hollow Stem Auger	Compact, brown SAND and GRAVEL, FILLS trace silt, some black staining at 0.45-0.6m., some wood, bricks and rocks, Photovac = 9 ppm.		0.11	1	SS	Vibro				
1				0.78	2	SS	Vibro				
2		Loose, brown and dark brown, silty SAND and GRAVEL, some wood layers, FILLS, Photovac = 10 ppm			3	SS	Vibro				
3		Firm to stiff, grey, clayey SILT, trace peat, Photovac = 10 ppm.		3.35	4	SS	Vibro				
		End of Hole.		3.66							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

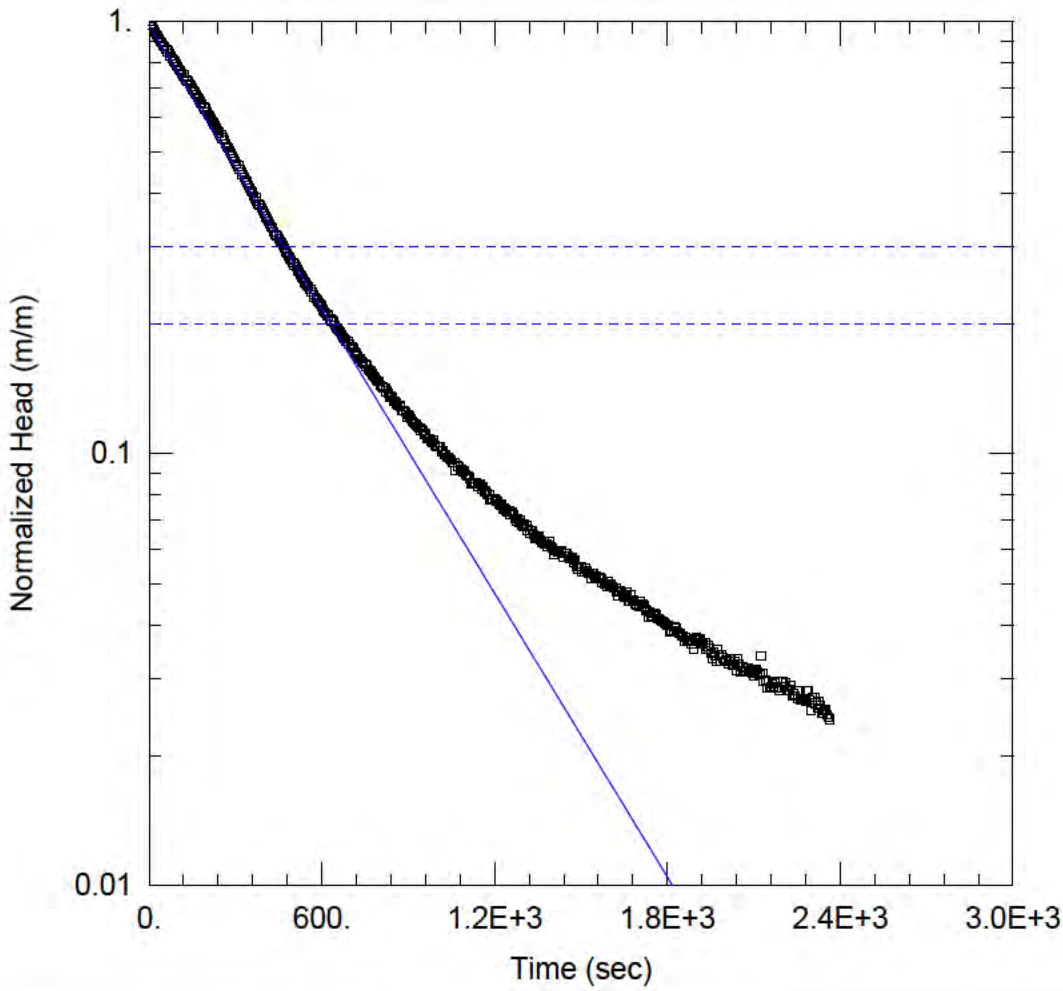
Golder Associates

LOGGED: L.W.
CHECKED: .

BOREHOLE 9921888B.GPJ GLDR_CAN.GDT 17/2/00

Appendix 5

Hydraulic Conductivity Calculations



WELL TEST ANALYSIS

Data Set: X:\...\BH102M-Deep-Test-1.aqt
Date: 02/07/19 Time: 10:47:52

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH102M-Deep
Test Date: Feb 04, 2019

AQUIFER DATA

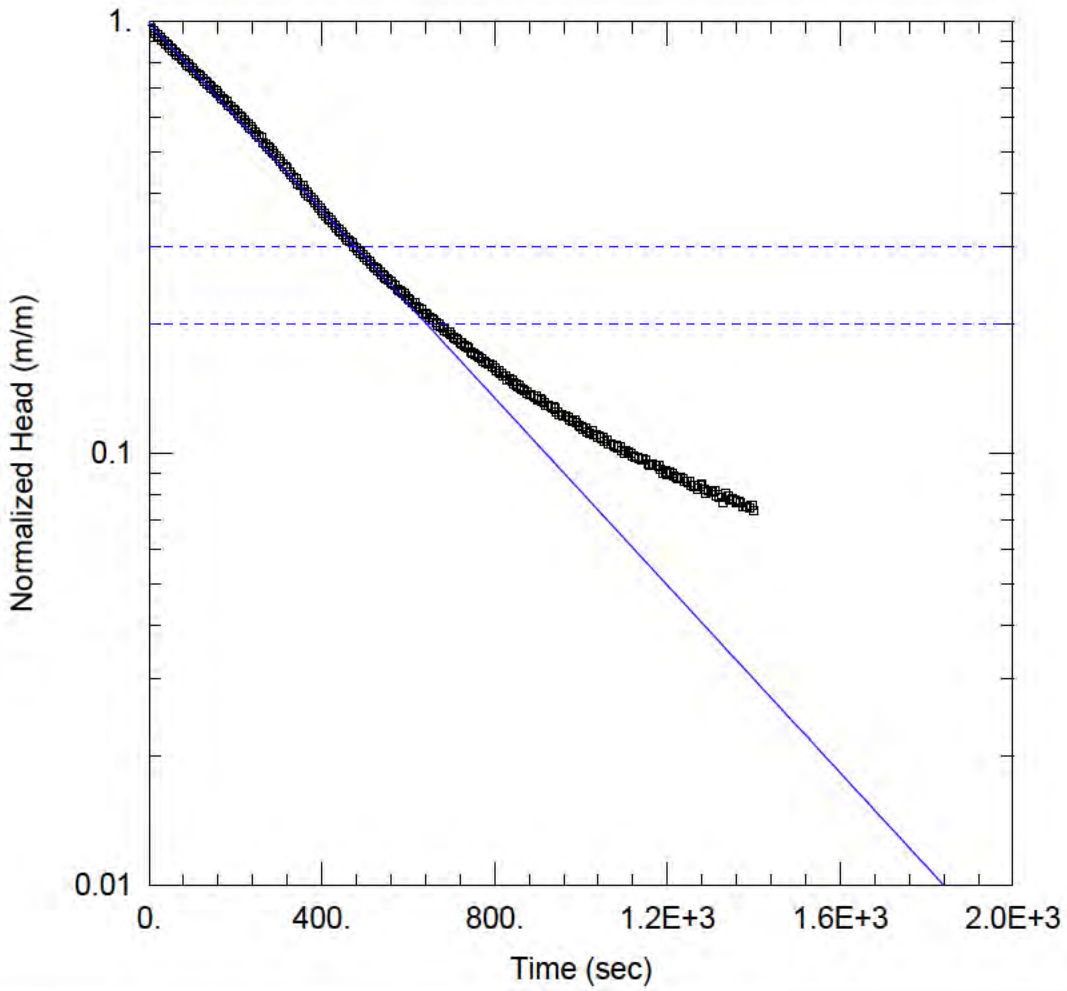
Saturated Thickness: 4.848 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH102M-Deep-Test-1)

Initial Displacement: 0.4578 m
Total Well Penetration Depth: 4.848 m
Casing Radius: 0.0256 m
Static Water Column Height: 4.848 m
Screen Length: 1.5 m
Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.581E-6 m/sec
y0 = 0.4481 m



WELL TEST ANALYSIS

Data Set: X:\...\BH102M-Deep-Test-2.aqt
Date: 02/07/19 Time: 10:47:52

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH102M-Deep
Test Date: Feb 04, 2019

AQUIFER DATA

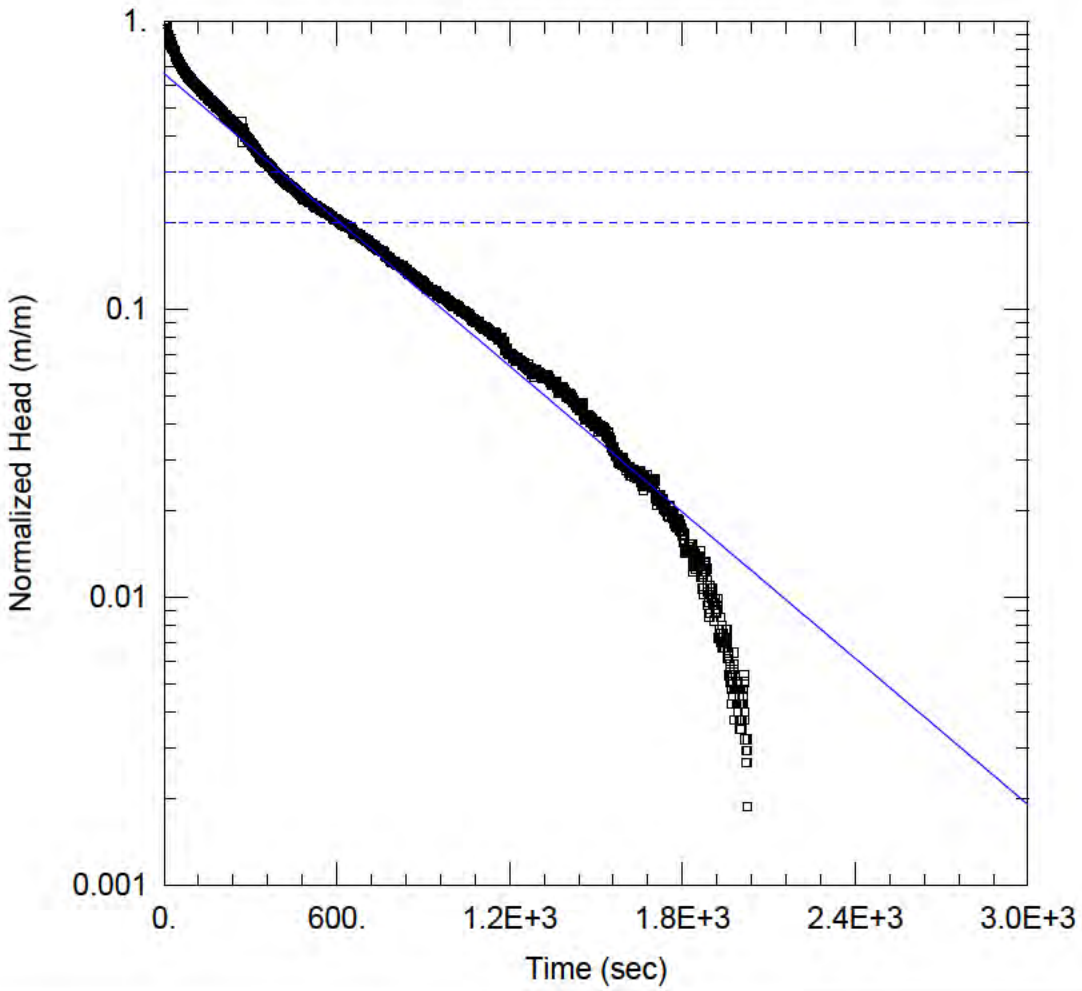
Saturated Thickness: 4.848 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH102M-Deep-Test-2)

Initial Displacement: 0.4871 m Static Water Column Height: 4.848 m
Total Well Penetration Depth: 4.848 m Screen Length: 1.5 m
Casing Radius: 0.0256 m Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 1.566E-6 m/sec y0 = 0.4836 m



WELL TEST ANALYSIS

Data Set: X:\...\BH102M-Shallow-Test-1.aqt
Date: 02/07/19 Time: 10:47:52

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH102M-Shallow
Test Date: Feb 05, 2019

AQUIFER DATA

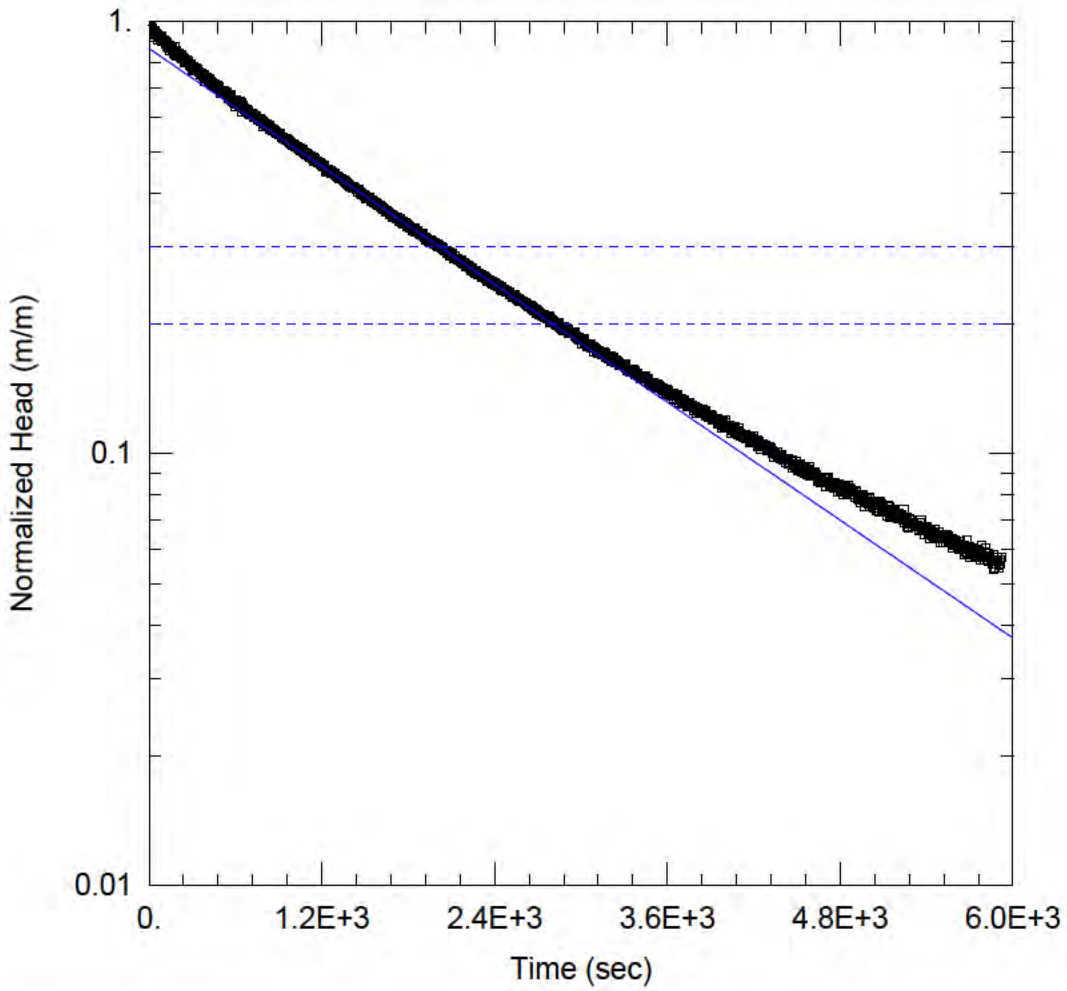
Saturated Thickness: 1.048 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH102M-Shallow-Test-1)

Initial Displacement: 0.3732 m
Total Well Penetration Depth: 1.5 m
Casing Radius: 0.0127 m
Static Water Column Height: 1.048 m
Screen Length: 1.5 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.56E-6 m/sec
y0 = 0.2463 m



WELL TEST ANALYSIS

Data Set: X:\...\BH105M-Deep-Test-1.aqt
Date: 02/07/19 Time: 10:47:52

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH102M-Deep
Test Date: Feb 04, 2019

AQUIFER DATA

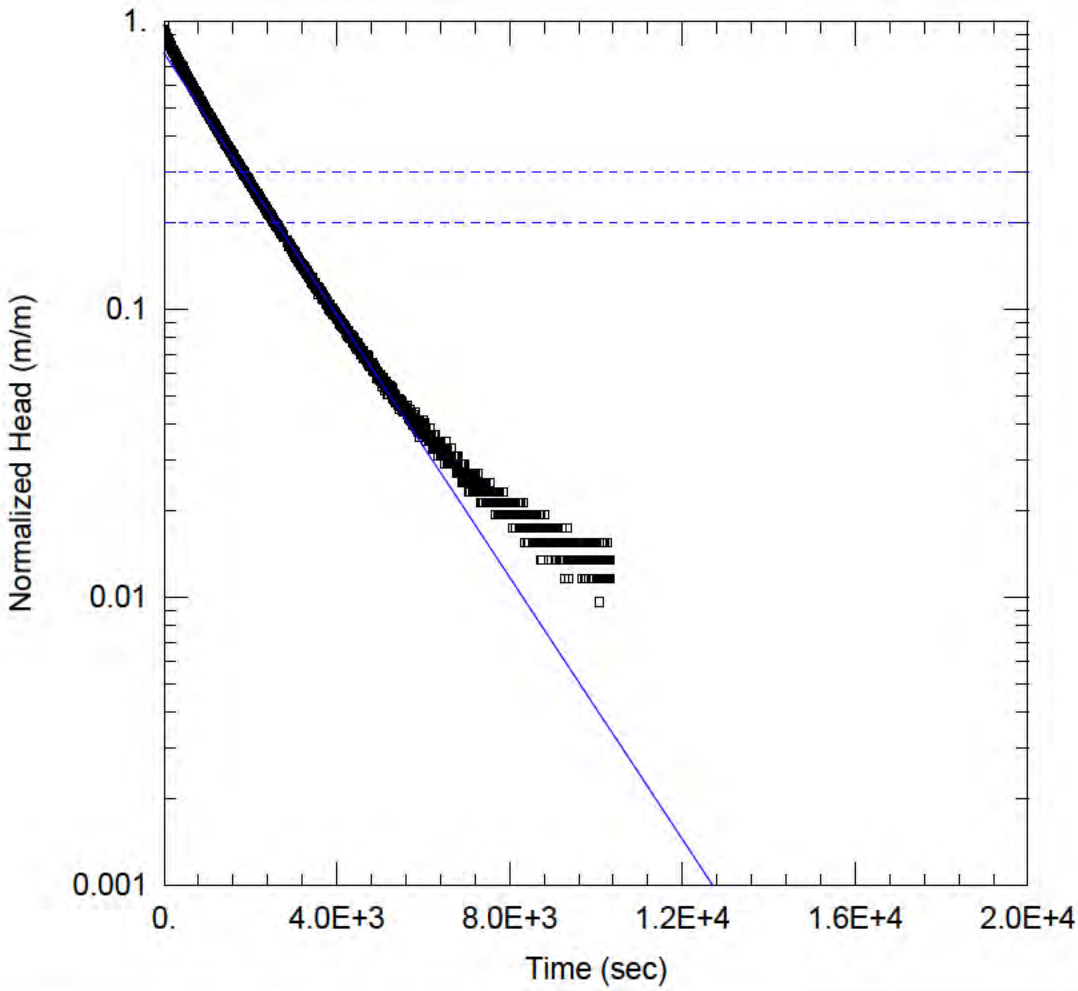
Saturated Thickness: 4.214 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH105M-Deep-Test-2)

Initial Displacement: 0.4638 m Static Water Column Height: 4.214 m
Total Well Penetration Depth: 4.214 m Screen Length: 1.5 m
Casing Radius: 0.0256 m Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 3.199E-7 m/sec y0 = 0.4017 m



WELL TEST ANALYSIS

Data Set: X:\...\BH105M-Deep-Test-2.aqt
Date: 02/07/19 Time: 10:47:53

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH102M-Deep
Test Date: Feb 04, 2019

AQUIFER DATA

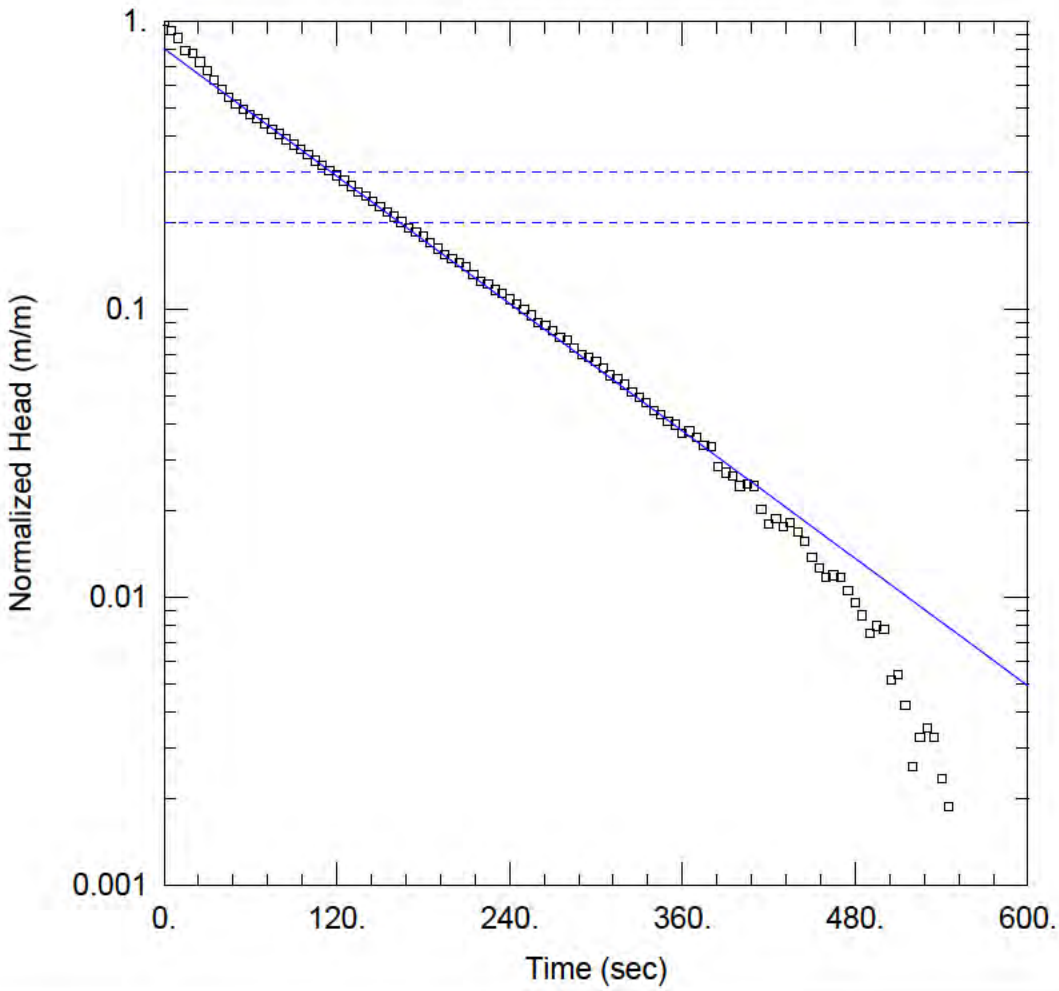
Saturated Thickness: 4.214 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH105M-Deep-Test-2)

Initial Displacement: 0.5171 m
Total Well Penetration Depth: 4.214 m
Casing Radius: 0.0256 m
Static Water Column Height: 4.214 m
Screen Length: 1.5 m
Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.199E-7 m/sec
y0 = 0.4017 m



WELL TEST ANALYSIS

Data Set: X:\...\BH115M-Test-1.aqt
Date: 02/07/19 Time: 10:47:53

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH115M
Test Date: Feb 05, 2019

AQUIFER DATA

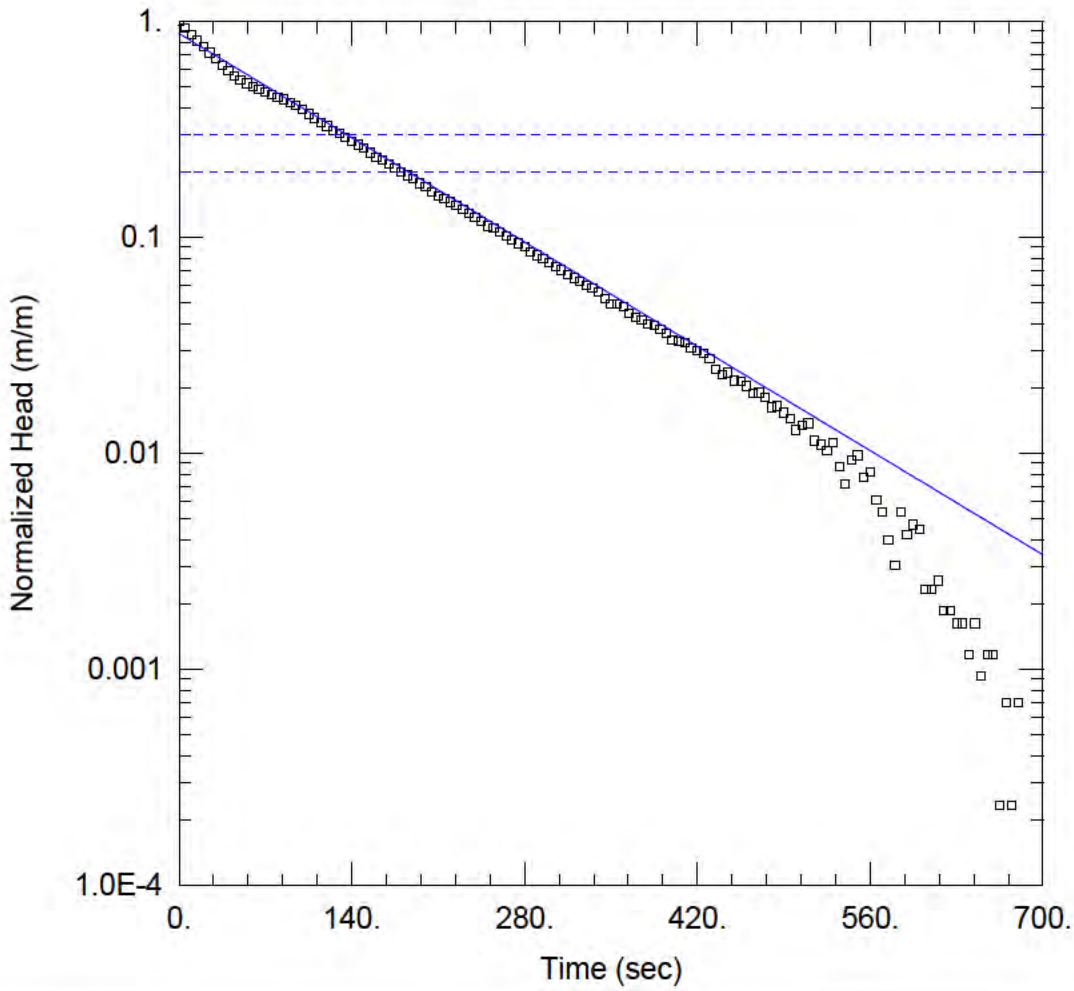
Saturated Thickness: 1.741 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH115M-Test-1)

Initial Displacement: 0.4266 m
Total Well Penetration Depth: 1.5 m
Casing Radius: 0.0256 m
Static Water Column Height: 1.741 m
Screen Length: 1.5 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 5.284E-6 m/sec
y0 = 0.3433 m



WELL TEST ANALYSIS

Data Set: X:\...\BH115M-Test-2.aqt
Date: 02/07/19 Time: 10:47:53

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH115M
Test Date: Feb 05, 2019

AQUIFER DATA

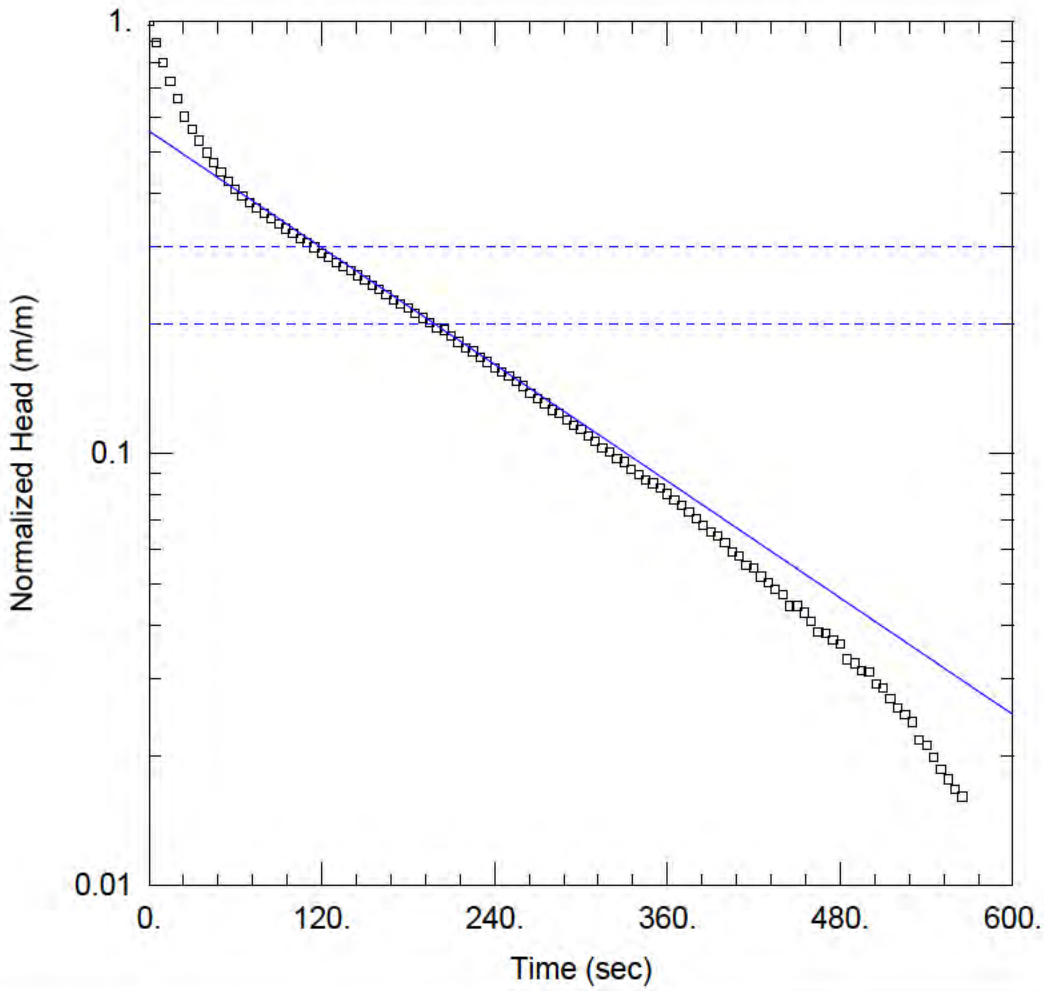
Saturated Thickness: 1.741 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH115M-Test-2)

Initial Displacement: 0.4275 m
Total Well Penetration Depth: 1.5 m
Casing Radius: 0.0256 m
Static Water Column Height: 1.741 m
Screen Length: 1.5 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.509E-6 m/sec
y0 = 0.3762 m



WELL TEST ANALYSIS

Data Set: X:\...\BH121M-Test-1.aqt
Date: 02/07/19 Time: 10:47:53

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH121M
Test Date: Feb 05, 2019

AQUIFER DATA

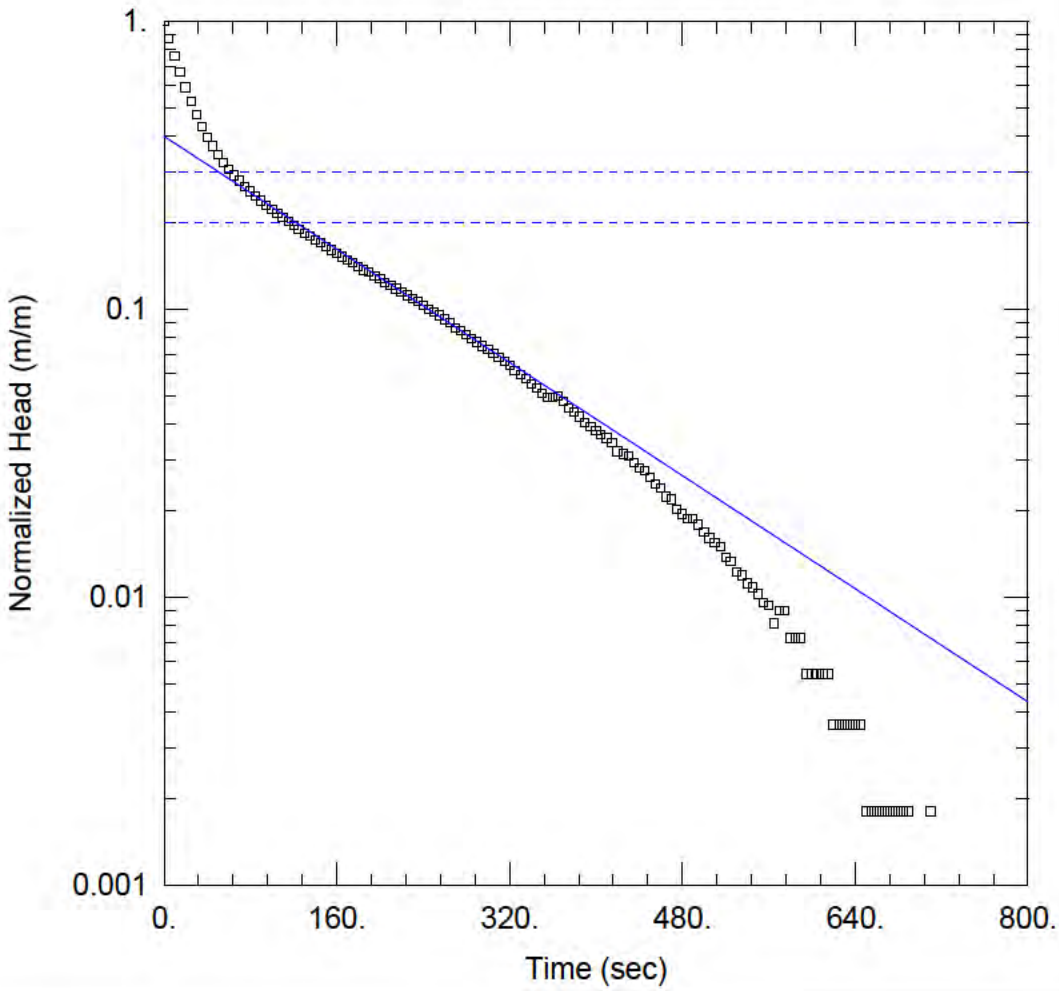
Saturated Thickness: 1.213 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH121M-Test-1)

Initial Displacement: 0.3179 m
Total Well Penetration Depth: 1.5 m
Casing Radius: 0.0256 m
Static Water Column Height: 1.213 m
Screen Length: 1.5 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.239E-5 m/sec
y0 = 0.1774 m



WELL TEST ANALYSIS

Data Set: X:\...\BH121M-Test-2.aqt
Date: 02/07/19 Time: 10:49:51

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH121M
Test Date: Feb 05, 2019

AQUIFER DATA

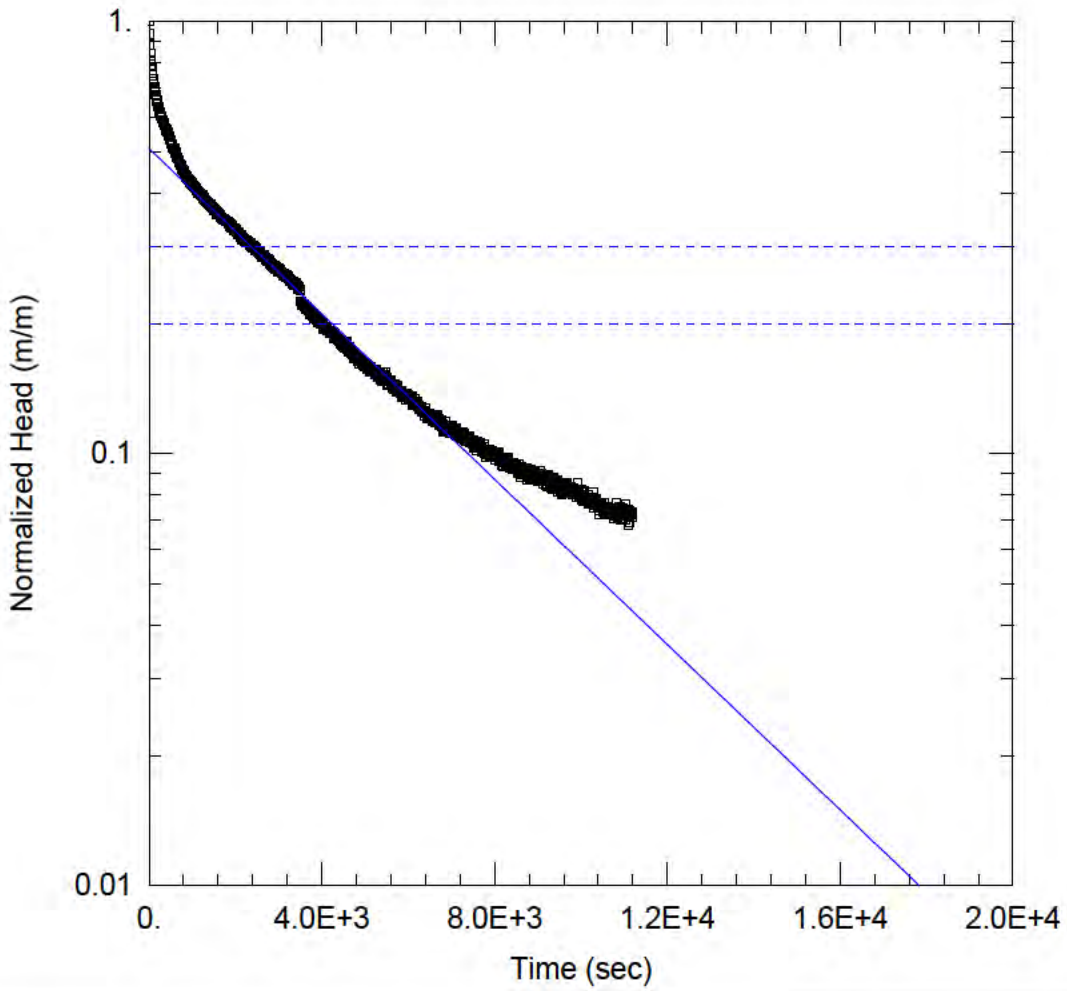
Saturated Thickness: 1.213 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH121M-Test-2)

Initial Displacement: 0.5529 m
Total Well Penetration Depth: 1.5 m
Casing Radius: 0.0256 m
Static Water Column Height: 1.213 m
Screen Length: 1.5 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.084E-5 m/sec
y0 = 0.2211 m



WELL TEST ANALYSIS

Data Set: X:\...\BH129M-Test-1.aqt
Date: 02/07/19 Time: 10:49:51

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH129M
Test Date: Feb 04, 2019

AQUIFER DATA

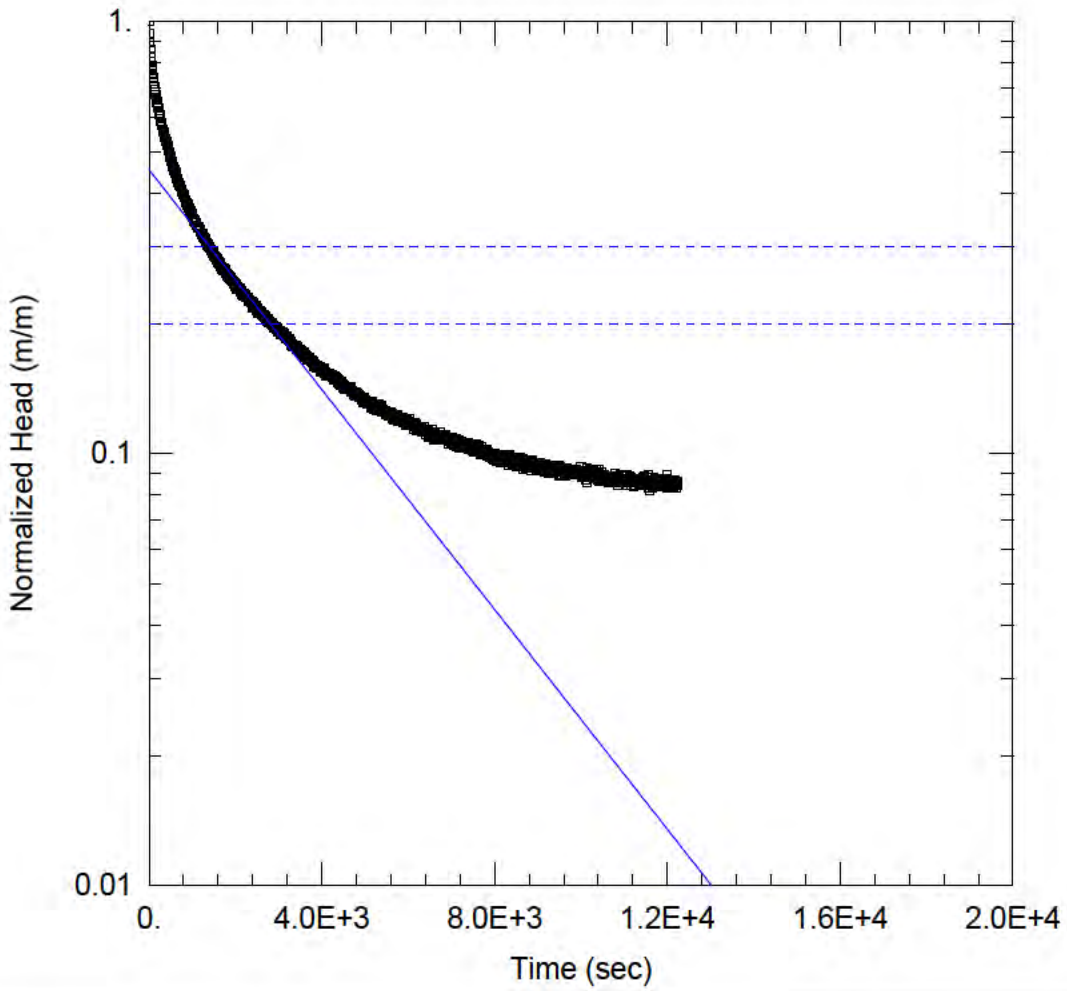
Saturated Thickness: 1.338 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH129M-Test-1)

Initial Displacement: 0.3656 m
Total Well Penetration Depth: 1.5 m
Casing Radius: 0.0256 m
Static Water Column Height: 1.338 m
Screen Length: 1.5 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.152E-7 m/sec
y0 = 0.1857 m



WELL TEST ANALYSIS

Data Set: X:\...\BH129M-Test-2.aqt
Date: 02/07/19 Time: 10:49:52

PROJECT INFORMATION

Company: PGL Environmental Consultants
Client: Providence Health Care
Project: 5355-01.01
Location: 1002 Station Street, Vancouver
Test Well: BH120M
Test Date: Feb 04, 2019

AQUIFER DATA

Saturated Thickness: 1.338 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH129M-Test-2)

Initial Displacement: 0.4791 m
Total Well Penetration Depth: 1.5 m
Casing Radius: 0.0256 m
Static Water Column Height: 1.338 m
Screen Length: 1.5 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.495E-7 m/sec
y0 = 0.2174 m

Groundwater elevation data extracted from historical monitoring reports:

Monitoring well Date Installed	MW96-1 05/24/96	MW98-1 09/14/98	MW98-2 09/14/98	MW98-3 09/14/98	MW98-4 09/15/98	MW98-5 09/15/98	MW98-6 09/14/98	HYMW98-1 09/22/98	HYMW98-2 09/22/98	HYMW98-3 09/23/98	MW99-1	MW99-2	MW99-3
Measurements from ground surface													
top of screen (m)	1.2	1.2	1.5	1.2	1.2	1.2	1.2	1.2	0.9	0.6	0.6	0.6	0.6
bottom of screen (m)	4.2	4.2	4.55	4.25	4.25	4.25	4.25	3.0	3.0	1.95	3.65	3.65	3.65
bottom of well (m)	4.6	4.2	4.55	4.25	4.25	4.25	4.25	3.3	3.3	2.25	3.65	3.65	3.65
Measurements from top of casing													
depth to water table (m)	1.697	Damaged	2.374	1.785	2.028	1.975	Damaged	1.2	1.825	1.383	2.116	1.635	1.1
date measured	3/29/01	-	3/29/01	3/29/01	3/29/01	3/29/01	-	3/15/01	3/15/01	3/15/01	3/15/01	3/15/01	3/15/01
Elevations													
ground surface (masl)[1]	3.77	4.16	4.16	4.21	4.02	3.62	4.46	3.59	4.19	4.13	-	-	-
top of casing (masl)[1]	4.89	4.69	4.67	4.9	4.45	4.22	4.82	3.47	4.11	4.04	-	-	-
water table (masl)	3.193	-	2.296	3.115	2.422	2.245	-	2.27	2.285	2.657	-	-	-

Monitoring well Date Installed	MW96-1 05/24/96	MW98-1[2] 09/14/98	MW98-2 09/14/98	MW98-3 09/14/98	MW98-4 09/15/98	MW98-5 09/15/98	MW98-6[2] 09/14/98	HYMW98-1 09/22/98	HYMW98-2 09/22/98	HYMW98-3 09/23/98	MW99-1	MW99-2	MW99-3
Measurements from ground surface													
top of screen (m)	1.2	1.2	1.5	1.2	1.2	1.2	1.2	1.2	0.9	0.6	0.6	0.6	0.6
bottom of screen (m)	4.2	4.2	4.55	4.25	4.25	4.25	4.25	3.0	3.0	1.95	3.65	3.65	3.65
bottom of well (m)	4.6	4.2	4.55	4.25	4.25	4.25	4.25	3.3	3.3	2.25	3.65	3.65	3.65
Measurements from top of casing													
depth to water table (m)	2.29	-	2.39	1.77	2.06	1.78	-	1.11	1.68	1.34	2.06	1.36	0.87
date measured	4/25/02	-	4/25/02	4/25/02	4/25/02	4/25/02	-	4/25/02	4/25/02	4/25/02	4/25/02	4/25/02	4/25/02
Elevations													
ground surface (masl)[1]	3.77	4.16	4.16	4.21	4.02	3.62	4.46	3.59	4.19	4.13	-	-	-
top of casing (masl)[1]	4.89	4.69	4.67	4.9	4.45	4.22	4.82	3.47	4.11	4.04	-	-	-
water table (masl)	2.6	-	2.28	3.13	2.39	2.44	-	2.27	2.43	2.7	-	-	-

Notes:
1. Elevations surveyed by McElhanney Surveyors
2. Well was observed to be damaged; water levels not obtainable

Monitoring Well Identification Date Installed	MW96-1 05/24/96	MW98-1[2] 09/14/98	MW98-2 09/14/98	MW98-3 09/14/98	MW98-4 09/15/98	MW98-5 09/15/98	MW98-6[2] 09/14/98	HYMW98-1 09/22/98	HYMW98-2 09/22/98	HYMW98-3 09/23/98	MW99-1	MW99-2	MW99-3
Measurements from ground surface													
top of screen (m)	1.2	1.2	1.5	1.2	1.2	1.2	1.2	1.2	0.9	0.6	0.6	0.6	0.6
bottom of screen (m)	4.2	4.2	4.55	4.25	4.25	4.25	4.25	3.0	3.0	1.95	3.65	3.65	3.65
bottom of well (m)	4.6	4.2	4.55	4.25	4.25	4.25	4.25	3.3	3.3	2.25	3.65	3.65	3.65
Measurements from top of casing													
depth to water table (m)	2.93	-	2.58	2.955	2.92	2.695	-	1.14	2.22	1.7	2.215	1.84	1.523
date measured	6/8/03	-	6/8/03	6/8/03	6/8/03	6/8/03	-	6/8/03	6/8/03	6/8/03	6/8/03	6/8/03	6/8/03
Elevations													
ground surface (masl)[1]	3.77	4.16	4.16	4.21	4.02	3.62	4.46	3.59	4.19	4.13	-	-	-
top of casing (masl)[1]	4.89	4.69	4.67	4.9	4.45	4.22	4.82	3.47	4.11	4.04	-	-	-
water table (masl)	1.96	-	2.09	1.945	1.53	1.525	-	2.33	1.89	2.34	-	-	-

Notes:
1. Elevations surveyed by McElhanney Surveyors
2. Well was observed to be damaged; water levels not obtainable
3. "-" = not measured or not available

Monitoring Well Identification Date Installed	MW96-1[4] 05/24/96	MW98-1[2] 09/14/98	MW98-2[4] 09/14/98	MW98-3[4] 09/14/98	MW98-4 09/15/98	MW98-5[4] 09/15/98	MW98-6[2] 09/14/98	HYMW98-1[4] 09/22/98	HYMW98-2 09/22/98	HYMW98-3 09/23/98	MW99-1	MW99-2	MW99-3
Measurements from ground surface													
top of screen (m)	1.2	1.2	1.5	1.2	1.2	1.2	1.2	1.2	0.9	0.6	0.6	0.6	0.6
bottom of screen (m)	4.2	4.2	4.55	4.25	4.25	4.25	4.25	3.0	3.0	1.95	3.65	3.65	3.65
bottom of well (m)	4.6	4.2	4.55	4.25	4.25	4.25	4.25	3.3	3.3	2.25	3.65	3.65	3.65
Measurements from top of casing													
depth to water table (m)	3.025	-	2.581	2.959	2.955	2.748	-	1.115	2.121	1.658	2.209	1.79	1.505
date measured	7/28/04	-	7/28/04	7/28/04	7/28/04	7/28/04	-	7/27/04	7/27/04	7/27/04	7/27/04	7/27/04	7/27/04
Elevations													
ground surface (masl)[1]	3.77	4.16	4.16	4.21	4.02	3.62	4.46	3.59	4.19	4.13	-	-	-
top of casing (masl)[1]	4.89	4.69	4.67	4.9	4.45	4.22	4.82	3.47	4.11	4.04	-	-	-
water table (masl)	1.865	-	2.089	1.941	1.495	1.472	-	2.355	1.989	2.382	-	-	-

Notes:
1. Elevations surveyed by McElhanney Surveyors
2. Well was observed to be damaged; water levels not obtainable
3. "-" = not measured or not available
4. Well or protective casing observed to be damaged.

Monitoring Well Identification Date Installed	MW96-1 05/24/96	MW98-1[2] 09/14/98	MW98-2 09/14/98	MW98-3 09/14/98	MW98-4 09/15/98	MW98-5 09/15/98	MW98-6[2] 09/14/98	HYMW98-1 09/22/98	HYMW98-2 09/22/98	HYMW98-3 09/23/98	MW99-1	MW99-2	MW99-3
Measurements from ground surface													
top of screen (m)	1.2	1.2	1.5	1.2	1.2	1.2	1.2	1.2	0.9	0.6	0.6	0.6	0.6
bottom of screen (m)	4.2	4.2	4.55	4.25	4.25	4.25	4.25	3.0	3.0	1.95	3.65	3.65	3.65
bottom of well (m)	4.6	4.2	4.55	4.25	4.25	4.25	4.25	3.3	3.3	2.25	3.65	3.65	3.65
Measurements from top of casing													
depth to water table (m)	1.12	-	2.58	1.79	2.065	2.11	-	1.05	1.65	-	2.04	1.23	0.8
date measured	2/4/09	-	2/4/09	2/4/09	2/4/09	2/4/09	-	2/5/09	2/5/09	-	2/5/09	2/5/09	2/5/09
Elevations													
ground surface (masl)[1]	3.77	4.16	4.16	4.21	4.02	3.62	4.46	3.59	4.19	4.13	-	-	-
top of casing (masl)[1]	4.89	4.69	4.67	4.9	4.45	4.22	4.82	3.47	4.11	4.04	-	-	-
water table (masl)	3.77	-	2.09	3.11	2.385	2.11	-	2.42	2.46	-	-	-	-

Notes:
1. Elevations surveyed by McElhanney Surveyors
2. Well was not found or was observed to be damaged; water levels not obtainable
3. "-" not measured or not available

Monitoring Well Identification Date Installed	MW96-1[1] 05/24/96	MW98-1[2,4] 09/14/98	MW98-2[2] 09/14/98	MW98-3[2,4] 09/14/98	MW98-4R[6] 08/03/12	MW98-5[2] 09/15/98	MW98-6[2,4] 09/14/98	HYMW98-1[2] 09/22/98	HYMW98-2 09/22/98	HYMW98-3 09/23/98	MW99-1 11/17/99	MW99-2 11/17/99	MW99-3 11/17/99
Measurements from original ground surface													
top of screen (m)	1.2	1.2	1.5	1.2	2.44	1.2	1.2	1.2	0.9	0.6	0.6	0.6	0.6
bottom of screen (m)	4.2	4.2	4.55	4.25	3.96	4.25	4.25	3.0	3.0	1.95	3.65	3.65	3.65
bottom of well (m)	4.6	4.2	4.55	4.25	3.96	4.25	4.25	3.3	3.3	2.25	3.65	3.65	3.65
Measurements from top of casing													
depth to water table (m)	2.312	-	2.294	-	2.081	2.109	-	-	1.053	1.104	1.954	0.840	0.585
date measured	12/08/14	-	12/08/14	-	12/09/14	12/09/14	-	-	12/09/14	12/09/14	12/08/14	12/09/14	12/08/14
Elevations													
original ground surface (masl)[1]	3.77	4.16	4.16	4.21	-	3.62	4.46	3.59	4.19	4.13	-	-	-
initial top of casing (masl)[1]	-	-	-	-	-	-	-	3.47	4.11	4.04	-	-	-
water table (masl)	-	-	-	-	-	-	-	-	3.057	2.936	-	-	-

Notes:
1. Ground surface and monitoring well elevations were initially surveyed by McElhanney Surveyors
2. Well was either (a) not found, (b) observed to be damaged or (c) not accessible. Water levels were not obtained.
3. "-" = not measured or not available
4. Prior temporary use of the site resulted in fill being placed and stick up monitoring wells being cut off and converted to flush mounts. Re-surveying of locations affected by this work has not been conducted.
5. "m" = metres; "masl" = metres above sea level.
6. Well replaced in August 2012. Measurements from the ground surface at the time of installation.

Appendix 6

QA/QC Review

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Appendix 6
Quality Assurance/Quality Control

This section reviews our quality assurance/quality control (QA/QC) procedures for data collection and investigation implementation. We evaluate data based on its precision, accuracy, representativeness and completeness.

Chemical analytical results and investigation methodology from the Stage 2 Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) are reviewed. Chemical results and methodologies were compared against applicable Contaminated Sites Regulation (CSR) standards, and the BC Laboratory Manual methodologies. Investigation methodologies were compared against PGL standard guidance and BC Ministry of Environment and Climate Change Strategy CSR Technical Guidance. The objective of the QA/QC program is to assess that the data quality objectives for this project have been met and that the chemical analytical results can be relied upon to determine the condition of the Site.

The significant measures of data quality are discussed in detail in the following sections.

1.1 Precision and Accuracy

Precision and accuracy are critical to the use of data. Analytical precision was evaluated by ALS Environmental using internal duplicate analyses. PGL supplements this precision evaluation with blind duplicates submitted for laboratory analysis at a nominal rate of 10%, rounded up for soil/sediment, water, and soil vapour; this frequency is consistent with guidance in Technical Guidance Document #1 of the BC CSR. Analytical accuracy was maintained by calibration standards and assessed by comparing surrogate recoveries to allowable ranges and testing certified reference materials as specified in the BC Laboratory Manual.

1.2 Laboratory Data Quality

We reviewed laboratory QA/QC methods to ensure data reliability. Laboratories conduct internal QA/QC analysis, which is included with their certificates of analysis. Certificates of analysis are attached in Appendix 7.

Analytical precision and accuracy was maintained by comparing duplicates and surrogate recoveries to allowable ranges, and testing calibration standards and certified reference materials.

PGL's review of the Laboratory QC data indicated that the required analytical accuracy was mostly achieved. One item bares mentioning:

- The laboratory report L2163712 commented on sample results from SV16 could be biased slightly low. However, the parameters affected were not in danger of exceeding the applicable standards; therefore, the soil vapour results are considered reliable.

The laboratory reports detailing accuracy measurements are included in Appendix 7.

1.3 Field Duplicate Analysis

Total precision is the measurement of the variability associated with the entire sampling and analysis process. It is determined by analyzing duplicate field samples, and it measures variability from both laboratory and field operations.

Laboratory relative percent differences (RPDs) represent the expected, and so acceptable, analytical variation. In real samples, both matrix and method variation affect RPD. Larger RPDs are possible in field duplicates due to variation added during sampling. Soil duplicates usually have more variation than water and vapour duplicates due to differences in sample homogenization and sample heterogeneity (nugget effects).

To determine our acceptance criteria for soil/sediment, vapor, and water field duplicates, PGL starts with RPD screening values from the BC Laboratory Manual and adds a maximum additional 50% to account for variation added during field sampling activities up to a combined total of 50% (analytical variation + field variation).[1]

Table A6-A: BC Laboratory Manual RPDs and Maximum Field Duplicate RPDs

Parameter Category	Expected Analytical RPD at concentrations exceeding 5x the RDL	Maximum Field Duplicates RPD at concentrations exceeding 5x the RDL
Organics in solids		
• Polycyclic aromatic hydrocarbons (PAH)	50%	75%
• Volatile organics (including volatile petroleum hydrocarbons)	40%	60%
• Extractable petroleum hydrocarbons (EPH)	40%	60%
• Most others*	40%	60%
Organics in water[(a)]	30%	45%
Metals in solids	30%	45%
High variability metals in solids[(b)]	40%	60%
Metals in water	20%	30%
General inorganics in solids	30%	45%
General inorganics in water	20%	30%
Vapour	40%	60%

(a) Derivatized acid extractables, like chlorophenols and pesticides will tend to be higher

(b) Metals with known high variability are: Ag, Al, Ba, Hg, K, Mo, Pb, Sn, Sr, and Ti

[1] A Field RPD acceptance criteria of 1.5 times the expected analytical variation is recommended by the BC Ministry of the Environment Website, "Questions and Answers - Standards," <http://www.env.gov.bc.ca/epd/remediation/q-a/#standards> 31 January 2015

Additional methods for addressing RPD data for this project are:

- Calculating RPD for only result pairs with concentrations greater than 5x the RDL in both samples;
- Not calculating RPD for duplicate pairs with concentrations less than 5x the RDL, except where the detection limit is close to the standard. This is based on an intrinsic drawback in the RPD calculation – where the values used in the calculation approach zero, the calculated RPD value increases significantly; and
- Considering duplicate pairs where RPD is not calculated but there is high qualitative variability. Generally, we consider qualitative differences when the absolute difference between duplicate sample results is greater than 5x the RDL.

Where the target RPD is exceeded, we investigate to assess whether cause can be determined. We also assess whether the RPD exceedance is material to use of the data and should be applied to all data in the same category (i.e., if one light extractable petroleum hydrocarbon (LEPH) exceeded the allowable limit in soil, should we assess the effect on all LEPH soil analyses). We recognize that many factors may cause high field duplicate RPD results in environmental samples, and generally we consider data reliable if the RPD failure rate for a given parameter is less than 10%.

1.3.1 Soil RPD

Soil RPD results are presented in Table A6-1. Most RPD results met the screening criteria with the following exceptions:

- The overall duplicate rate of the Stage 2 PSI and DSI dataset is 1-in-10; however, the duplicate rate for metals analysis was just less than the 1-in-10. This is not considered a limitation to the conclusion of this report since most of the duplicate samples analyzed for metals met the screening criteria;
- Multiple duplicate pairs have at least one metal parameter with an RPD exceeding the screening criteria. We attribute these results to nugget effects and the heterogeneity of the soil samples collected, which were in variable fill material. Since most parameters met the screening criteria we consider the data reliable;
- There were two duplicate pairs where a significant number of parameters' RPD exceeded the screening criteria (out of 28): BH103M-01 (Z101) and BH146-02 (Z114). Increased variability in these samples does not alter our conclusions with respect to the standards; and
- Most PAH parameters have RPDs exceeding the screening criteria in BH107M-05 (Z105). The added variability does not change the classification of this soil with respect to CSR standards. This sample was collected in heterogeneous fill material, and we attribute the added variability to nugget affects. The larger dataset is considered reliable since most sample/duplicate pairs (>90%) have RPDs within the screening criteria.

1.3.2 Water RPD

Groundwater RPD results are presented in Table A6-2. All RPD results met the screening criteria.

1.3.3 Vapour RPD

Soil vapour RPD results are presented in Table A6-3. All RPD results met the screening criteria.

1.4 Representativeness and Completeness

Representativeness and completeness are measurements of how well the data collected represents the conditions at the Site. Representativeness was achieved by standard PGL field, sampling and analytical procedures, field technician training, and by appropriate program design and implementation. Completeness was assessed by reviewing the program design to ensure that all risks were appropriately assessed, and that enough data was collected to support our conclusions.

All project data (analytical data, lots, figures, tables, text, etc.) was reviewed by a qualified technical individual who was not part of the core project staff. The following information was documented for each sample on each chain of custody form or PGL standardized field sampling form:

- Unique sample identification for each sample;
- Date and time of sample collection;
- Source of sample (including name, location, and sample type);
- Preservative used;
- Analyses required;
- Name of collector(s);
- Pertinent field data (pH, temperature, etc.); and
- Custody transfer signatures, and dates and times of sample transfers from the field to transporters and to the laboratory or laboratories.

1.5 Groundwater Sample Turbidity

Groundwater samples were collected with turbidity readings greater than PGL's target criteria of 10 Nephelometric Turbidity Units (NTU). However, since high turbidity is more likely to bias samples high, this does not affect our conclusions with respect to the samples containing concentrations less than the CSR standards.

1.6 Sample Holding Times

Recommended sample holding times are set so that samples are analyzed before significant degradation of the sample, and degradation of the specific analyte of interest in the sample (EPA, 1984, 1994). None of the samples exceeded their respective holding times.

1.7 Summary

Based on a review of the data quality indicators discussed above, we conclude that the data quality objectives have been substantially achieved. For those samples that have not met the data quality objectives, specifically an RPD greater than the screening criteria, we concluded in all cases that the increased variability would not affect the conclusions of this report.

Our validated dataset allows us to make valid inferences and conclusions regarding classification of the soil and groundwater at the Site in relation to the CSR Standards.

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L1810820	L1810820		L1810820	L1810820		L2089639	L2089639		L2089639	L2089639		
			Field ID	BH01M-1	Z01 (Duplicate of BH01M-1)	**RPD**	BH04M-2	Z02 (Duplicate of BH04M-2)	**RPD**	BH102M-01	Z100 (Dup of BH102M-01)	**RPD**	BH103M-01	Z101 (Dup of BH103M-01)	**RPD**	
			Sampled Date/Time	2016-08-06	2016-08-06		2016-08-08	2016-08-08		2018-05-03	2018-05-03		2018-05-03	2018-05-03		
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	
Anions																
Chloride	mg/kg		0.46 : 0.48 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium Ion	ug/g		1	-	-	-	-	-	-	-	-	-	-	-	-	
EPH																
EPH C10-C19	mg/kg	60	200	-	-	-	<200	<200	NC	<200	<200	NC	660	<200	NC	
EPH C19-C32	mg/kg	60	200	-	-	-	<200	<200	NC	<200	<200	NC	1760	<200	NC	
LEPH	mg/kg	60	200	-	-	-	-	-	-	<200	<200	NC	-	-	-	
HEPH	mg/kg	60	200	-	-	-	-	-	-	<200	<200	NC	-	-	-	
Non-Chlorinated Phenolics																
Butylated Hydroxytoluene	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-	
Phenols																
2-methylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
Phenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
4-methylphenol	mg/kg	60	0.04 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
4-methylphenol	mg/kg	60	0.02 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-dimethylphenol	mg/kg	60	0.09 : 0.08 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
3-Chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
4-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,3-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,6-dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
3,4-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
3,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,4-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,6-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,5-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,6-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
3,4,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,4,5-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,4,6-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,5,6-Tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
Halogenated Phenols																
2.4 & 2.5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
MAH																
Benzene	mg/kg	60	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Styrene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Xylenes, total	mg/kg	60	0.07	-	-	-	-	-	-	-	-	-	-	-	-	
VHw6-10	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-	
VPH	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl tert-butyl ether [MTBE]	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-	

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2089639	L2089639		L2089639	L2089639		L2091003	L2091003		L2091003	L2091003	
			Field ID	BH103M-03	Z102 (Dup of BH103M-03)	**RPD**	BH104M-03	Z103 (Dup of BH104M-03)	**RPD**	BH115-02	Z106 (Dup of BH115-02)	**RPD**	BH107-05	Z105 (Dup of BH107-05)	**RPD**
			Sampled Date/Time	2018-05-03	2018-05-03		2018-05-04	2018-05-04		2018-05-07	2018-05-07		2018-05-04	2018-05-04	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Anions															
Chloride	mg/kg		0.46 : 0.48 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Ion	ug/g		1	-	-	-	-	-	-	-	-	-	-	-	-
EPH															
EPH C10-C19	mg/kg	60	200	-	-	-	<200	<200	NC	<200	<200	NC	<200	<200	NC
EPH C19-C32	mg/kg	60	200	-	-	-	<200	<200	NC	<200	<200	NC	<200	<200	NC
LEPH	mg/kg	60	200	-	-	-	<200	<200	NC	-	-	-	<200	<200	NC
HEPH	mg/kg	60	200	-	-	-	<200	<200	NC	-	-	-	<200	<200	NC
Non-Chlorinated Phenolics															
Butylated Hydroxytoluene	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	<0.2	1.66	NC
Phenols															
2-methylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
Phenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
4-methylphenol	mg/kg	60	0.04 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.02 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	<0.02	<0.03	NC
2,4-dimethylphenol	mg/kg	60	0.09 : 0.08 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
Pentachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
3-Chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
4-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,3-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,6-dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
3,4-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
3,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,3,4-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,3,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,3,6-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,4,5-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,4,6-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
3,4,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,3,4,5-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,3,4,6-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
2,3,5,6-Tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
Halogenated Phenols															
2.4 & 2.5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
MAH															
Benzene	mg/kg	60	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes, total	mg/kg	60	0.07	-	-	-	-	-	-	-	-	-	-	-	-
VHw6-10	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
VPH	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether [MTBE]	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2091973	L2091973		L2091973	L2091973		L2091973	L2091973		L2092410	L2092410	
			Field ID	BH128-01	Z110 (Dup of BH128-01)	RPD	BH128-02	Z113 (Dup of BH128-02)	RPD	BH121M-04	Z108 (Dup or BH121M-04)	RPD	BH129M-01	Z111 (Dup of BH129M-01)	RPD
			Sampled Date/Time	2018-05-09	2018-05-09		2018-05-09	2018-05-09		2018-05-08	2018-05-08		2018-05-09	2018-05-09	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Anions															
Chloride	mg/kg		0.46 : 0.48 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Ion	ug/g		1	-	-	-	-	-	-	-	-	-	-	-	-
EPH															
EPH C10-C19	mg/kg	60	200	-	-	-	-	-	-	-	-	-	-	-	-
EPH C19-C32	mg/kg	60	200	-	-	-	-	-	-	-	-	-	-	-	-
LEPH	mg/kg	60	200	-	-	-	-	-	-	-	-	-	-	-	-
HEPH	mg/kg	60	200	-	-	-	-	-	-	-	-	-	-	-	-
Non-Chlorinated Phenolics															
Butylated Hydroxytoluene	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Phenols															
2-methylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.04 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.02 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.09 : 0.08 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3-Chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,6-dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,6-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,5-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Phenols															
2.4 & 2.5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
MAH															
Benzene	mg/kg	60	0.005	-	-	-	<0.005	<0.005	NC	-	-	-	-	-	-
Ethylbenzene	mg/kg	60	0.01	-	-	-	<0.015	<0.015	NC	-	-	-	-	-	-
Toluene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Styrene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Xylenes, total	mg/kg	60	0.07	-	-	-	<0.075	<0.075	NC	-	-	-	-	-	-
VHw6-10	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
VPH	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether [MTBE]	mg/kg	60	0.2	-	-	-	<0.2	<0.2	NC	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2094439	L2094439		L2094439	L2094439		L2094439	L2094439		L2094442	L2094442	
			Field ID	BH146-02	Z114 (Dup of BH146-02)	**RPD**	BH146-03	Z115 (Dup of BH146-03)	**RPD**	BH149-01	Z116 (Dup of BH149-01)	**RPD**	BH135-01	Z112 (Dup of BH135-01)	**RPD**
			Sampled Date/Time	2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-10	2018-05-10	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Anions															
Chloride	mg/kg		0.46 : 0.48 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Ion	ug/g		1	-	-	-	-	-	-	-	-	-	-	-	-
EPH															
EPH C10-C19	mg/kg	60	200	-	-	-	-	-	-	<200	<200	NC	<200	<200	NC
EPH C19-C32	mg/kg	60	200	-	-	-	-	-	-	<200	<200	NC	<200	<200	NC
LEPH	mg/kg	60	200	-	-	-	-	-	-	<200	<200	NC	-	-	-
HEPH	mg/kg	60	200	-	-	-	-	-	-	<200	<200	NC	-	-	-
Non-Chlorinated Phenolics															
Butylated Hydroxytoluene	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Phenols															
2-methylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.04 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.02 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.09 : 0.08 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3-Chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,6-dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,6-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,5-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Phenols															
2,4 & 2,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
MAH															
Benzene	mg/kg	60	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes, total	mg/kg	60	0.07	-	-	-	-	-	-	-	-	-	-	-	-
VHw6-10	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
VPH	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether [MTBE]	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2096509	L2096509		L2096509	L2096509		L2096509	L2096509		L2097353	L2097353		
			Field ID	BH142-02	Z118 (Dup of BH142-02)	**RPD**	BH142-03	Z119 (Dup of BH142-03)	**RPD**	BH150-03	Z120 (Dup of BH150-03)	**RPD**	BH154-03	Z121 (Dup of BH154-03)	**RPD**	
			Sampled Date/Time	2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-17	2018-05-17		
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	
Anions																
Chloride	mg/kg		0.46 : 0.48 (Dupe)	-	-	-	-	-	-	2.44	2.49	2	-	-	-	
Sodium Ion	ug/g		1	-	-	-	-	-	-	2.5	3	18	-	-	-	
EPH																
EPH C10-C19	mg/kg	60	200	<200	<200	NC	-	-	-	-	-	-	<200	<200	NC	
EPH C19-C32	mg/kg	60	200	<200	<200	NC	-	-	-	-	-	-	<200	<200	NC	
LEPH	mg/kg	60	200	<200	<200	NC	-	-	-	-	-	-	<200	<200	NC	
HEPH	mg/kg	60	200	<200	<200	NC	-	-	-	-	-	-	<200	<200	NC	
Non-Chlorinated Phenolics																
Butylated Hydroxytoluene	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-	
Phenols																
2-methylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
Phenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
4-methylphenol	mg/kg	60	0.04 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	<0.04	<0.03	NC	
4-methylphenol	mg/kg	60	0.02 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-dimethylphenol	mg/kg	60	0.09 : 0.08 (Dupe)	-	-	-	-	-	-	-	-	-	<0.09	<0.08	NC	
2,4-dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
3-Chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
4-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,3-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,6-dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
3,4-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
3,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,3,4-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,3,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,3,6-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,4,5-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,4,6-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
3,4,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,3,4,5-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,3,4,6-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
2,3,5,6-Tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
Halogenated Phenols																
2.4 & 2.5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
MAH																
Benzene	mg/kg	60	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Styrene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Xylenes, total	mg/kg	60	0.07	-	-	-	-	-	-	-	-	-	-	-	-	
VHw6-10	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-	
VPH	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl tert-butyl ether [MTBE]	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-	

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2097353	L2097353		L2097353	L2097353		L2097353	L2097353		L2097353	L2097353		
			Field ID	BH151-01	Z123 (Dup of BH151-01)	**RPD**	BH158-03	Z122 (Dup of BH158-03)	**RPD**	BH158-06	Z125 (Dup of BH158-06)	**RPD**	BH152-03	Z124 (Dup of BH152-03)	**RPD**
			Sampled Date/Time	2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Anions															
Chloride	mg/kg		0.46 : 0.48 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Ion	ug/g		1	-	-	-	-	-	-	-	-	-	-	-	-
EPH															
EPH C10-C19	mg/kg	60	200	-	-	-	<200	<200	NC	-	-	-	-	-	-
EPH C19-C32	mg/kg	60	200	-	-	-	<200	<200	NC	-	-	-	-	-	-
LEPH	mg/kg	60	200	-	-	-	<200	<200	NC	-	-	-	-	-	-
HEPH	mg/kg	60	200	-	-	-	<200	<200	NC	-	-	-	-	-	-
Non-Chlorinated Phenolics															
Butylated Hydroxytoluene	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Phenols															
2-methylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.04 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.02 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.09 : 0.08 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3-Chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,6-dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,6-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,5-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Phenols															
2.4 & 2.5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
MAH															
Benzene	mg/kg	60	0.005	-	-	-	<0.005	<0.005	NC	-	-	-	-	-	-
Ethylbenzene	mg/kg	60	0.01	-	-	-	<0.015	<0.015	NC	-	-	-	-	-	-
Toluene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Styrene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Xylenes, total	mg/kg	60	0.07	-	-	-	<0.075	<0.075	NC	-	-	-	-	-	-
VHw6-10	mg/kg	60	100	-	-	-	<100	<100	NC	-	-	-	-	-	-
VPH	mg/kg	60	100	-	-	-	<100	<100	NC	-	-	-	-	-	-
Methyl tert-butyl ether [MTBE]	mg/kg	60	0.2	-	-	-	<0.2	<0.2	NC	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2146560	L2146560		L2159851	L2159851		L2159851	L2159851		L2159851	L2159851	
			Field ID	BH161-01	Z201 (Duplicate of BH161-01)	**RPD**	BH179-02	Z205 (Dup of BH179-02)	**RPD**	BH180-01	Z207 (Dup of BH180-01)	**RPD**	BH178-01	Z203 (Dup of BH178-01)	**RPD**
			Sampled Date/Time	2018-08-13	2018-08-13		2018-09-05	2018-09-05		2018-09-05	2018-09-05		2018-09-05	2018-09-05	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Anions															
Chloride	mg/kg		0.46 : 0.48 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Ion	ug/g		1	-	-	-	-	-	-	-	-	-	-	-	-
EPH															
EPH C10-C19	mg/kg	60	200	<200	<200	NC	-	-	-	<200	<200	NC	-	-	-
EPH C19-C32	mg/kg	60	200	<200	<200	NC	-	-	-	<200	<200	NC	-	-	-
LEPH	mg/kg	60	200	<200	<200	NC	-	-	-	-	-	-	-	-	-
HEPH	mg/kg	60	200	<200	<200	NC	-	-	-	-	-	-	-	-	-
Non-Chlorinated Phenolics															
Butylated Hydroxytoluene	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Phenols															
2-methylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.04 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
4-methylphenol	mg/kg	60	0.02 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.09 : 0.08 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
2,4-dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3-Chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,6-dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,6-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4,5-Trichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,5-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6-tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Phenols															
2.4 & 2.5-Dichlorophenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
MAH															
Benzene	mg/kg	60	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes, total	mg/kg	60	0.07	-	-	-	-	-	-	-	-	-	-	-	-
VHw6-10	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
VPH	mg/kg	60	100	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether [MTBE]	mg/kg	60	0.2	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L1810820	L1810820		L1810820	L1810820		L2089639	L2089639		L2089639	L2089639	
			Field ID	BH01M-1	Z01 (Duplicate of BH01M-1)	**RPD**	BH04M-2	Z02 (Duplicate of BH04M-2)	**RPD**	BH102M-01	Z100 (Dup of BH102M-01)	**RPD**	BH103M-01	Z101 (Dup of BH103M-01)	**RPD**
			Sampled Date/Time	2016-08-06	2016-08-06		2016-08-08	2016-08-08		2018-05-03	2018-05-03		2018-05-03	2018-05-03	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Metals															
pH (Lab)	pH_Units	-	0.1	7.08	7.14	NC	-	-	-	8.11	8.11	NC	8.16	7.95	NC
Aluminium	mg/kg	60	50	-	-	-	-	-	-	18300	17700	3	14700	13500	9
Antimony	mg/kg	45	0.1	0.31	0.32	NC	-	-	-	**144**	**548**	**117**	**48.1**	**0.45**	**196**
Arsenic	mg/kg	45	0.1	5.47	4.73	15	-	-	-	**5.55**	**9.32**	**51**	**19**	**2.74**	**150**
Barium	mg/kg	60	0.5	98.3	92.7	6	-	-	-	155	263	NC	**523**	**87.6**	**143**
Beryllium	mg/kg	45	0.1	0.45	0.49	NC	-	-	-	0.31	0.38	NC	0.35	0.22	NC
Boron	mg/kg	45	5	-	-	-	-	-	-	17.8	22.9	25	45.8	<5	NC
Cadmium	mg/kg	45	0.05	0.098	0.119	NC	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	45	0.02	-	-	-	-	-	-	4.55	6.53	NC	**4.14**	**0.053**	**195**
Chromium	mg/kg	45	0.5	38	34.2	11	-	-	-	17.8	18.5	4	**47.3**	**15.4**	**102**
Cobalt	mg/kg	45	0.1	11.4	11.1	3	-	-	-	6.35	6.24	2	**11.5**	**5.51**	**70**
Copper	mg/kg	45	0.5	26.5	26.4	NC	-	-	-	296	363	20	**523**	**19.1**	**186**
Iron	mg/kg	45	50	-	-	-	-	-	-	20900	19200	8	**72900**	**19800**	**115**
Lead	mg/kg	60	0.5	5.99	7.78	26	-	-	-	**2370**	**9860**	**122**	**1550**	**16.5**	**196**
Lithium	mg/kg	45	2	-	-	-	-	-	-	11.3	12.4	9	**11.3**	**4.6**	**84**
Manganese	mg/kg	45	1	-	-	-	-	-	-	250	268	7	**508**	**190**	**91**
Mercury	mg/kg	60	0.05	0.078	0.076	NC	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.02 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	**1.12**	**0.0185**	**194**
Mercury	mg/kg	60	0.005 : 0.25 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005	-	-	-	-	-	-	0.186	0.339	NC	-	-	-
Molybdenum	mg/kg	60	0.1	1.31	1.35	3	-	-	-	0.72	0.71	1	**3.9**	**0.5**	**155**
Nickel	mg/kg	45	0.5	29.6	25.9	13	-	-	-	18.9	24.6	26	**59.8**	**7.65**	**155**
Selenium	mg/kg	45	0.2	0.64	0.6	NC	-	-	-	0.48	0.5	NC	1.85	<0.2	NC
Silver	mg/kg	60	0.1	<0.1	0.13	NC	-	-	-	0.22	0.48	NC	0.45	<0.1	NC
Strontium	mg/kg	60	0.5	-	-	-	-	-	-	**104**	**214**	**69**	**193**	**34.9**	**139**
Thallium	mg/kg	45	0.05	0.084	0.085	NC	-	-	-	0.478	0.366	27	0.108	<0.05	NC
Tin	mg/kg	60	2	<2	<2	NC	-	-	-	38.9	52.8	30	90.6	<2	NC
Tungsten	mg/kg	45	0.5	-	-	-	-	-	-	<0.5	<0.5	NC	1.71	<0.5	NC
Uranium	mg/kg	45	0.05	0.755	0.738	2	-	-	-	0.532	0.594	11	0.52	0.533	2
Vanadium	mg/kg	45	0.2	75.8	74.4	2	-	-	-	49.7	48.5	2	58.1	54.5	6
Zinc	mg/kg	45	2	45.2	44.3	2	-	-	-	525	825	NC	**2140**	**39.2**	**193**
Metals (leached)															
pH (Lab)	pH_Units	-	0.1	-	-	-	-	-	-	2.86	4.9	NC	-	-	-
Antimony	µg/l	45	1000	-	-	-	-	-	-	<1000	<1000	NC	-	-	-
Arsenic	µg/l	45	1000	-	-	-	-	-	-	<1000	<1000	NC	-	-	-
Barium	µg/l	60	2500	-	-	-	-	-	-	<2500	<2500	NC	-	-	-
Beryllium	µg/l	45	20	-	-	-	-	-	-	<25	<25	NC	-	-	-
Boron	µg/l	45	500	-	-	-	-	-	-	<500	<500	NC	-	-	-
Cadmium	µg/l	45	50	-	-	-	-	-	-	<50	<50	NC	-	-	-
Chromium	µg/l	45	250	-	-	-	-	-	-	<250	<250	NC	-	-	-
Cobalt	µg/l	45	50	-	-	-	-	-	-	<50	<50	NC	-	-	-
Copper	µg/l	45	50	-	-	-	-	-	-	122	159	NC	-	-	-
Iron	µg/l	45	5000	-	-	-	-	-	-	<5000	<5000	NC	-	-	-
Lead	µg/l	60	250	-	-	-	-	-	-	**890**	**2680**	**100**	-	-	-
Magnesium	µg/l	45	500	-	-	-	-	-	-	**5150**	**1730**	**99**	-	-	-
Mercury	µg/l	60	1	-	-	-	-	-	-	<1	<1	NC	-	-	-
Nickel	µg/l	45	250	-	-	-	-	-	-	<250	<250	NC	-	-	-
Selenium	µg/l	45	1000	-	-	-	-	-	-	<1000	<1000	NC	-	-	-
Silver	µg/l	60	50	-	-	-	-	-	-	<50	<50	NC	-	-	-
Thallium	µg/l	45	1000	-	-	-	-	-	-	<1000	<1000	NC	-	-	-
Vanadium	µg/l	45	150	-	-	-	-	-	-	<150	<150	NC	-	-	-
Zinc	µg/l	45	500	-	-	-	-	-	-	**2140**	**6030**	**95**	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2089639	L2089639		L2089639	L2089639		L2091003	L2091003		L2091003	L2091003	
			Field ID	BH103M-03	Z102 (Dup of BH103M-03)	**RPD**	BH104M-03	Z103 (Dup of BH104M-03)	**RPD**	BH115-02	Z106 (Dup of BH115-02)	**RPD**	BH107-05	Z105 (Dup of BH107-05)	**RPD**
			Sampled Date/Time	2018-05-03	2018-05-03		2018-05-04	2018-05-04		2018-05-07	2018-05-07		2018-05-04	2018-05-04	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Metals															
pH (Lab)	pH_Units	-	0.1	7.97	7.95	NC	8.01	8.06	NC	7.2	7.24	NC	7.22	7.21	NC
Aluminium	mg/kg	60	50	13300	14600	9	14300	13200	8	10100	9850	3	12100	11800	3
Antimony	mg/kg	45	0.1	0.28	0.54	63	22.8	16	NC	0.17	0.16	NC	**0.6**	**1.31**	**74**
Arsenic	mg/kg	45	0.1	2.4	2.84	17	17.2	13.8	22	1.86	1.83	2	4.81	5.32	10
Barium	mg/kg	60	0.5	77	88.6	14	384	321	18	45.1	44.7	1	76.7	66.9	14
Beryllium	mg/kg	45	0.1	0.24	0.24	NC	0.36	0.34	NC	0.14	0.13	NC	0.18	0.17	6
Boron	mg/kg	45	5	<5	<5	NC	25.4	24	6	<5	<5	NC	<5	<5	NC
Cadmium	mg/kg	45	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	45	0.02	0.033	0.049	NC	2.24	2.41	7	0.048	0.055	14	0.656	0.779	17
Chromium	mg/kg	45	0.5	14	14.9	6	33.5	31.1	7	13.3	13.7	3	12.6	14.6	15
Cobalt	mg/kg	45	0.1	5.76	6.11	6	12.3	12	2	4.89	4.88	NC	5.33	5.39	1
Copper	mg/kg	45	0.5	14.2	18.6	27	**246**	**148**	**50**	12.4	12.7	2	69.4	81.5	16
Iron	mg/kg	45	50	19700	21200	7	83900	63700	27	16100	15600	3	16300	17400	7
Lead	mg/kg	60	0.5	**7.46**	**15.6**	**71**	893	532	51	2.31	2.44	5	27	32.5	18
Lithium	mg/kg	45	2	3.7	4.7	24	11.1	9.9	11	4.4	4.2	5	5.1	5	NC
Manganese	mg/kg	45	1	206	213	3	1390	1230	12	220	217	1	247	246	NC
Mercury	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.02 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005 : 0.25 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005	0.014	0.0191	31	0.448	0.68	NC	0.0076	0.0077	1	0.105	0.116	10
Molybdenum	mg/kg	60	0.1	0.52	0.54	4	1.94	1.79	8	0.17	0.16	NC	0.44	0.53	19
Nickel	mg/kg	45	0.5	7.01	8.42	18	34.5	36.6	6	9	10.3	13	10	10.3	3
Selenium	mg/kg	45	0.2	<0.2	<0.2	NC	0.46	0.4	14	<0.2	<0.2	NC	<0.2	<0.2	NC
Silver	mg/kg	60	0.1	<0.1	<0.1	NC	0.4	0.72	57	<0.1	<0.1	NC	0.12	0.13	8
Strontium	mg/kg	60	0.5	31	39	23	210	202	4	36.4	35.9	1	**68.3**	**33.7**	**68**
Thallium	mg/kg	45	0.05	<0.05	<0.05	NC	0.106	0.098	8	<0.05	<0.05	NC	0.054	0.052	NC
Tin	mg/kg	60	2	<2	<2	NC	83.3	109	27	<2	<2	NC	<2	2.2	NC
Tungsten	mg/kg	45	0.5	<0.5	<0.5	NC	0.72	0.68	6	<0.5	<0.5	NC	<0.5	<0.5	NC
Uranium	mg/kg	45	0.05	0.532	0.497	7	0.6	0.585	3	0.341	0.334	2	0.321	0.354	10
Vanadium	mg/kg	45	0.2	54.6	56.7	4	74.4	65.1	13	49	46.5	5	41.1	45.6	10
Zinc	mg/kg	45	2	**27.4**	**50.9**	**60**	**2280**	**775**	**99**	25.7	24.6	4	128	137	7
Metals (leached)															
pH (Lab)	pH_Units	-	0.1	4.9	4.9	NC	-	-	-	-	-	-	-	-	-
Antimony	µg/l	45	1000	<1000	<1000	NC	-	-	-	-	-	-	-	-	-
Arsenic	µg/l	45	1000	<1000	<1000	NC	-	-	-	-	-	-	-	-	-
Barium	µg/l	60	2500	<2500	<2500	NC	-	-	-	-	-	-	-	-	-
Beryllium	µg/l	45	20	<25	<25	NC	-	-	-	-	-	-	-	-	-
Boron	µg/l	45	500	<500	<500	NC	-	-	-	-	-	-	-	-	-
Cadmium	µg/l	45	50	<50	<50	NC	-	-	-	-	-	-	-	-	-
Chromium	µg/l	45	250	<250	<250	NC	-	-	-	-	-	-	-	-	-
Cobalt	µg/l	45	50	<50	<50	NC	-	-	-	-	-	-	-	-	-
Copper	µg/l	45	50	80	<50	NC	-	-	-	-	-	-	-	-	-
Iron	µg/l	45	5000	7200	9700	NC	-	-	-	-	-	-	-	-	-
Lead	µg/l	60	250	<250	<250	NC	-	-	-	-	-	-	-	-	-
Magnesium	µg/l	45	500	3370	3120	8	-	-	-	-	-	-	-	-	-
Mercury	µg/l	60	1	<1	<1	NC	-	-	-	-	-	-	-	-	-
Nickel	µg/l	45	250	<250	<250	NC	-	-	-	-	-	-	-	-	-
Selenium	µg/l	45	1000	<1000	<1000	NC	-	-	-	-	-	-	-	-	-
Silver	µg/l	60	50	<50	<50	NC	-	-	-	-	-	-	-	-	-
Thallium	µg/l	45	1000	<1000	<1000	NC	-	-	-	-	-	-	-	-	-
Vanadium	µg/l	45	150	<150	<150	NC	-	-	-	-	-	-	-	-	-
Zinc	µg/l	45	500	<500	<500	NC	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2091973	L2091973		L2091973	L2091973		L2091973	L2091973		L2092410	L2092410	
			Field ID	BH128-01	Z110 (Dup of BH128-01)	**RPD**	BH128-02	Z113 (Dup of BH128-02)	**RPD**	BH121M-04	Z108 (Dup or BH121M-04)	**RPD**	BH129M-01	Z111 (Dup of BH129M-01)	**RPD**
			Sampled Date/Time	2018-05-09	2018-05-09		2018-05-09	2018-05-09		2018-05-08	2018-05-08		2018-05-09	2018-05-09	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Metals															
pH (Lab)	pH_Units	-	0.1	6.57	6.1	NC	-	-	-	7.48	7.58	NC	8.15	8	NC
Aluminium	mg/kg	60	50	13000	12800	2	-	-	-	13400	13100	2	17700	15800	11
Antimony	mg/kg	45	0.1	0.65	0.49	28	-	-	-	2.12	2.65	22	1.32	1.49	12
Arsenic	mg/kg	45	0.1	2.11	2.28	8	-	-	-	4.53	3.79	18	4.63	3.67	23
Barium	mg/kg	60	0.5	60.6	61.6	2	-	-	-	90.7	85.8	6	100	69.4	36
Beryllium	mg/kg	45	0.1	0.18	0.18	NC	-	-	-	0.25	0.25	NC	0.25	0.27	8
Boron	mg/kg	45	5	<5	<5	NC	-	-	-	9	8.7	3	<5	<5	NC
Cadmium	mg/kg	45	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	45	0.02	0.062	0.07	12	-	-	-	0.155	0.138	12	0.201	0.145	32
Chromium	mg/kg	45	0.5	**16.4**	**33.6**	**69**	-	-	-	18.3	19.1	4	18.5	17.9	3
Cobalt	mg/kg	45	0.1	5.84	5.88	1	-	-	-	5.45	5.03	8	9.58	8.12	16
Copper	mg/kg	45	0.5	16.9	17.3	2	-	-	-	52.9	51.4	3	33.1	28	17
Iron	mg/kg	45	50	16500	17600	6	-	-	-	19100	15500	21	21100	18500	13
Lead	mg/kg	60	0.5	11.7	11.4	3	-	-	-	250	237	5	57.4	66.9	15
Lithium	mg/kg	45	2	5.8	5.7	2	-	-	-	8	7.6	5	9.6	7.8	21
Manganese	mg/kg	45	1	273	250	9	-	-	-	177	152	15	354	308	14
Mercury	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.02 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005 : 0.25 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005	0.0173	0.0195	12	-	-	-	0.149	0.148	1	0.03	0.0252	17
Molybdenum	mg/kg	60	0.1	0.41	0.45	9	-	-	-	1.23	0.67	59	0.7	0.77	10
Nickel	mg/kg	45	0.5	10.1	10.8	7	-	-	-	17.9	17.6	2	12.8	11.8	8
Selenium	mg/kg	45	0.2	<0.2	<0.2	NC	-	-	-	0.35	0.47	29	<0.2	<0.2	NC
Silver	mg/kg	60	0.1	<0.1	<0.1	NC	-	-	-	0.35	0.35	NC	<0.1	<0.1	NC
Strontium	mg/kg	60	0.5	38.9	36	8	-	-	-	91.8	83.3	10	50.3	37	30
Thallium	mg/kg	45	0.05	0.051	<0.05	2	-	-	-	0.076	0.064	17	0.081	0.068	17
Tin	mg/kg	60	2	<2	<2	NC	-	-	-	28.6	20.8	32	<2	<2	NC
Tungsten	mg/kg	45	0.5	<0.5	<0.5	NC	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC
Uranium	mg/kg	45	0.05	0.4	0.402	NC	-	-	-	0.592	0.624	5	0.392	0.448	13
Vanadium	mg/kg	45	0.2	49.8	51.3	3	-	-	-	47.1	44.7	5	55.9	47.3	17
Zinc	mg/kg	45	2	30.3	30.4	NC	-	-	-	166	158	5	90.4	69.1	27
Metals (leached)															
pH (Lab)	pH_Units	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	µg/l	45	1000	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	µg/l	45	1000	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/l	60	2500	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	µg/l	45	20	-	-	-	-	-	-	-	-	-	-	-	-
Boron	µg/l	45	500	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	µg/l	45	50	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	µg/l	45	250	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	µg/l	45	50	-	-	-	-	-	-	-	-	-	-	-	-
Copper	µg/l	45	50	-	-	-	-	-	-	-	-	-	-	-	-
Iron	µg/l	45	5000	-	-	-	-	-	-	-	-	-	-	-	-
Lead	µg/l	60	250	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	µg/l	45	500	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	µg/l	60	1	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	µg/l	45	250	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	µg/l	45	1000	-	-	-	-	-	-	-	-	-	-	-	-
Silver	µg/l	60	50	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	µg/l	45	1000	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	µg/l	45	150	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	µg/l	45	500	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number				L2094439	L2094439		L2094439	L2094439		L2094439	L2094439		L2094442	L2094442	
Field ID				BH146-02	Z114 (Dup of BH146-02)	**RPD**	BH146-03	Z115 (Dup of BH146-03)	**RPD**	BH149-01	Z116 (Dup of BH149-01)	**RPD**	BH135-01	Z112 (Dup of BH135-01)	**RPD**
Sampled Date/Time				2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-10	2018-05-10	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Metals															
pH (Lab)	pH_Units	-	0.1	8.17	8.21	NC	7.33	7.41	NC	7.92	7.89	NC	-	-	-
Aluminium	mg/kg	60	50	14200	14900	5	11900	10100	16	10600	11100	5	-	-	-
Antimony	mg/kg	45	0.1	**0.63**	**1.37**	**74**	0.11	<0.1	10	0.18	0.18	NC	-	-	-
Arsenic	mg/kg	45	0.1	2.93	4.09	33	1.94	1.68	14	1.94	2.09	7	-	-	-
Barium	mg/kg	60	0.5	70.8	130	59	46.1	39	17	43.1	44.6	3	-	-	-
Beryllium	mg/kg	45	0.1	0.18	0.21	15	0.14	0.13	7	0.11	0.13	17	-	-	-
Boron	mg/kg	45	5	<5	8.5	52	<5	<5	NC	<5	<5	NC	-	-	-
Cadmium	mg/kg	45	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	45	0.02	**0.113**	**0.42**	**115**	0.037	0.034	8	0.047	0.051	8	-	-	-
Chromium	mg/kg	45	0.5	16	18.1	12	13.8	11.6	17	12.1	13.6	12	-	-	-
Cobalt	mg/kg	45	0.1	6.17	7.8	23	4.6	4.17	10	5.06	5.45	7	-	-	-
Copper	mg/kg	45	0.5	**21.3**	**53.2**	**86**	12.1	11.3	7	13.6	14.6	7	-	-	-
Iron	mg/kg	45	50	19300	23800	21	15100	14500	4	15700	16700	6	-	-	-
Lead	mg/kg	60	0.5	**26.1**	**108**	**122**	2.25	1.96	14	4.02	4.5	11	-	-	-
Lithium	mg/kg	45	2	5.6	7.7	32	4.9	4.7	4	5.6	6.3	12	-	-	-
Manganese	mg/kg	45	1	273	372	31	193	202	5	257	286	11	-	-	-
Mercury	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.02 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005 : 0.25 (Dupe)	**0.585**	**5.54**	**162**	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005	-	-	-	0.0362	0.0155	NC	0.0134	0.0165	21	-	-	-
Molybdenum	mg/kg	60	0.1	0.52	0.9	54	0.24	0.21	13	0.28	0.4	35	-	-	-
Nickel	mg/kg	45	0.5	27.3	42.1	43	12.1	8.47	35	7.57	8.56	12	-	-	-
Selenium	mg/kg	45	0.2	<0.2	<0.2	NC	<0.2	<0.2	NC	<0.2	<0.2	NC	-	-	-
Silver	mg/kg	60	0.1	<0.1	0.12	18	<0.1	<0.1	NC	<0.1	<0.1	NC	-	-	-
Strontium	mg/kg	60	0.5	**40.8**	**85.8**	**71**	28.4	26.2	8	27.8	28.1	1	-	-	-
Thallium	mg/kg	45	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	-	-	-
Tin	mg/kg	60	2	**5.1**	**19.7**	**118**	<2	<2	NC	<2	<2	NC	-	-	-
Tungsten	mg/kg	45	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Uranium	mg/kg	45	0.05	0.398	0.535	29	0.276	0.276	NC	0.338	0.31	9	-	-	-
Vanadium	mg/kg	45	0.2	56.1	59.8	6	46	42.3	8	43.1	44.9	4	-	-	-
Zinc	mg/kg	45	2	**62.5**	**195**	**103**	24.4	23.6	3	27.9	29.6	6	-	-	-
Metals (leached)															
pH (Lab)	pH_Units	-	0.1	-	-	-	-	-	-	-	-	-	4.93	4.93	NC
Antimony	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC
Arsenic	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC
Barium	µg/l	60	2500	-	-	-	-	-	-	-	-	-	<2500	<2500	NC
Beryllium	µg/l	45	20	-	-	-	-	-	-	-	-	-	<25	<25	NC
Boron	µg/l	45	500	-	-	-	-	-	-	-	-	-	<500	<500	NC
Cadmium	µg/l	45	50	-	-	-	-	-	-	-	-	-	<50	<50	NC
Chromium	µg/l	45	250	-	-	-	-	-	-	-	-	-	<250	<250	NC
Cobalt	µg/l	45	50	-	-	-	-	-	-	-	-	-	<50	<50	NC
Copper	µg/l	45	50	-	-	-	-	-	-	-	-	-	263	206	24
Iron	µg/l	45	5000	-	-	-	-	-	-	-	-	-	<5000	<5000	NC
Lead	µg/l	60	250	-	-	-	-	-	-	-	-	-	**1180**	**4510**	**117**
Magnesium	µg/l	45	500	-	-	-	-	-	-	-	-	-	3150	3980	23
Mercury	µg/l	60	1	-	-	-	-	-	-	-	-	-	<1	<1	NC
Nickel	µg/l	45	250	-	-	-	-	-	-	-	-	-	<250	<250	NC
Selenium	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC
Silver	µg/l	60	50	-	-	-	-	-	-	-	-	-	<50	<50	NC
Thallium	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC
Vanadium	µg/l	45	150	-	-	-	-	-	-	-	-	-	<150	<150	NC
Zinc	µg/l	45	500	-	-	-	-	-	-	-	-	-	2660	1460	NC

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number				L2096509	L2096509		L2096509	L2096509		L2096509	L2096509		L2097353	L2097353		
Field ID				BH142-02	Z118 (Dup of BH142-02)	RPD	BH142-03	Z119 (Dup of BH142-03)	RPD	BH150-03	Z120 (Dup of BH150-03)	RPD	BH154-03	Z121 (Dup of BH154-03)	RPD	
Sampled Date/Time				2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-17	2018-05-17		
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	
Metals																
pH (Lab)	pH_Units	-	0.1	7.56	7.51	NC	7.49	7.49	NC	-	-	-	8.09	8.14	NC	
Aluminium	mg/kg	60	50	10900	11100	2	9040	11300	22	-	-	-	22500	21000	7	
Antimony	mg/kg	45	0.1	0.16	0.12	29	<0.1	0.15	40	-	-	-	3.67	5.38	38	
Arsenic	mg/kg	45	0.1	1.93	1.78	8	1.53	1.65	8	-	-	-	8.39	8.56	2	
Barium	mg/kg	60	0.5	56.1	46.8	18	32	46.7	37	-	-	-	565	531	6	
Beryllium	mg/kg	45	0.1	0.13	0.14	7	<0.1	0.13	26	-	-	-	0.44	0.41	7	
Boron	mg/kg	45	5	<5	<5	NC	<5	<5	NC	-	-	-	53.1	54.8	3	
Cadmium	mg/kg	45	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Cadmium	mg/kg	45	0.02	0.044	0.041	7	0.039	0.041	5	-	-	-	0.228	0.183	22	
Chromium	mg/kg	45	0.5	12.4	12.4	NC	10.7	14.3	29	-	-	-	29.1	26.4	10	
Cobalt	mg/kg	45	0.1	4.73	4.91	4	4.06	4.97	20	-	-	-	10.7	9.48	12	
Copper	mg/kg	45	0.5	13.6	13.7	1	10.5	13.3	24	-	-	-	107	101	6	
Iron	mg/kg	45	50	15000	15500	3	12900	16500	24	-	-	-	31200	28700	8	
Lead	mg/kg	60	0.5	4.95	3.2	43	1.79	2.58	36	-	-	-	681	507	29	
Lithium	mg/kg	45	2	4.5	4.5	NC	4.6	5.7	21	-	-	-	13.1	13.2	1	
Manganese	mg/kg	45	1	196	207	5	202	227	12	-	-	-	388	377	3	
Mercury	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Mercury	mg/kg	60	0.02 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
Mercury	mg/kg	60	0.005 : 0.25 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
Mercury	mg/kg	60	0.005	0.0116	0.0137	NC	0.007	0.0106	41	-	-	-	0.0238	0.0254	7	
Molybdenum	mg/kg	60	0.1	0.29	0.28	4	0.29	0.2	37	-	-	-	2.01	1.75	14	
Nickel	mg/kg	45	0.5	8.78	8.81	NC	6.93	9.08	27	-	-	-	22.3	19.9	11	
Selenium	mg/kg	45	0.2	<0.2	<0.2	NC	<0.2	<0.2	NC	-	-	-	<0.2	<0.2	NC	
Silver	mg/kg	60	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	-	-	-	0.84	0.43	65	
Strontium	mg/kg	60	0.5	29.1	25.3	14	23.2	28.9	22	-	-	-	340	326	4	
Thallium	mg/kg	45	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	-	-	-	0.066	0.066	NC	
Tin	mg/kg	60	2	<2	<2	NC	<2	<2	NC	-	-	-	164	154	6	
Tungsten	mg/kg	45	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-	<0.5	<0.5	NC	
Uranium	mg/kg	45	0.05	0.31	0.306	1	0.255	0.291	13	-	-	-	0.698	0.633	10	
Vanadium	mg/kg	45	0.2	45	48.2	7	35.4	47.1	28	-	-	-	69.1	64.2	7	
Zinc	mg/kg	45	2	26.1	25.9	1	23.9	27.4	14	-	-	-	191	189	1	
Metals (leached)																
pH (Lab)	pH_Units	-	0.1	-	-	-	-	-	-	-	-	-	2.85	2.85	NC	
Antimony	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC	
Arsenic	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC	
Barium	µg/l	60	2500	-	-	-	-	-	-	-	-	-	4100	4100	NC	
Beryllium	µg/l	45	20	-	-	-	-	-	-	-	-	-	<25	<25	NC	
Boron	µg/l	45	500	-	-	-	-	-	-	-	-	-	530	580	9	
Cadmium	µg/l	45	50	-	-	-	-	-	-	-	-	-	<50	<50	NC	
Chromium	µg/l	45	250	-	-	-	-	-	-	-	-	-	<250	<250	NC	
Cobalt	µg/l	45	50	-	-	-	-	-	-	-	-	-	<50	<50	NC	
Copper	µg/l	45	50	-	-	-	-	-	-	-	-	-	<50	<50	NC	
Iron	µg/l	45	5000	-	-	-	-	-	-	-	-	-	103000	113000	9	
Lead	µg/l	60	250	-	-	-	-	-	-	-	-	-	5010	5750	14	
Magnesium	µg/l	45	500	-	-	-	-	-	-	-	-	-	17400	17600	1	
Mercury	µg/l	60	1	-	-	-	-	-	-	-	-	-	<1	<1	NC	
Nickel	µg/l	45	250	-	-	-	-	-	-	-	-	-	<250	<250	NC	
Selenium	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC	
Silver	µg/l	60	50	-	-	-	-	-	-	-	-	-	<50	<50	NC	
Thallium	µg/l	45	1000	-	-	-	-	-	-	-	-	-	<1000	<1000	NC	
Vanadium	µg/l	45	150	-	-	-	-	-	-	-	-	-	<150	<150	NC	
Zinc	µg/l	45	500	-	-	-	-	-	-	-	-	-	4150	3120	28	

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2097353	L2097353		L2097353	L2097353		L2097353	L2097353		L2097353	L2097353	
			Field ID	BH151-01	Z123 (Dup of BH151-01)	**RPD**	BH158-03	Z122 (Dup of BH158-03)	**RPD**	BH158-06	Z125 (Dup of BH158-06)	**RPD**	BH152-03	Z124 (Dup of BH152-03)	**RPD**
			Sampled Date/Time	2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Metals															
pH (Lab)	pH_Units	-	0.1	7.32	7.33	NC	7.07	7.26	3	-	-	-	7.19	7.25	1
Aluminium	mg/kg	60	50	16500	16700	1	15000	13900	8	-	-	-	13100	12500	5
Antimony	mg/kg	45	0.1	1.15	0.76	41	0.23	0.32	33	-	-	-	0.16	0.15	6
Arsenic	mg/kg	45	0.1	3.65	3.11	16	2.1	2.18	4	-	-	-	2.02	1.86	8
Barium	mg/kg	60	0.5	87.6	79.9	9	61.2	66.3	8	-	-	-	52.5	49.4	6
Beryllium	mg/kg	45	0.1	0.21	0.21	NC	0.17	0.17	NC	-	-	-	0.16	0.16	NC
Boron	mg/kg	45	5	<5	<5	NC	<5	<5	NC	-	-	-	<5	<5	NC
Cadmium	mg/kg	45	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	45	0.02	0.161	0.113	35	0.062	0.082	28	-	-	-	0.047	0.047	NC
Chromium	mg/kg	45	0.5	20.8	20.8	NC	17.1	16.8	2	-	-	-	15.3	14.9	3
Cobalt	mg/kg	45	0.1	7.68	7.79	1	5.87	5.97	2	-	-	-	5.71	5.46	4
Copper	mg/kg	45	0.5	34.2	26.2	26	17.5	20.2	14	-	-	-	15.3	14	9
Iron	mg/kg	45	50	22400	21100	6	17500	17500	0	-	-	-	16600	16500	1
Lead	mg/kg	60	0.5	**36.8**	**16.6**	**76**	10.2	17.2	51	-	-	-	3.24	2.34	32
Lithium	mg/kg	45	2	7.5	7.1	5	5.8	5.6	4	-	-	-	5.4	5	8
Manganese	mg/kg	45	1	347	338	3	249	249	NC	-	-	-	272	257	6
Mercury	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.02 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005 : 0.25 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005	0.0363	0.0289	23	0.018	0.0163	10	-	-	-	0.0119	0.0119	NC
Molybdenum	mg/kg	60	0.1	0.43	0.49	13	0.33	0.52	45	-	-	-	0.21	0.2	5
Nickel	mg/kg	45	0.5	15.6	14.9	5	10.3	10.9	6	-	-	-	10.1	9.68	4
Selenium	mg/kg	45	0.2	<0.2	<0.2	NC	<0.2	<0.2	NC	-	-	-	<0.2	<0.2	NC
Silver	mg/kg	60	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC	-	-	-	<0.1	<0.1	NC
Strontium	mg/kg	60	0.5	37.7	37	2	34.5	32.5	6	-	-	-	39.8	40.8	2
Thallium	mg/kg	45	0.05	0.057	0.057	NC	<0.05	<0.05	NC	-	-	-	<0.05	<0.05	NC
Tin	mg/kg	60	2	2.2	<2	10	<2	<2	NC	-	-	-	<2	<2	NC
Tungsten	mg/kg	45	0.5	<0.5	<0.5	0	<0.5	<0.5	NC	-	-	-	<0.5	<0.5	NC
Uranium	mg/kg	45	0.05	0.452	0.49	8	0.329	0.321	2	-	-	-	0.352	0.377	7
Vanadium	mg/kg	45	0.2	58.8	59.2	1	50.1	47.1	6	-	-	-	49.4	49.5	NC
Zinc	mg/kg	45	2	82.5	61.6	29	38.9	43.7	12	-	-	-	30.3	28.4	6
Metals (leached)															
pH (Lab)	pH_Units	-	0.1	-	-	-	4.95	4.95	NC	4.95	4.95	NC	-	-	-
Antimony	µg/l	45	1000	-	-	-	<1000	<1000	NC	<1000	<1000	NC	-	-	-
Arsenic	µg/l	45	1000	-	-	-	<1000	<1000	NC	<1000	<1000	NC	-	-	-
Barium	µg/l	60	2500	-	-	-	<2500	<2500	NC	<2500	<2500	NC	-	-	-
Beryllium	µg/l	45	20	-	-	-	<25	<25	NC	<25	<25	NC	-	-	-
Boron	µg/l	45	500	-	-	-	<500	<500	NC	<500	<500	NC	-	-	-
Cadmium	µg/l	45	50	-	-	-	<50	<50	NC	<50	<50	NC	-	-	-
Chromium	µg/l	45	250	-	-	-	<250	<250	NC	<250	<250	NC	-	-	-
Cobalt	µg/l	45	50	-	-	-	<50	<50	NC	<50	<50	NC	-	-	-
Copper	µg/l	45	50	-	-	-	<50	<50	NC	<50	<50	NC	-	-	-
Iron	µg/l	45	5000	-	-	-	5100	<5000	2	13300	12800	4	-	-	-
Lead	µg/l	60	250	-	-	-	<250	<250	NC	<250	<250	NC	-	-	-
Magnesium	µg/l	45	500	-	-	-	2240	2730	20	20200	19500	4	-	-	-
Mercury	µg/l	60	1	-	-	-	<1	<1	NC	<1	<1	NC	-	-	-
Nickel	µg/l	45	250	-	-	-	<250	<250	NC	<250	<250	NC	-	-	-
Selenium	µg/l	45	1000	-	-	-	<1000	<1000	NC	<1000	<1000	NC	-	-	-
Silver	µg/l	60	50	-	-	-	<50	<50	NC	<50	<50	NC	-	-	-
Thallium	µg/l	45	1000	-	-	-	<1000	<1000	NC	<1000	<1000	NC	-	-	-
Vanadium	µg/l	45	150	-	-	-	<150	<150	NC	<150	<150	NC	-	-	-
Zinc	µg/l	45	500	-	-	-	<500	<500	NC	<500	<500	NC	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2146560	L2146560		L2159851	L2159851		L2159851	L2159851		L2159851	L2159851	
			Field ID	BH161-01	Z201 (Duplicate of BH161-01)	**RPD**	BH179-02	Z205 (Dup of BH179-02)	**RPD**	BH180-01	Z207 (Dup of BH180-01)	**RPD**	BH178-01	Z203 (Dup of BH178-01)	**RPD**
			Sampled Date/Time	2018-08-13	2018-08-13		2018-09-05	2018-09-05		2018-09-05	2018-09-05		2018-09-05	2018-09-05	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Metals															
pH (Lab)	pH_Units	-	0.1	-	-	-	7.99	8.01	NC	-	-	-	7.92	7.92	NC
Aluminium	mg/kg	60	50	-	-	-	16100	17900	11	-	-	-	16700	16700	NC
Antimony	mg/kg	45	0.1	-	-	-	0.94	0.97	3	-	-	-	5.62	5.62	NC
Arsenic	mg/kg	45	0.1	-	-	-	7.14	6.28	13	-	-	-	8.51	8.51	NC
Barium	mg/kg	60	0.5	-	-	-	558	529	5	-	-	-	293	293	NC
Beryllium	mg/kg	45	0.1	-	-	-	0.34	0.35	3	-	-	-	0.24	0.24	NC
Boron	mg/kg	45	5	-	-	-	67.6	70.3	4	-	-	-	7.3	7.3	NC
Cadmium	mg/kg	45	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	45	0.02	-	-	-	0.201	0.203	1	-	-	-	3.06	3.06	NC
Chromium	mg/kg	45	0.5	-	-	-	23.3	24.6	5	-	-	-	82.6	82.6	NC
Cobalt	mg/kg	45	0.1	-	-	-	6.65	6.28	6	-	-	-	11.3	11.3	NC
Copper	mg/kg	45	0.5	-	-	-	80.7	92.5	14	-	-	-	527	527	NC
Iron	mg/kg	45	50	-	-	-	30600	26000	16	-	-	-	34100	34100	NC
Lead	mg/kg	60	0.5	-	-	-	178	115	43	-	-	-	620	620	NC
Lithium	mg/kg	45	2	-	-	-	10	11	10	-	-	-	10.5	10.5	NC
Manganese	mg/kg	45	1	-	-	-	366	340	7	-	-	-	572	572	NC
Mercury	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.02 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005 : 0.25 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	60	0.005	-	-	-	0.515	0.303	52	-	-	-	0.27	0.27	NC
Molybdenum	mg/kg	60	0.1	-	-	-	1.67	1.55	7	-	-	-	4.26	4.26	NC
Nickel	mg/kg	45	0.5	-	-	-	24.4	23.5	4	-	-	-	41.2	41.2	NC
Selenium	mg/kg	45	0.2	-	-	-	<0.2	<0.2	NC	-	-	-	0.24	0.24	NC
Silver	mg/kg	60	0.1	-	-	-	0.23	0.23	NC	-	-	-	0.91	0.91	NC
Strontium	mg/kg	60	0.5	-	-	-	553	483	14	-	-	-	62	62	NC
Thallium	mg/kg	45	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	0.063	0.063	NC
Tin	mg/kg	60	2	-	-	-	**388**	**162**	**82**	-	-	-	27.7	27.7	NC
Tungsten	mg/kg	45	0.5	-	-	-	<0.5	<0.5	NC	-	-	-	1.47	1.47	NC
Uranium	mg/kg	45	0.05	-	-	-	0.54	0.647	18	-	-	-	0.432	0.432	NC
Vanadium	mg/kg	45	0.2	-	-	-	52.1	54	4	-	-	-	50.2	50.2	NC
Zinc	mg/kg	45	2	-	-	-	360	290	22	-	-	-	1330	1330	NC
Metals (leached)															
pH (Lab)	pH_Units	-	0.1	-	-	-	4.92	4.92	NC	-	-	-	-	-	-
Antimony	µg/l	45	1000	-	-	-	<1000	<1000	NC	-	-	-	-	-	-
Arsenic	µg/l	45	1000	-	-	-	<1000	<1000	NC	-	-	-	-	-	-
Barium	µg/l	60	2500	-	-	-	<2500	<2500	NC	-	-	-	-	-	-
Beryllium	µg/l	45	20	-	-	-	<25	<25	NC	-	-	-	-	-	-
Boron	µg/l	45	500	-	-	-	<500	<500	NC	-	-	-	-	-	-
Cadmium	µg/l	45	50	-	-	-	<50	<50	NC	-	-	-	-	-	-
Chromium	µg/l	45	250	-	-	-	<250	<250	NC	-	-	-	-	-	-
Cobalt	µg/l	45	50	-	-	-	<50	<50	NC	-	-	-	-	-	-
Copper	µg/l	45	50	-	-	-	<50	<50	NC	-	-	-	-	-	-
Iron	µg/l	45	5000	-	-	-	<5000	<5000	NC	-	-	-	-	-	-
Lead	µg/l	60	250	-	-	-	<250	<250	NC	-	-	-	-	-	-
Magnesium	µg/l	45	500	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	µg/l	60	1	-	-	-	<1	<1	NC	-	-	-	-	-	-
Nickel	µg/l	45	250	-	-	-	<250	<250	NC	-	-	-	-	-	-
Selenium	µg/l	45	1000	-	-	-	<1000	<1000	NC	-	-	-	-	-	-
Silver	µg/l	60	50	-	-	-	<50	<50	NC	-	-	-	-	-	-
Thallium	µg/l	45	1000	-	-	-	<1000	<1000	NC	-	-	-	-	-	-
Vanadium	µg/l	45	150	-	-	-	<150	<150	NC	-	-	-	-	-	-
Zinc	µg/l	45	500	-	-	-	3270	3210	2	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L1810820	L1810820		L1810820	L1810820		L2089639	L2089639		L2089639	L2089639	
			Field ID	BH01M-1	Z01 (Duplicate of BH01M-1)	**RPD**	BH04M-2	Z02 (Duplicate of BH04M-2)	**RPD**	BH102M-01	Z100 (Dup of BH102M-01)	**RPD**	BH103M-01	Z101 (Dup of BH103M-01)	**RPD**
			Sampled Date/Time	2016-08-06	2016-08-06		2016-08-08	2016-08-08		2018-05-03	2018-05-03		2018-05-03	2018-05-03	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
PAH															
1-Methylnaphthalene	mg/kg	75	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
2-methylnaphthalene	mg/kg	75	0.01	-	-	-	-	-	-	0.022	0.03	NC	-	-	-
Acenaphthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.005	-	-	-	-	-	-	0.0349	0.0373	7	-	-	-
Acenaphthylene	mg/kg	75	0.005 : 0.01 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005	-	-	-	-	-	-	0.072	0.113	44	-	-	-
Anthracene	mg/kg	75	0.004 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004	-	-	-	-	-	-	0.145	0.205	34	-	-	-
Benz(a)anthracene	mg/kg	75	0.01	-	-	-	-	-	-	0.639	0.822	25	-	-	-
Benzo(a)pyrene	mg/kg	75	0.01	-	-	-	-	-	-	0.859	1.18	31	-	-	-
Benzo(g,h,i)perylene	mg/kg	75	0.01	-	-	-	-	-	-	0.488	0.63	25	-	-	-
Benzo[b+j]fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	1.12	1.45	26	-	-	-
Benzo(b)&(k)fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	1.52	2.03	29	-	-	-
Benzo(k)fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	0.4	0.579	37	-	-	-
Chrysene	mg/kg	75	0.01 : 0.02 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01	-	-	-	-	-	-	0.686	0.842	20	-	-	-
Dibenz(a,h)anthracene	mg/kg	75	0.005	-	-	-	-	-	-	0.139	0.167	18	-	-	-
Fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	1.02	1.37	29	-	-	-
Fluorene	mg/kg	75	0.01	-	-	-	-	-	-	0.037	0.046	22	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	75	0.01	-	-	-	-	-	-	0.6	0.796	28	-	-	-
Naphthalene	mg/kg	75	0.01	-	-	-	-	-	-	0.033	0.052	45	-	-	-
IACR (CCME)	mg/kg	75	0.15	-	-	-	-	-	-	15	19.9	28	-	-	-
Phenanthrene	mg/kg	75	0.01 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01	-	-	-	-	-	-	0.381	0.492	25	-	-	-
Pyrene	mg/kg	75	0.01	-	-	-	-	-	-	1.08	1.48	31	-	-	-
B(A)P Total Potency Equivalent	mg/kg	75	0.02	-	-	-	-	-	-	1.29	1.73	29	-	-	-
Quinoline	mg/kg	75	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
PAH/Phenols															
3-Methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics															
2,6-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2089639	L2089639		L2089639	L2089639		L2091003	L2091003		L2091003	L2091003	
			Field ID	BH103M-03	Z102 (Dup of BH103M-03)	**RPD**	BH104M-03	Z103 (Dup of BH104M-03)	**RPD**	BH115-02	Z106 (Dup of BH115-02)	**RPD**	BH107-05	Z105 (Dup of BH107-05)	**RPD**
			Sampled Date/Time	2018-05-03	2018-05-03		2018-05-04	2018-05-04		2018-05-07	2018-05-07		2018-05-04	2018-05-04	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
PAH															
1-Methylnaphthalene	mg/kg	75	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	**0.084**	**0.499**	**142**
2-methylnaphthalene	mg/kg	75	0.01	-	-	-	0.028	0.024	NC	-	-	-	**0.11**	**0.795**	**151**
Acenaphthene	mg/kg	75	0.01	-	-	-	<0.016	<0.015	NC	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.005	-	-	-	-	-	-	-	-	-	**0.122**	**1.17**	**162**
Acenaphthylene	mg/kg	75	0.005 : 0.01 (Dupe)	-	-	-	0.0203	<0.015	NC	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005	-	-	-	-	-	-	-	-	-	**0.0195**	**0.0467**	**82**
Anthracene	mg/kg	75	0.004 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004	-	-	-	0.0265	0.0219	19	-	-	-	**0.198**	**1.19**	**143**
Benz(a)anthracene	mg/kg	75	0.01	-	-	-	0.119	0.096	21	-	-	-	**0.157**	**0.66**	**123**
Benzo(a)pyrene	mg/kg	75	0.01	-	-	-	0.187	0.161	15	-	-	-	**0.125**	**0.388**	**103**
Benzo(g,h,i)perylene	mg/kg	75	0.01	-	-	-	0.192	0.14	31	-	-	-	0.072	0.146	68
Benzo[b+j]fluoranthene	mg/kg	75	0.01	-	-	-	0.317	0.253	22	-	-	-	**0.189**	**0.573**	**101**
Benzo(b)&(k)fluoranthene	mg/kg	75	0.01	-	-	-	0.462	0.361	25	-	-	-	**0.268**	**0.806**	**100**
Benzo(k)fluoranthene	mg/kg	75	0.01	-	-	-	0.144	0.109	28	-	-	-	**0.079**	**0.233**	**99**
Chrysene	mg/kg	75	0.01 : 0.02 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01	-	-	-	0.233	0.182	25	-	-	-	**0.151**	**0.58**	**117**
Dibenz(a,h)anthracene	mg/kg	75	0.005	-	-	-	0.0377	0.0278	30	-	-	-	**0.0202**	**0.0485**	**82**
Fluoranthene	mg/kg	75	0.01	-	-	-	0.418	0.346	19	-	-	-	**0.473**	**2.44**	**135**
Fluorene	mg/kg	75	0.01	-	-	-	0.013	<0.015	NC	-	-	-	**0.177**	**1.3**	**152**
Indeno(1,2,3-cd)pyrene	mg/kg	75	0.01	-	-	-	0.207	0.154	29	-	-	-	**0.083**	**0.177**	**72**
Naphthalene	mg/kg	75	0.01	-	-	-	0.035	0.023	41	-	-	-	**0.269**	**1.26**	**130**
IACR (CCME)	mg/kg	75	0.15	-	-	-	4.13	3.27	23	-	-	-	**2.69**	**8.66**	**105**
Phenanthrene	mg/kg	75	0.01 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01	-	-	-	0.356	0.302	16	-	-	-	**0.616**	**4.38**	**151**
Pyrene	mg/kg	75	0.01	-	-	-	0.405	0.33	20	-	-	-	**0.365**	**1.78**	**132**
B(A)P Total Potency Equivalent	mg/kg	75	0.02	-	-	-	0.307	0.254	19	-	-	-	**0.198**	**0.608**	**102**
Quinoline	mg/kg	75	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	<0.05	<0.05	NC
PAH/Phenols															
3-Methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
4-chloro-3-methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
Phenolics															
2,6-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC
3,4-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2091973	L2091973		L2091973	L2091973		L2091973	L2091973		L2092410	L2092410	
			Field ID	BH128-01	Z110 (Dup of BH128-01)	**RPD**	BH128-02	Z113 (Dup of BH128-02)	**RPD**	BH121M-04	Z108 (Dup or BH121M-04)	**RPD**	BH129M-01	Z111 (Dup of BH129M-01)	**RPD**
			Sampled Date/Time	2018-05-09	2018-05-09		2018-05-09	2018-05-09		2018-05-08	2018-05-08		2018-05-09	2018-05-09	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
PAH															
1-Methylnaphthalene	mg/kg	75	0.05	-	-	-	-	-	-	-	-	-	-	-	-
2-methylnaphthalene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005 : 0.01 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b+j]fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)&(k)fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01 : 0.02 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	75	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
IACR (CCME)	mg/kg	75	0.15	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
B(A)P Total Potency Equivalent	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Quinoline	mg/kg	75	0.05	-	-	-	-	-	-	-	-	-	-	-	-
PAH/Phenols															
3-Methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics															
2,6-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number	L2094439	L2094439		L2094439	L2094439		L2094439	L2094439		L2094442	L2094442	
Field ID	BH146-02	Z114 (Dup of BH146-02)	**RPD**	BH146-03	Z115 (Dup of BH146-03)	**RPD**	BH149-01	Z116 (Dup of BH149-01)	**RPD**	BH135-01	Z112 (Dup of BH135-01)	**RPD**
Sampled Date/Time	2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-10	2018-05-10	

Parameter	Units	Screening Criteria	RDL	Parent	Duplicate	%	Parent	Duplicate	%	Parent	Duplicate	%	Parent	Duplicate	%
PAH															
1-Methylnaphthalene	mg/kg	75	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
2-methylnaphthalene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Acenaphthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.005	-	-	-	-	-	-	<0.005	<0.005	NC	-	-	-
Acenaphthylene	mg/kg	75	0.005 : 0.01 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005	-	-	-	-	-	-	<0.005	<0.005	NC	-	-	-
Anthracene	mg/kg	75	0.004 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004	-	-	-	-	-	-	<0.004	<0.004	NC	-	-	-
Benz(a)anthracene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Benzo(a)pyrene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Benzo(g,h,i)perylene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Benzo[b+j]fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	0.01	NC	-	-	-
Benzo(b)&(k)fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	<0.015	<0.015	NC	-	-	-
Benzo(k)fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Chrysene	mg/kg	75	0.01 : 0.02 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Dibenz(a,h)anthracene	mg/kg	75	0.005	-	-	-	-	-	-	<0.005	<0.005	NC	-	-	-
Fluoranthene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	0.011	10	-	-	-
Fluorene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Naphthalene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
IACR (CCME)	mg/kg	75	0.15	-	-	-	-	-	-	<0.15	<0.15	NC	-	-	-
Phenanthrene	mg/kg	75	0.01 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Pyrene	mg/kg	75	0.01	-	-	-	-	-	-	<0.01	0.011	10	-	-	-
B(A)P Total Potency Equivalent	mg/kg	75	0.02	-	-	-	-	-	-	<0.02	<0.02	NC	-	-	-
Quinoline	mg/kg	75	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
PAH/Phenols															
3-Methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics															
2,6-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number				L2096509	L2096509		L2096509	L2096509		L2096509	L2096509		L2097353	L2097353		
Field ID				BH142-02	Z118 (Dup of BH142-02)	RPD	BH142-03	Z119 (Dup of BH142-03)	RPD	BH150-03	Z120 (Dup of BH150-03)	RPD	BH154-03	Z121 (Dup of BH154-03)	RPD	
Sampled Date/Time				2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-17	2018-05-17		
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	
PAH																
1-Methylnaphthalene	mg/kg	75	0.05	<0.05	<0.05	NC	-	-	-	-	-	-	<0.05	<0.05	NC	
2-methylnaphthalene	mg/kg	75	0.01	<0.01	<0.01	NC	-	-	-	-	-	-	0.014	0.018	25	
Acenaphthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthene	mg/kg	75	0.005	<0.005	0.0142	NC	-	-	-	-	-	-	<0.005	<0.005	NC	
Acenaphthylene	mg/kg	75	0.005 : 0.01 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthylene	mg/kg	75	0.005	<0.005	<0.005	NC	-	-	-	-	-	-	<0.005	<0.005	NC	
Anthracene	mg/kg	75	0.004 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
Anthracene	mg/kg	75	0.004	<0.004	0.0282	NC	-	-	-	-	-	-	0.0074	0.0098	28	
Benz(a)anthracene	mg/kg	75	0.01	<0.01	0.047	NC	-	-	-	-	-	-	0.013	0.018	32	
Benzo(a)pyrene	mg/kg	75	0.01	<0.01	0.039	NC	-	-	-	-	-	-	0.013	0.019	38	
Benzo(g,h,i)perylene	mg/kg	75	0.01	<0.01	0.023	NC	-	-	-	-	-	-	0.011	0.015	31	
Benzo[b+j]fluoranthene	mg/kg	75	0.01	<0.01	0.047	NC	-	-	-	-	-	-	0.02	0.024	18	
Benzo(b)&(k)fluoranthene	mg/kg	75	0.01	<0.015	0.064	NC	-	-	-	-	-	-	0.02	0.035	55	
Benzo(k)fluoranthene	mg/kg	75	0.01	<0.01	0.016	46	-	-	-	-	-	-	<0.01	0.011	10	
Chrysene	mg/kg	75	0.01 : 0.02 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
Chrysene	mg/kg	75	0.01	<0.01	0.048	NC	-	-	-	-	-	-	0.016	0.02	22	
Dibenz(a,h)anthracene	mg/kg	75	0.005	<0.005	0.0058	15	-	-	-	-	-	-	<0.005	<0.005	NC	
Fluoranthene	mg/kg	75	0.01	<0.01	0.092	NC	-	-	-	-	-	-	0.034	0.045	28	
Fluorene	mg/kg	75	0.01	<0.01	<0.01	NC	-	-	-	-	-	-	<0.01	<0.01	NC	
Indeno(1,2,3-cd)pyrene	mg/kg	75	0.01	<0.01	0.022	NC	-	-	-	-	-	-	<0.01	0.014	33	
Naphthalene	mg/kg	75	0.01	<0.01	<0.01	NC	-	-	-	-	-	-	0.034	0.048	34	
IACR (CCME)	mg/kg	75	0.15	<0.15	0.71	NC	-	-	-	-	-	-	0.25	0.35	33	
Phenanthrene	mg/kg	75	0.01 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene	mg/kg	75	0.01	<0.01	0.129	NC	-	-	-	-	-	-	0.029	0.038	27	
Pyrene	mg/kg	75	0.01	<0.01	0.126	NC	-	-	-	-	-	-	0.036	0.048	29	
B(A)P Total Potency Equivalent	mg/kg	75	0.02	<0.02	0.059	NC	-	-	-	-	-	-	0.02	0.028	33	
Quinoline	mg/kg	75	0.05	<0.05	<0.05	NC	-	-	-	-	-	-	<0.05	<0.05	NC	
PAH/Phenols																
3-Methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
4-chloro-3-methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
Phenolics																
2,6-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	
3,4-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number				L2097353	L2097353		L2097353	L2097353		L2097353	L2097353		L2097353	L2097353	
Field ID				BH151-01	Z123 (Dup of BH151-01)	RPD	BH158-03	Z122 (Dup of BH158-03)	RPD	BH158-06	Z125 (Dup of BH158-06)	RPD	BH152-03	Z124 (Dup of BH152-03)	RPD
Sampled Date/Time				2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
PAH															
1-Methylnaphthalene	mg/kg	75	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
2-methylnaphthalene	mg/kg	75	0.01	-	-	-	0.016	0.017	6	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.005	-	-	-	<0.005	0.0051	2	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005 : 0.01 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005	-	-	-	<0.005	<0.005	NC	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004 : 0.005 (Dupe)	-	-	-	<0.004	<0.005	NC	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	75	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	75	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	75	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Benzo[b+j]fluoranthene	mg/kg	75	0.01	-	-	-	<0.01	0.011	10	-	-	-	-	-	-
Benzo(b)&(k)fluoranthene	mg/kg	75	0.01	-	-	-	<0.015	<0.015	NC	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	75	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01 : 0.02 (Dupe)	-	-	-	<0.01	<0.02	NC	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	75	0.005	-	-	-	<0.005	<0.005	NC	-	-	-	-	-	-
Fluoranthene	mg/kg	75	0.01	-	-	-	0.014	0.018	25	-	-	-	-	-	-
Fluorene	mg/kg	75	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	75	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Naphthalene	mg/kg	75	0.01	-	-	-	0.014	0.015	7	-	-	-	-	-	-
IACR (CCME)	mg/kg	75	0.15	-	-	-	<0.15	<0.15	NC	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01 : 0.03 (Dupe)	-	-	-	0.017	<0.03	NC	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	75	0.01	-	-	-	0.017	0.022	26	-	-	-	-	-	-
B(A)P Total Potency Equivalent	mg/kg	75	0.02	-	-	-	<0.02	<0.02	NC	-	-	-	-	-	-
Quinoline	mg/kg	75	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
PAH/Phenols															
3-Methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics															
2,6-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2146560	L2146560		L2159851	L2159851		L2159851	L2159851		L2159851	L2159851	
			Field ID	BH161-01	Z201 (Duplicate of BH161-01)	**RPD**	BH179-02	Z205 (Dup of BH179-02)	**RPD**	BH180-01	Z207 (Dup of BH180-01)	**RPD**	BH178-01	Z203 (Dup of BH178-01)	**RPD**
			Sampled Date/Time	2018-08-13	2018-08-13		2018-09-05	2018-09-05		2018-09-05	2018-09-05		2018-09-05	2018-09-05	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
PAH															
1-Methylnaphthalene	mg/kg	75	0.05	0.082	0.09	9	-	-	-	-	-	-	-	-	-
2-methylnaphthalene	mg/kg	75	0.01	0.082	0.098	18	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	75	0.005	0.0202	0.0222	9	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005 : 0.01 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	75	0.005	0.0584	0.0633	8	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004 : 0.005 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	75	0.004	0.0819	0.0802	2	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	75	0.01	0.354	0.359	1	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	75	0.01	0.449	0.443	1	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	75	0.01	0.251	0.248	1	-	-	-	-	-	-	-	-	-
Benzo[b+j]fluoranthene	mg/kg	75	0.01	0.582	0.581	NC	-	-	-	-	-	-	-	-	-
Benzo(b)&(k)fluoranthene	mg/kg	75	0.01	0.837	0.825	1	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	75	0.01	0.256	0.244	5	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01 : 0.02 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	75	0.01	0.507	0.497	2	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	75	0.005	0.0665	0.0666	NC	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	75	0.01	0.688	0.716	4	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	75	0.01	0.019	0.024	23	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	75	0.01	0.291	0.287	1	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	75	0.01	0.067	0.082	20	-	-	-	-	-	-	-	-	-
IACR (CCME)	mg/kg	75	0.15	8.2	8.11	1	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01 : 0.03 (Dupe)	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	75	0.01	0.395	0.422	7	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	75	0.01	0.819	0.802	2	-	-	-	-	-	-	-	-	-
B(A)P Total Potency Equivalent	mg/kg	75	0.02	0.671	0.664	1	-	-	-	-	-	-	-	-	-
Quinoline	mg/kg	75	0.05	<0.05	<0.05	NC	-	-	-	-	-	-	-	-	-
PAH/Phenols															
3-Methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	75	0.02	-	-	-	-	-	-	-	-	-	-	-	-
Phenolics															
2,6-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-
3,4-Dimethylphenol	mg/kg	60	0.02	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L1810820	L1810820		L1810820	L1810820		L2089639	L2089639		L2089639	L2089639	
			Field ID	BH01M-1	Z01 (Duplicate of BH01M-1)	**RPD**	BH04M-2	Z02 (Duplicate of BH04M-2)	**RPD**	BH102M-01	Z100 (Dup of BH102M-01)	**RPD**	BH103M-01	Z101 (Dup of BH103M-01)	**RPD**
			Sampled Date/Time	2016-08-06	2016-08-06		2016-08-08	2016-08-08		2018-05-03	2018-05-03		2018-05-03	2018-05-03	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
VOC															
Bromodichloromethane [BDCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane [DBCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- cis	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- trans	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/kg	60	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- (cis + trans)	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2089639	L2089639		L2089639	L2089639		L2091003	L2091003		L2091003	L2091003	
			Field ID	BH103M-03	Z102 (Dup of BH103M-03)	**RPD**	BH104M-03	Z103 (Dup of BH104M-03)	**RPD**	BH115-02	Z106 (Dup of BH115-02)	**RPD**	BH107-05	Z105 (Dup of BH107-05)	**RPD**
			Sampled Date/Time	2018-05-03	2018-05-03		2018-05-04	2018-05-04		2018-05-07	2018-05-07		2018-05-04	2018-05-04	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
VOC															
Bromodichloromethane [BDCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane [DBCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- cis	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- trans	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/kg	60	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- (cis + trans)	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2091973	L2091973		L2091973	L2091973		L2091973	L2091973		L2092410	L2092410	
			Field ID	BH128-01	Z110 (Dup of BH128-01)	**RPD**	BH128-02	Z113 (Dup of BH128-02)	**RPD**	BH121M-04	Z108 (Dup or BH121M-04)	**RPD**	BH129M-01	Z111 (Dup of BH129M-01)	**RPD**
			Sampled Date/Time	2018-05-09	2018-05-09		2018-05-09	2018-05-09		2018-05-08	2018-05-08		2018-05-09	2018-05-09	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
VOC															
Bromodichloromethane [BDCM]	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Bromoform	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Chlorobenzene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dibromochloromethane [DBCM]	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Chloroethane	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Chloroform	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Chloromethane	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethylene, 1,1-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethylene, 1,2- cis	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethylene, 1,2- trans	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloromethane	mg/kg	60	0.3	-	-	-	<0.3	<0.3	NC	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloropropene, 1,3- (cis + trans)	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Tetrachloroethylene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Trichloroethylene	mg/kg	60	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Vinyl chloride	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number			L2094439	L2094439		L2094439	L2094439		L2094439	L2094439		L2094442	L2094442	
Field ID			BH146-02	Z114 (Dup of BH146-02)	**RPD**	BH146-03	Z115 (Dup of BH146-03)	**RPD**	BH149-01	Z116 (Dup of BH149-01)	**RPD**	BH135-01	Z112 (Dup of BH135-01)	**RPD**
Sampled Date/Time			2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-14	2018-05-14		2018-05-10	2018-05-10	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
VOC															
Bromodichloromethane [BDCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane [DBCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- cis	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- trans	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/kg	60	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- (cis + trans)	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number				L2096509	L2096509		L2096509	L2096509		L2096509	L2096509		L2097353	L2097353		
Field ID				BH142-02	Z118 (Dup of BH142-02)	RPD	BH142-03	Z119 (Dup of BH142-03)	RPD	BH150-03	Z120 (Dup of BH150-03)	RPD	BH154-03	Z121 (Dup of BH154-03)	RPD	
Sampled Date/Time				2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-15	2018-05-15		2018-05-17	2018-05-17		
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	
VOC																
Bromodichloromethane [BDCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Bromoform	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Carbon tetrachloride	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dibromochloromethane [DBCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroform	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Chloromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorobenzene, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorobenzene, 1,3-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorobenzene, 1,4-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloroethane, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloroethane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloroethylene, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloroethylene, 1,2- cis	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloroethylene, 1,2- trans	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloromethane	mg/kg	60	0.3	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloropropane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Dichloropropene, 1,3- (cis + trans)	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
cis-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
trans-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethane, 1,1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethane, 1,1,2,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethylene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethane, 1,1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethane, 1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethylene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-	

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number				L2097353	L2097353		L2097353	L2097353		L2097353	L2097353		L2097353	L2097353	
Field ID				BH151-01	Z123 (Dup of BH151-01)	**RPD**	BH158-03	Z122 (Dup of BH158-03)	**RPD**	BH158-06	Z125 (Dup of BH158-06)	**RPD**	BH152-03	Z124 (Dup of BH152-03)	**RPD**
Sampled Date/Time				2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17		2018-05-17	2018-05-17	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
VOC															
Bromodichloromethane [BDCM]	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Bromoform	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Chlorobenzene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dibromochloromethane [DBCM]	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Chloroethane	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Chloroform	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Chloromethane	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethylene, 1,1-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethylene, 1,2- cis	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloroethylene, 1,2- trans	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloromethane	mg/kg	60	0.3	-	-	-	<0.3	<0.3	NC	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Dichloropropene, 1,3- (cis + trans)	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Tetrachloroethylene	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	60	0.05	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Trichloroethylene	mg/kg	60	0.01	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Vinyl chloride	mg/kg	60	0.1	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Table A6-1
Soil RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2146560	L2146560		L2159851	L2159851		L2159851	L2159851		L2159851	L2159851	
			Field ID	BH161-01	Z201 (Duplicate of BH161-01)	**RPD**	BH179-02	Z205 (Dup of BH179-02)	**RPD**	BH180-01	Z207 (Dup of BH180-01)	**RPD**	BH178-01	Z203 (Dup of BH178-01)	**RPD**
			Sampled Date/Time	2018-08-13	2018-08-13		2018-09-05	2018-09-05		2018-09-05	2018-09-05		2018-09-05	2018-09-05	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
VOC															
Bromodichloromethane [BDCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane [DBCM]	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- cis	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, 1,2- trans	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/kg	60	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- (cis + trans)	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-dichloropropene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	60	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	mg/kg	60	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	60	0.1	-	-	-	-	-	-	-	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Table A6-2
Groundwater RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L1810821	L1810821		L1810821	L1810821		L2097564	L2097564		L2101052	L2101052		L2101539	L2101539	
			Field ID	BH03M	Z01 (Dup of BH03M)	**RPD**	BH04M	Z02 (Dup of BH04M)	**RPD**	BH121M	Z01 (Dup of BH121M)	**RPD**	BH100M-D	Z02 (Dup of BH100M-D)	**RPD**	BH129M	Z02 (Dup of BH129M)	**RPD**
			Sampled Date/Time	2016-08-07	2016-08-07		2016-08-09	2016-08-09		2018-05-18	2018-05-18		2018-05-25	2018-05-25		2018-05-28	2018-05-28	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
EPH																		
EPH C10-C19	µg/l	45	250	-	-	-	-	-	-	<250	<250	NC	<250	<250	NC	<250	<250	NC
EPH C19-C32	µg/l	45	250	-	-	-	-	-	-	<250	<250	NC	<250	<250	NC	<250	<250	NC
LEPH	µg/l	45	250	-	-	-	-	-	-	<250	<250	NC	<250	<250	NC	<250	<250	NC
HEPH	µg/l	45	250	-	-	-	-	-	-	<250	<250	NC	<250	<250	NC	<250	<250	NC
Phenols																		
2-methylphenol	µg/l	45	0.5	-	-	-	-	-	-	-	-	-	<0.5	<0.5	NC	-	-	-
Phenol	µg/l	45	1	-	-	-	-	-	-	-	-	-	<1	<1	NC	-	-	-
4-methylphenol	µg/l	45	0.5	-	-	-	-	-	-	-	-	-	<0.5	<0.5	NC	-	-	-
2,4-dimethylphenol	µg/l	45	0.5	-	-	-	-	-	-	-	-	-	<0.5	<0.5	NC	-	-	-
Pentachlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
2-chlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
3-Chlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
4-chlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
2,3-Dichlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
2,6-dichlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
3,4-Dichlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
3,5-Dichlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
2,3,4-Trichlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
2,3,5-Trichlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
2,3,6-Trichlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
2,4,5-trichlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
2,4,6-trichlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
3,4,5-Trichlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
2,3,4,5-tetrachlorophenol	µg/l	45	0.2	-	-	-	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-
2,3,4,6-tetrachlorophenol	µg/l	45	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
2,3,5,6-Tetrachlorophenol	µg/l	45	0.2	-	-	-	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-
Halogenated Phenols																		
2.4 & 2.5-Dichlorophenol	µg/l	45	0.05	-	-	-	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-
Inorganics																		
Bismuth (Filtered)	µg/l	30	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-	-	-	-
Calcium (Filtered)	µg/l	30	50	-	-	-	-	-	-	147000	147000	NC	-	-	-	133000	136000	2
Calcium (Filtered)	µg/l	30	100	81200	81600	NC	-	-	-	-	-	-	131000	133000	2	-	-	-
Cesium (Filtered)	µg/l	30	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Potassium (Filtered)	µg/l	30	50	-	-	-	-	-	-	3130	3080	2	-	-	-	-	-	-
Potassium (Filtered)	µg/l	30	2000	4700	4700	NC	-	-	-	-	-	-	-	-	-	-	-	-
Silicon (Filtered)	µg/l	30	50	-	-	-	-	-	-	7150	6820	5	-	-	-	-	-	-
Sulphur as S (Filtered)	µg/l	30	500	-	-	-	-	-	-	27300	26200	4	-	-	-	-	-	-
Thorium (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-	-	-	-
Zirconium (Filtered)	µg/l	30	0.06	-	-	-	-	-	-	<0.06	<0.06	NC	-	-	-	-	-	-
MAH																		
Benzene	µg/l	45	0.5	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Ethylbenzene	µg/l	45	0.5	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Toluene	µg/l	45	0.5	-	-	-	0.58	0.55	NC	-	-	NC	-	-	NC	-	-	-
Toluene	µg/l	45	0.45	-	-	-	-	-	-	<0.45	<0.45	NC	<0.45	<0.45	-	-	-	-
Styrene	µg/l	45	0.5	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Xylenes, total	µg/l	45	0.75	-	-	-	<0.75	<0.75	NC	<0.75	<0.75	NC	<0.75	<0.75	NC	-	-	-
VHw6-10	µg/l	45	100	-	-	-	<100	<100	NC	<100	<100	NC	<100	<100	NC	-	-	-
VPH	µg/l	45	100	-	-	-	<100	<100	NC	<100	<100	NC	<100	<100	NC	-	-	-
Methyl tert-butyl ether [MTBE]	µg/l	45	0.5	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-

Table A6-2
Groundwater RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number				L1810821	L1810821		L1810821	L1810821		L2097564	L2097564		L2101052	L2101052		L2101539	L2101539	
Field ID				BH03M	Z01 (Dup of BH03M)	**RPD**	BH04M	Z02 (Dup of BH04M)	**RPD**	BH121M	Z01 (Dup of BH121M)	**RPD**	BH100M-D	Z02 (Dup of BH100M-D)	**RPD**	BH129M	Z02 (Dup of BH129M)	**RPD**
Sampled Date/Time				2016-08-07	2016-08-07		2016-08-09	2016-08-09		2018-05-18	2018-05-18		2018-05-25	2018-05-25		2018-05-28	2018-05-28	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Metals																		
Hardness as CaCO3	mg/l	-	0.5	268	269	NC	-	-	-	417	416	NC	509	498	NC	395	400	1
Aluminium (Filtered)	µg/l	30	2	-	-	-	-	-	-	-	-	-	4.1	3.6	NC	-	-	-
Aluminium (Filtered)	µg/l	30	10	<10	<10	NC	-	-	-	-	-	-	-	-	-	-	-	-
Aluminium (Filtered)	µg/l	30	1	-	-	-	-	-	-	1.7	1.7	NC	-	-	-	<1	<1	NC
Antimony (Filtered)	µg/l	30	0.5	<0.5	<0.5	NC	-	-	-	2.53	2.47	2	-	-	-	-	-	-
Antimony (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	0.82	0.86	NC	-	-	-
Antimony (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.26	0.25	4
Arsenic (Filtered)	µg/l	30	1	<1	<1	NC	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	2.3	2.06	11	-	-	-
Arsenic (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	1.13	1.12	NC	-	-	-	0.68	0.65	5
Barium (Filtered)	µg/l	30	20	60	60	NC	-	-	-	-	-	-	-	-	-	-	-	-
Barium (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	105	94.3	11	-	-	-
Barium (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	82.1	82.8	NC	-	-	-	46	46.1	NC
Beryllium (Filtered)	µg/l	30	5	<5	<5	NC	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	<0.1	<0.1	1	-	-	-	-	-	-
Boron (Filtered)	µg/l	30	20	-	-	-	-	-	-	-	-	-	570	570	NC	-	-	-
Boron (Filtered)	µg/l	30	100	110	120	NC	-	-	-	-	-	-	-	-	-	-	-	-
Boron (Filtered)	µg/l	30	10	-	-	-	-	-	-	212	220	4	-	-	-	371	409	10
Cadmium (Filtered)	µg/l	30	0.05	0.132	0.131	NC	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Filtered)	µg/l	30	0.01	-	-	-	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Cadmium (Filtered)	µg/l	30	0.005	-	-	-	-	-	-	<0.005	<0.005	NC	-	-	-	<0.005	<0.005	NC
Chromium (hexavalent) (Filtered)	µg/l	30	1	-	-	-	-	-	-	-	-	-	<1	<1	NC	-	-	-
Chromium (Filtered)	µg/l	30	0.5	<0.5	<0.5	NC	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-
Chromium (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-	<0.1	<0.1	NC
Chromium (Trivalent) (Filtered)	µg/l	30	10	-	-	-	-	-	-	-	-	-	<10	<10	NC	-	-	-
Cobalt (Filtered)	µg/l	30	0.5	5.87	6.05	3	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	2.13	1.99	7	-	-	-
Cobalt (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	1.39	1.38	1	-	-	-	0.91	0.9	1
Copper (Filtered)	µg/l	30	1	2.2	2.1	NC	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Filtered)	µg/l	30	0.4	-	-	-	-	-	-	-	-	-	<0.4	<0.4	NC	-	-	-
Copper (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-	<0.2	<0.2	NC
Iron (Filtered)	µg/l	30	30	<30	<30	NC	-	-	-	-	-	-	-	-	-	280	84	NC
Iron (Filtered)	µg/l	30	20	-	-	-	-	-	-	-	-	-	<20	<20	NC	-	-	-
Iron (Filtered)	µg/l	30	10	-	-	-	-	-	-	<10	<10	NC	-	-	-	-	-	-
Lead (Filtered)	µg/l	30	1	<1	<1	NC	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
Lead (Filtered)	µg/l	30	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-	<0.05	<0.05	NC
Lithium (Filtered)	µg/l	30	50	<50	<50	NC	-	-	-	-	-	-	-	-	-	-	-	-
Lithium (Filtered)	µg/l	30	1	-	-	-	-	-	-	1.5	1.5	NC	-	-	-	-	-	-
Magnesium (Filtered)	µg/l	30	5	-	-	-	-	-	-	12400	12100	2	-	-	-	15000	14800	1
Magnesium (Filtered)	µg/l	30	100	15900	16000	1	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium (Filtered)	µg/l	30	10	-	-	-	-	-	-	-	-	-	43800	40500	8	-	-	-
Manganese (Filtered)	µg/l	30	10	330	327	1	-	-	-	-	-	-	-	-	-	-	-	-
Manganese (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	3960	3670	8	-	-	-
Manganese (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	1150	1110	4	-	-	-	2360	2320	2
Mercury (Filtered)	µg/l	30	0.2	<0.2	<0.2	NC	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (Filtered)	µg/l	30	0.005	-	-	-	-	-	-	<0.005	<0.005	NC	<0.005	<0.005	NC	<0.005	<0.005	NC
Molybdenum (Filtered)	µg/l	30	1	2	2.1	NC	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	-	-	-	4.21	4.15	1	-	-	-
Molybdenum (Filtered)	µg/l	30	0.05	-	-	-	-	-	-	3.95	3.94	NC	-	-	-	1.4	1.47	NC
Nickel (Filtered)	µg/l	30	5	19.4	20	NC	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Filtered)	µg/l	30	1	-	-	-	-	-	-	-	-	-	<1	<1	NC	-	-	-
Nickel (Filtered)	µg/l	30	0.5	-	-	-	-	-	-	1.46	1.44	1	-	-	-	<0.5	1.81	NC
Phosphorus (P)-Dissolved (Filtered)	mg/l	30	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium (Filtered)	µg/l	30	1	4.3	4.5	NC	-	-	-	-	-	-	-	-	-	-	-	-
Selenium (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-
Selenium (Filtered)	µg/l	30	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	-	-	-	0.074	0.079	7
Silver (Filtered)	µg/l	30	0.05	<0.05	<0.05	NC	-	-	-	-	-	-	-	-	-	-	-	-
Silver (Filtered)	µg/l	30	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	-	-	-
Silver (Filtered)	µg/l	30	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-	<0.01	<0.01	NC
Sodium (Filtered)	mg/l	30	2	48.2	47.1	2	-	-	-	-	-	-	-	-	-	-	-	-

Table A6-2
Groundwater RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L1810821	L1810821		L1810821	L1810821		L2097564	L2097564		L2101052	L2101052		L2101539	L2101539	
			Field ID	BH03M	Z01 (Dup of BH03M)	**RPD**	BH04M	Z02 (Dup of BH04M)	**RPD**	BH121M	Z01 (Dup of BH121M)	**RPD**	BH100M-D	Z02 (Dup of BH100M-D)	**RPD**	BH129M	Z02 (Dup of BH129M)	**RPD**
			Sampled Date/Time	2016-08-07	2016-08-07		2016-08-09	2016-08-09		2018-05-18	2018-05-18		2018-05-25	2018-05-25		2018-05-28	2018-05-28	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Sodium (Filtered)	mg/l	30	0.1	-	-	-	-	-	-	-	-	-	88.1	81.9	7	-	-	-
Sodium (Filtered)	mg/l	30	0.05	-	-	-	-	-	-	12.9	12.6	2	-	-	-	35.1	34.9	1
Strontium (Filtered)	µg/l	30	0.4	-	-	-	-	-	-	-	-	-	1240	1250	1	-	-	-
Strontium (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	841	849	1	-	-	-	1040	1040	NC
Tellurium (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-	-	-	-
Thallium (Filtered)	µg/l	30	0.2	<0.2	<0.2	NC	-	-	-	-	-	-	-	-	-	-	-	-
Thallium (Filtered)	µg/l	30	0.02	-	-	-	-	-	-	-	-	-	<0.02	<0.02	NC	-	-	-
Thallium (Filtered)	µg/l	30	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-	<0.01	<0.01	NC
Tin (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	0.29	0.27	7	-	-	-
Tin (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-	<0.1	<0.1	NC
Titanium (Filtered)	µg/l	30	50	<50	<50	NC	-	-	-	-	-	-	-	-	-	-	-	-
Titanium (Filtered)	µg/l	30	0.6	-	-	-	-	-	-	-	-	-	<0.6	<0.6	NC	-	-	-
Titanium (Filtered)	µg/l	30	0.3	-	-	-	-	-	-	<0.3	<0.3	NC	-	-	-	<0.3	<0.3	NC
Tungsten (Filtered)	µg/l	30	0.2	-	-	-	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-
Tungsten (Filtered)	µg/l	30	0.1	-	-	-	-	-	-	<0.1	<0.1	NC	-	-	-	<0.1	<0.1	NC
Uranium (Filtered)	µg/l	30	0.2	1.57	1.65	5	-	-	-	-	-	-	-	-	-	-	-	-
Uranium (Filtered)	µg/l	30	0.02	-	-	-	-	-	-	-	-	-	3.35	3.46	3	-	-	-
Uranium (Filtered)	µg/l	30	0.01	-	-	-	-	-	-	2.27	2.17	5	-	-	-	0.854	0.866	1
Vanadium (Filtered)	µg/l	30	30	<30	<30	NC	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (Filtered)	µg/l	30	0.5	-	-	-	-	-	-	<0.5	<0.5	NC	-	-	-	-	-	-
Zinc (Filtered)	µg/l	30	5	19.6	19	NC	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Filtered)	µg/l	30	2	-	-	-	-	-	-	-	-	-	8.2	7.1	14	-	-	-
Zinc (Filtered)	µg/l	30	1	-	-	-	-	-	-	2.6	2.7	4	-	-	-	<1	<1	NC
\																		
1-Methylnaphthalene	µg/l	45	0.05	-	-	-	-	-	-	0.161	0.171	6	<0.05	<0.05	NC	0.414	0.386	7
2-methylnaphthalene	µg/l	45	0.05	-	-	-	-	-	-	0.127	0.136	7	<0.05	<0.05	NC	0.328	0.308	6
Acenaphthene	µg/l	45	0.01	-	-	-	-	-	-	0.62	0.692	11	<0.01	<0.01	NC	1.22	1.17	4
Acenaphthylene	µg/l	45	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	<0.01	<0.01	NC	0.02	0.019	NC
Acridine	µg/l	45	0.03	-	-	-	-	-	-	-	-	-	-	-	-	<0.04	<0.03	NC
Acridine	µg/l	45	0.02	-	-	-	-	-	-	<0.02	<0.02		-	-	-	-	-	-
Acridine	µg/l	45	0.01	-	-	-	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-
Anthracene	µg/l	45	0.2 : 0.08 (Dupe)	-	-	-	-	-	-	0.08	<0.08	NC	-	-	-	-	-	-
Anthracene	µg/l	45	0.01	-	-	-	-	-	-	-	-	-	<0.01	<0.01	NC	0.498	0.482	3
Benz(a)anthracene	µg/l	45	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	<0.01	<0.01	NC	0.029	0.036	NC
Benzo(a)pyrene	µg/l	45	0.005	-	-	-	-	-	-	<0.005	<0.005	NC	<0.005	<0.005	NC	0.0124	0.0204	NC
Benzo(g,h,i)perylene	µg/l	45	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	0.012	18
Benzo[b+j]fluoranthene	µg/l	45	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	<0.01	<0.01	NC	0.014	0.021	40
Benzo(b)&(k)fluoranthene	µg/l	45	0.015	-	-	-	-	-	-	<0.015	<0.015	NC	<0.015	<0.015	NC	<0.015	0.035	NC
Benzo(k)fluoranthene	µg/l	45	0.01	-	-	-	-	-	-	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	0.014	33
Chrysene	µg/l	45	0.02 : 0.01 (Dupe)	-	-	-	-	-	-	<0.01	<0.01	NC	-	-	-	-	-	-
Chrysene	µg/l	45	0.01	-	-	-	-	-	-	-	-	NC	<0.01	<0.01	NC	0.032	0.038	17
Dibenz(a,h)anthracene	µg/l	45	0.005	-	-	-	-	-	-	<0.005	<0.005	11	<0.005	<0.005	NC	<0.005	<0.005	NC
Fluoranthene	µg/l	45	0.01	-	-	-	-	-	-	0.255	0.285	8	<0.01	<0.01	NC	0.756	0.724	4
Fluorene	µg/l	45	0.01	-	-	-	-	-	-	0.322	0.35	NC	<0.01	<0.01	NC	0.939	0.873	7
Indeno(1,2,3-cd)pyrene	µg/l	45	0.01	-	-	-	-	-	-	<0.01	<0.01	10	<0.01	<0.01	NC	<0.01	0.013	NC
Naphthalene	µg/l	45	0.05	-	-	-	-	-	-	0.426	0.47	10	0.083	0.079	5	0.428	0.401	7
Phenanthrene	µg/l	45	0.02	-	-	-	-	-	-	0.75	0.827	8	<0.02	<0.02	NC	2.35	2.24	5
Pyrene	µg/l	45	0.01	-	-	-	-	-	-	0.176	0.191	NC	<0.01	<0.01	NC	0.532	0.523	2
Quinoline	µg/l	45	0.05	-	-	-	-	-	-	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC
PAH/Phenols																		
3-Methylphenol	µg/l	45	0.5	-	-	-	-	-	-	-	-	-	<0.5	<0.5	NC	-	-	-
4-chloro-3-methylphenol	µg/l	45	0.5	-	-	-	-	-	-	-	-	-	<0.5	<0.5	NC	-	-	-
Phenolics																		
2,6-Dimethylphenol	µg/l	45	0.2	-	-	-	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-
3,4-Dimethylphenol	µg/l	45	0.2	-	-	-	-	-	-	-	-	-	<0.2	<0.2	NC	-	-	-
SVOCs																		
p-Hydroquinone	µg/l	45	5	-	-	-	-	-	-		-	-	<5	<5	NC	-	-	-

Table A6-2
Groundwater RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

Lab Report Number			L1810821	L1810821		L1810821	L1810821		L2097564	L2097564		L2101052	L2101052		L2101539	L2101539	
Field ID			BH03M	Z01 (Dup of BH03M)	**RPD**	BH04M	Z02 (Dup of BH04M)	**RPD**	BH121M	Z01 (Dup of BH121M)	**RPD**	BH100M-D	Z02 (Dup of BH100M-D)	**RPD**	BH129M	Z02 (Dup of BH129M)	**RPD**
Sampled Date/Time			2016-08-07	2016-08-07		2016-08-09	2016-08-09		2018-05-18	2018-05-18		2018-05-25	2018-05-25		2018-05-28	2018-05-28	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
VOC																		
Bromodichloromethane [BDCM]	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Bromoform	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Carbon tetrachloride	µg/l	45	0.5	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Chlorobenzene	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dibromochloromethane [DBCM]	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Chloroethane	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Chloroform	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Chloromethane	µg/l	45	5	-	-	-	<5	<5	NC	<5	<5	NC	<5	<5	NC	-	-	-
Dichlorobenzene, 1,2-	µg/l	45	0.7	-	-	-	<0.7	<0.7	NC	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	µg/l	45	0.5	-	-	-	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Dichlorobenzene, 1,3-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichlorobenzene, 1,4-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichloroethane, 1,1-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichloroethane, 1,2-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichloroethylene, 1,1-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichloroethylene, 1,2- cis	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichloroethylene, 1,2- trans	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichloromethane	µg/l	45	5	-	-	-	<5	<5	NC	<5	<5	NC	<5	<5	NC	-	-	-
Dichloropropane, 1,2-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Dichloropropene, 1,3- (cis + trans)	µg/l	45	1.41	-	-	-	<1.4	<1.4	NC	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- (cis + trans)	µg/l	45	1	-	-	-	-	-	-	<1	<1	NC	<1	<1	NC	-	-	-
cis-1,3-dichloropropene	µg/l	45	1	-	-	-	<1	<1	NC	-	-	-	-	-	-	-	-	-
cis-1,3-dichloropropene	µg/l	45	0.5	-	-	-	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
trans-1,3-dichloropropene	µg/l	45	1	-	-	-	<1	<1	NC	-	-	-	-	-	-	-	-	-
trans-1,3-dichloropropene	µg/l	45	0.5	-	-	-	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Tetrachloroethane, 1,1,1,2-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Tetrachloroethane, 1,1,2,2-	µg/l	45	1	-	-	-	<1	<1	NC	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	µg/l	45	0.2	-	-	-	-	-	-	<0.2	<0.2	NC	<0.2	<0.2	NC	-	-	-
Tetrachloroethylene	µg/l	45	1	-	-	-	<1	<1	NC	1.1	1.2	NC	<1	<1	NC	-	-	-
Trichloroethane, 1,1,1-	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Trichloroethane, 1,1,2-	µg/l	45	1	-	-	-	<1	<1	NC	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	µg/l	45	0.5	-	-	-	-	-	-	<0.5	<0.5	NC	<0.5	<0.5	NC	-	-	-
Trichloroethylene	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Trichlorofluoromethane	µg/l	45	1	-	-	-	<1	<1	NC	<1	<1	NC	<1	<1	NC	-	-	-
Vinyl chloride	µg/l	45	1	-	-	-	<1	<1	NC	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/l	45	0.4	-	-	-	-	-	-	<0.4	<0.4	NC	<0.4	<0.4	NC	-	-	-

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

PGL ENVIRONMENTAL CONSULTANTS

Table A6-3
Soil Vapour RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2100737	L2100737		L2148270	L2148270		L2163712	L2163712	
			Field ID	SV05	Z01 (Dup of SV05)	**RPD**	SV11	Z02 (Dup of SV11)	**RPD**	SV18	Z03 (Dup of SV18)	**RPD**
			Sampled Date/Time	2018-05-22	2018-05-22		2018-08-16 11:01	2018-08-16 11:01		2018-09-12 14:10	2018-09-12 14:10	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Freon												
Freon 113	µg/m3	60	11 : 13 (Dupe)	<11	<13	NC	-	-	-	-	-	-
Freon 113	µg/m3	60	9.3 : 8.6 (Dupe)	-	-	-	-	-	-	<9.3	<8.6	NC
Freon 113	µg/m3	60	11 : 8.6 (Dupe)	-	-	-	<11	<8.6	NC	-	-	-
MAH												
Benzene	µg/m3	60	1.7 : 2 (Dupe)	<1.7	<2	NC	-	-	-	-	-	-
Benzene	µg/m3	60	1.8 : 1.4 (Dupe)	-	-	-	10.7	10.4	3	-	-	-
Benzene	µg/m3	60	1.5 : 1.4 (Dupe)	-	-	-	-	-	-	74.8	80.7	8
Ethylbenzene	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Ethylbenzene	µg/m3	60	44 : 69 (Dupe)	-	-	-	<44	<69	NC	-	-	-
Ethylbenzene	µg/m3	60	0.93 : 0.86 (Dupe)	-	-	-	-	-	-	24.5	28.4	15
Toluene	µg/m3	60	8.4 : 10 (Dupe)	<8.4	<10	NC	-	-	-	-	-	-
Toluene	µg/m3	60	8.8 : 6.9 (Dupe)	-	-	-	32.9	35.9	9	-	-	-
Toluene	µg/m3	60	7.4 : 6.9 (Dupe)	-	-	-	-	-	-	58.6	73.1	22
Styrene	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Styrene	µg/m3	60	1.1 : 1 (Dupe)	-	-	-	<1.1	<1	NC	-	-	-
Styrene	µg/m3	60	0.93 : 0.86 (Dupe)	-	-	-	-	-	-	<0.93	<0.86	NC
Xylenes, total	µg/m3	60	2.4 : 2.8 (Dupe)	10.8	3.1	NC	-	-	-	-	-	-
Xylenes, total	µg/m3	60	53 : 62 (Dupe)	-	-	-	<53	<62	NC	-	-	-
Xylenes, total	µg/m3	60	2.1 : 1.9 (Dupe)	-	-	-	-	-	-	105	124	17
VHV	ug/m3	60	1300 : 1500 (Dupe)	<1300	<1500	NC	-	-	-	-	-	-
VHV	ug/m3	60	26000 : 21000 (Dupe)	-	-	-	1.45E6	1.54E6	6	-	-	-
VHV	ug/m3	60	1100 : 1000 (Dupe)	-	-	-	-	-	-	38900	37000	5
VPHv	ug/m3	60	1300 : 1500 (Dupe)	<1300	<1500	NC	-	-	-	-	-	-
VPHv	ug/m3	60	5900 : 5500 (Dupe)	-	-	-	-	-	-	38300	36400	5
VPHv	ug/m3	60	220000 : 230000 (Dupe)	-	-	-	1.45E6	1.54E6	6	-	-	-
PAH												
Naphthalene	µg/m3	60	3.3 : 3.1 (Dupe)	-	-	-	-	-	-	3.9	4.5	14
Naphthalene	µg/m3	60	22 : 31 (Dupe)	-	-	-	<22	<31	NC	-	-	-
VOC												
Acetone	ug/m3	60	25 : 30 (Dupe)	<25	<30	NC	-	-	-	-	-	-
Acetone	ug/m3	60	260 : 520 (Dupe)	-	-	-	<260	<520	NC	-	-	-
Acetone	ug/m3	60	2200 : 2800 (Dupe)	-	-	-	-	-	-	<2200	<2800	NC
Bromodichloromethane [BDCM]	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Bromodichloromethane [BDCM]	µg/m3	60	9.3 : 3.1 (Dupe)	-	-	-	-	-	-	<9.3	<3.1	NC
Bromodichloromethane [BDCM]	µg/m3	60	3.5 : 10 (Dupe)	-	-	-	<3.5	<10	NC	-	-	-
Bromoform	µg/m3	60	6.3 : 7.5 (Dupe)	<6.3	<7.5	NC	-	-	-	-	-	-
Bromoform	µg/m3	60	6.6 : 5.2 (Dupe)	-	-	-	<6.6	<5.2	NC	-	-	-
Bromoform	µg/m3	60	5.6 : 5.2 (Dupe)	-	-	-	-	-	-	<5.6	<5.2	NC
Carbon tetrachloride	µg/m3	60	0.63 : 0.75 (Dupe)	<0.63	<0.75	NC	-	-	-	-	-	-
Carbon tetrachloride	µg/m3	60	0.66 : 0.52 (Dupe)	-	-	-	<0.66	<0.52	NC	-	-	-
Carbon tetrachloride	µg/m3	60	0.56 : 0.52 (Dupe)	-	-	-	-	-	-	<0.56	<0.52	NC
Chlorobenzene	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Chlorobenzene	µg/m3	60	150 : 100 (Dupe)	-	-	-	<150	<100	NC	-	-	-
Chlorobenzene	µg/m3	60	11 : 17 (Dupe)	-	-	-	-	-	-	<11	<17	NC
Dibromochloromethane [DBCM]	µg/m3	60	11 : 13 (Dupe)	<11	<13	NC	-	-	-	-	-	-
Dibromochloromethane [DBCM]	µg/m3	60	9.3 : 8.6 (Dupe)	-	-	-	-	-	-	<9.3	<8.6	NC
Dibromochloromethane [DBCM]	µg/m3	60	11 : 8.6 (Dupe)	-	-	-	<11	<8.6	NC	-	-	-
Chloroethane	µg/m3	60	21 : 25 (Dupe)	<21	<25	NC	-	-	-	-	-	-
Chloroethane	µg/m3	60	22 : 17 (Dupe)	-	-	-	<22	<17	NC	-	-	-

PGL ENVIRONMENTAL CONSULTANTS

Table A6-3
Soil Vapour RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2100737	L2100737		L2148270	L2148270		L2163712	L2163712	
			Field ID	SV05	Z01 (Dup of SV05)	**RPD**	SV11	Z02 (Dup of SV11)	**RPD**	SV18	Z03 (Dup of SV18)	**RPD**
			Sampled Date/Time	2018-05-22	2018-05-22		2018-08-16 11:01	2018-08-16 11:01		2018-09-12 14:10	2018-09-12 14:10	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Chloroethane	µg/m3	60	19 : 17 (Dupe)	-	-	-	-	-	-	<19	<17	NC
n-decane	µg/m3	60	11 : 13 (Dupe)	<11	<13	NC	-	-	-	-	-	-
n-decane	µg/m3	60	9.3 : 8.6 (Dupe)	-	-	-	-	-	-	122	150	21
n-decane	µg/m3	60	13000 : 14000 (Dupe)	-	-	-	<13000	<14000	NC	-	-	-
Dichlorobenzene, 1,2-	µg/m3	60	6.3 : 7.5 (Dupe)	<6.3	<7.5	NC	-	-	-	-	-	-
Dichlorobenzene, 1,2-	µg/m3	60	6.6 : 5.2 (Dupe)	-	-	-	<6.6	<5.2	NC	-	-	-
Dichlorobenzene, 1,2-	µg/m3	60	5.6 : 5.2 (Dupe)	-	-	-	-	-	-	<5.6	<5.2	NC
Dichlorobenzene, 1,3-	µg/m3	60	2.1 : 2.5 (Dupe)	3	<2.5	NC	-	-	-	-	-	-
Dichlorobenzene, 1,3-	µg/m3	60	2.2 : 1.7 (Dupe)	-	-	-	<2.2	<1.7	NC	-	-	-
Dichlorobenzene, 1,3-	µg/m3	60	1.9 : 1.7 (Dupe)	-	-	-	-	-	-	<1.9	<1.7	NC
Dichlorobenzene, 1,4-	µg/m3	60	2.1 : 2.5 (Dupe)	<2.1	<2.5	NC	-	-	-	-	-	-
Dichlorobenzene, 1,4-	µg/m3	60	2.2 : 2.8 (Dupe)	-	-	-	<2.2	<2.8	NC	-	-	-
Dichlorobenzene, 1,4-	µg/m3	60	1.9 : 1.7 (Dupe)	-	-	-	-	-	-	<1.9	<1.7	NC
Dichloroethane, 1,1-	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/m3	60	1.1 : 0.86 (Dupe)	-	-	-	<1.1	<0.86	NC	-	-	-
Dichloroethane, 1,1-	µg/m3	60	0.93 : 0.86 (Dupe)	-	-	-	-	-	-	<0.93	<0.86	NC
Dichloroethane, 1,2-	µg/m3	60	0.42 : 0.5 (Dupe)	<0.42	<0.5	NC	-	-	-	-	-	-
Dichloroethane, 1,2-	µg/m3	60	1.5 : 0.34 (Dupe)	-	-	-	-	-	-	<1.5	<0.34	NC
Dichloroethane, 1,2-	µg/m3	60	0.44 : 0.34 (Dupe)	-	-	-	<0.44	<0.34	NC	-	-	-
Dichloroethylene, 1,1-	µg/m3	60	1.3 : 1.5 (Dupe)	<1.3	<1.5	NC	-	-	-	-	-	-
Dichloroethylene, 1,1-	µg/m3	60	1.3 : 1 (Dupe)	-	-	-	<1.3	<1	NC	-	-	-
Dichloroethylene, 1,1-	µg/m3	60	1.1 : 1 (Dupe)	-	-	-	-	-	-	<1.1	<1	NC
Dichloroethylene, 1,2- cis	µg/m3	60	2.1 : 2.5 (Dupe)	<2.1	<2.5	NC	-	-	-	-	-	-
Dichloroethylene, 1,2- cis	µg/m3	60	2.2 : 1.7 (Dupe)	-	-	-	<2.2	<1.7	NC	-	-	-
Dichloroethylene, 1,2- cis	µg/m3	60	1.9 : 1.7 (Dupe)	-	-	-	-	-	-	<1.9	<1.7	NC
Dichloroethylene, 1,2- trans	µg/m3	60	2.1 : 2.5 (Dupe)	<2.1	<2.5	NC	-	-	-	-	-	-
Dichloroethylene, 1,2- trans	µg/m3	60	2.2 : 1.7 (Dupe)	-	-	-	<2.2	<1.7	NC	-	-	-
Dichloroethylene, 1,2- trans	µg/m3	60	1.9 : 1.7 (Dupe)	-	-	-	-	-	-	<1.9	<1.7	NC
Dichloropropane, 1,2-	µg/m3	60	0.63 : 0.75 (Dupe)	<0.63	<0.75	NC	-	-	-	-	-	-
Dichloropropane, 1,2-	µg/m3	60	0.66 : 0.52 (Dupe)	-	-	-	<0.66	<0.52	NC	-	-	-
Dichloropropane, 1,2-	µg/m3	60	0.56 : 0.52 (Dupe)	-	-	-	-	-	-	<0.56	<0.52	NC
cis-1,3-dichloropropene	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
cis-1,3-dichloropropene	µg/m3	60	1.1 : 0.86 (Dupe)	-	-	-	<1.1	<0.86	NC	-	-	-
cis-1,3-dichloropropene	µg/m3	60	0.93 : 0.86 (Dupe)	-	-	-	-	-	-	<0.93	<0.86	NC
trans-1,3-dichloropropene	µg/m3	60	2.1 : 2.5 (Dupe)	<2.1	<2.5	NC	-	-	-	-	-	-
trans-1,3-dichloropropene	µg/m3	60	2.2 : 1.7 (Dupe)	-	-	-	<2.2	<1.7	NC	-	-	-
trans-1,3-dichloropropene	µg/m3	60	1.9 : 1.7 (Dupe)	-	-	-	-	-	-	<1.9	<1.7	NC
Ethyl acetate	µg/m3	60	42 : 50 (Dupe)	<42	<50	NC	-	-	-	-	-	-
Ethyl acetate	µg/m3	60	44 : 34 (Dupe)	-	-	-	<44	<34	NC	-	-	-
Ethyl acetate	µg/m3	60	37 : 34 (Dupe)	-	-	-	-	-	-	<37	<34	NC
Hexane	µg/m3	60	11 : 13 (Dupe)	<11	<13	NC	-	-	-	-	-	-
Hexane	µg/m3	60	9.3 : 8.6 (Dupe)	-	-	-	-	-	-	157	179	13
Hexane	µg/m3	60	11 : 8.6 (Dupe)	-	-	-	57	55.4	3	-	-	-
Isopropylbenzene	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Isopropylbenzene	µg/m3	60	22 : 17 (Dupe)	-	-	-	700	769	9	-	-	-
Isopropylbenzene	µg/m3	60	0.93 : 0.86 (Dupe)	-	-	-	-	-	-	5.73	6.69	15
Methyl Ethyl Ketone [MEK]	µg/m3	60	11 : 13 (Dupe)	<11	<13	NC	-	-	-	-	-	-
Methyl Ethyl Ketone [MEK]	µg/m3	60	9.3 : 8.6 (Dupe)	-	-	-	-	-	-	<9.3	<8.6	NC
Methyl Ethyl Ketone [MEK]	µg/m3	60	11 : 8.6 (Dupe)	-	-	-	<11	<8.6	NC	-	-	-
Tetrachloroethane, 1,1,1,2-	µg/m3	60	1.7 : 2 (Dupe)	<1.7	<2	NC	-	-	-	-	-	-

Table A6-3
Soil Vapour RPD Results
1002 Station Street, 250 and 310 Prior Street, Vancouver, BC
Providence Health Care, PGL File 5355-01.01

			Lab Report Number	L2100737	L2100737		L2148270	L2148270		L2163712	L2163712	
			Field ID	SV05	Z01 (Dup of SV05)	**RPD**	SV11	Z02 (Dup of SV11)	**RPD**	SV18	Z03 (Dup of SV18)	**RPD**
			Sampled Date/Time	2018-05-22	2018-05-22		2018-08-16 11:01	2018-08-16 11:01		2018-09-12 14:10	2018-09-12 14:10	
Parameter	**Units**	**Screening Criteria**	**RDL**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**	**Parent**	**Duplicate**	**%**
Tetrachloroethane, 1,1,1,2-	µg/m3	60	1.8 : 1.4 (Dupe)	-	-	-	<1.8	<1.4	NC	-	-	-
Tetrachloroethane, 1,1,1,2-	µg/m3	60	1.5 : 1.4 (Dupe)	-	-	-	-	-	-	<1.5	<1.4	NC
Tetrachloroethane, 1,1,2,2-	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	µg/m3	60	3.7 : 45 (Dupe)	-	-	-	-	-	-	<3.7	<45	NC
Tetrachloroethane, 1,1,2,2-	µg/m3	60	2100 : 860 (Dupe)	-	-	-	<2100	<860	NC	-	-	-
Tetrachloroethylene	µg/m3	60	13 : 15 (Dupe)	<13	<15	NC	-	-	-	-	-	-
Tetrachloroethylene	µg/m3	60	13 : 10 (Dupe)	-	-	-	<13	<10	NC	-	-	-
Tetrachloroethylene	µg/m3	60	11 : 10 (Dupe)	-	-	-	-	-	-	<11	<10	NC
Trichloroethane, 1,1,1-	µg/m3	60	1.1 : 1.3 (Dupe)	<1.1	<1.3	NC	-	-	-	-	-	-
Trichloroethane, 1,1,1-	µg/m3	60	1.1 : 0.86 (Dupe)	-	-	-	<1.1	<0.86	NC	-	-	-
Trichloroethane, 1,1,1-	µg/m3	60	0.93 : 0.86 (Dupe)	-	-	-	-	-	-	<0.93	<0.86	NC
Trichloroethane, 1,1,2-	µg/m3	60	0.63 : 0.75 (Dupe)	<0.63	<0.75	NC	-	-	-	-	-	-
Trichloroethane, 1,1,2-	µg/m3	60	39 : 10 (Dupe)	-	-	-	<39	<10	NC	-	-	-
Trichloroethane, 1,1,2-	µg/m3	60	1.1 : 1 (Dupe)	-	-	-	-	-	-	<1.1	<1	NC
Trichloroethylene	µg/m3	60	0.63 : 0.75 (Dupe)	<0.63	<0.75	NC	-	-	-	-	-	-
Trichloroethylene	µg/m3	60	0.66 : 0.52 (Dupe)	-	-	-	1.57	1.62	NC	-	-	-
Trichloroethylene	µg/m3	60	0.56 : 0.52 (Dupe)	-	-	-	-	-	-	<0.56	<0.52	NC
Trichlorofluoromethane	µg/m3	60	11 : 13 (Dupe)	<11	<13	NC	-	-	-	-	-	-
Trichlorofluoromethane	µg/m3	60	9.3 : 8.6 (Dupe)	-	-	-	-	-	-	<9.3	<8.6	NC
Trichlorofluoromethane	µg/m3	60	11 : 8.6 (Dupe)	-	-	-	<11	<8.6	NC	-	-	-
Vinyl chloride	µg/m3	60	1.3 : 1.5 (Dupe)	<1.3	<1.5	NC	-	-	-	-	-	-
Vinyl chloride	µg/m3	60	1.3 : 1 (Dupe)	-	-	-	<1.3	<1	NC	-	-	-
Vinyl chloride	µg/m3	60	1.1 : 1 (Dupe)	-	-	-	-	-	-	<1.1	<1	NC

*RPDs have only been considered where a concentration is greater than 5 times the RDL.

**High RPDs are in bold

Appendix 7

Laboratory Certificates of Analysis

PGL
ENVIRONMENTAL CONSULTANTS

Pottinger Gaherty Environmental Consultants (PGL)
ATTN: Zayed Mohamed
1500 - 1185 West Georgia Street
Vancouver BC V6E 4E6

Date Received: 04-MAY-18
Report Date: 03-JUL-18 17:43 (MT)
Version: FINAL REV. 3

Client Phone: 604-682-3707

Certificate of Analysis

Lab Work Order #: L2089639

Project P.O. #:	NOT SUBMITTED
Job Reference:	5355-01.01
C of C Numbers:	17-686599, 17-686601, 17-686603, 17-686611
Legal Site Desc:	

Comments: ADDITIONAL 28-JUN-18 12:32
RRR (Lab Comment regarding TCLP Extraction of ALS ID -9) = Due to the matrix of the sample the second pH reading of the determination was continuously walking as the sample dissolved. We achieved a stable reading close to the pH 5 point where we chose which solution to use, but as we're not certain that the pH wouldn't walk over the limit given enough time we used the more aggressive extraction solution (#2) instead of what the stable reading told us to use (#1). I've qualified the prep pH values with RRR to explain why the determination pH value would say to use solution 1, but we used solution 2 instead.

20-JUN-2018 This report replaces the previous version and contains additional analyses, as requested.
3-JUL-2018 This report replaces the previous version and contains additional analyses, as requested.

Brent Mack, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-1	L2089639-3	L2089639-4	L2089639-9	L2089639-10
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH100M-01	BH100M-03	BH100M-04	BH101M-02	BH101M-03
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	7.05	29.0	63.1	17.1	16.0
	pH (1:2 soil:water) (pH)	8.19	7.26	6.67	7.63	6.68
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	8400	17100	16100	13800	18900
	Antimony (Sb) (mg/kg)	1.83	5.70	2.25	1780	18.6
	Arsenic (As) (mg/kg)	2.25	3.65	3.01	95.4	5.37
	Barium (Ba) (mg/kg)	52.5	98.0	86.5	726	91.4
	Beryllium (Be) (mg/kg)	0.16	0.25	0.28	0.53	0.29
	Boron (B) (mg/kg)	<5.0	27.6	29.7	18.4	<5.0
	Cadmium (Cd) (mg/kg)	0.056	0.127	0.121	12.0	0.131
	Chromium (Cr) (mg/kg)	11.6	13.2	28.0	39.6	31.6
	Cobalt (Co) (mg/kg)	3.75	4.53	4.31	14.7	9.32
	Copper (Cu) (mg/kg)	13.9	30.8	29.3	82600	131
	Iron (Fe) (mg/kg)	11600	16700	13300	54800	23700
	Lead (Pb) (mg/kg)	50.3	166	107	27900	600
	Lithium (Li) (mg/kg)	3.8	7.2	10.7	8.9	11.9
	Manganese (Mn) (mg/kg)	161	204	207	661	244
	Mercury (Hg) (mg/kg)	0.0326	0.0739	0.171	3.74	0.0239
	Molybdenum (Mo) (mg/kg)	0.32	0.64	4.18	4.73	1.30
	Nickel (Ni) (mg/kg)	7.39	9.16	12.0	349	18.8
	Selenium (Se) (mg/kg)	<0.20	0.40	0.97	1.82	<0.20
	Silver (Ag) (mg/kg)	<0.10	0.11	0.13	10.3	<0.10
	Strontium (Sr) (mg/kg)	53.3	71.4	105	107	33.4
	Thallium (Tl) (mg/kg)	<0.050	0.063	0.100	0.280	0.065
	Tin (Sn) (mg/kg)	<2.0	3.8	4.8	2720	27.3
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	3.50	<0.50
	Uranium (U) (mg/kg)	0.371	0.394	12.8	0.714	0.717
	Vanadium (V) (mg/kg)	33.7	45.0	34.2	44.2	69.3
	Zinc (Zn) (mg/kg)	33.7	75.4	51.2	31400	103
TCLP Metals	1st Preliminary pH (pH)	8.98	7.37	7.79	7.90 RRR	7.59
	2nd Preliminary pH (pH)	1.48	1.56	1.60	4.72 RRR	1.48
	Final pH (pH)	5.04	5.00	4.96	4.71 RRR	4.92
	Extraction Solution Initial pH (pH)	4.90	4.90	4.90	2.86 RRR	4.90
	Antimony (Sb)-Leachable (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As)-Leachable (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-11	L2089639-12	L2089639-13	L2089639-16	L2089639-17
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH101M-04	BH101M-05	BH101M-06	BH102M-01	Z100
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		15.9		19.2	21.0
	pH (1:2 soil:water) (pH)	8.16		8.68	8.11	8.11
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	26400		8580	18300	17700
	Antimony (Sb) (mg/kg)	9.39		4.68	144	548
	Arsenic (As) (mg/kg)	5.87		2.21	5.55	9.32
	Barium (Ba) (mg/kg)	141		45.3	155	263
	Beryllium (Be) (mg/kg)	0.36		0.12	0.31	0.38
	Boron (B) (mg/kg)	<5.0		<5.0	17.8	22.9
	Cadmium (Cd) (mg/kg)	0.150		0.076	4.55	6.53
	Chromium (Cr) (mg/kg)	33.2		12.6	17.8	18.5
	Cobalt (Co) (mg/kg)	15.1		4.11	6.35	6.24
	Copper (Cu) (mg/kg)	267		46.0	296	363
	Iron (Fe) (mg/kg)	32000		14900	20900	19200
	Lead (Pb) (mg/kg)	521		120	2370	9860
	Lithium (Li) (mg/kg)	10.0		3.3	11.3	12.4
	Manganese (Mn) (mg/kg)	722		193	250	268
	Mercury (Hg) (mg/kg)	0.0409		<0.050	0.186	0.339
	Molybdenum (Mo) (mg/kg)	0.84		0.32	0.72	0.71
	Nickel (Ni) (mg/kg)	23.7		6.20	18.9	24.6
	Selenium (Se) (mg/kg)	<0.20		<0.20	0.48	0.50
	Silver (Ag) (mg/kg)	<0.10		<0.10	0.22	0.48
	Strontium (Sr) (mg/kg)	64.6		31.3	104	214
	Thallium (Tl) (mg/kg)	0.102		<0.050	0.478	0.366
	Tin (Sn) (mg/kg)	12.2		4.9	38.9	52.8
	Tungsten (W) (mg/kg)	<0.50		<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.885		0.457	0.532	0.594
	Vanadium (V) (mg/kg)	79.9		44.3	49.7	48.5
	Zinc (Zn) (mg/kg)	179		39.1	525	825
TCLP Metals	1st Preliminary pH (pH)				8.92	8.54
	2nd Preliminary pH (pH)				5.00	1.68
	Final pH (pH)				4.83	5.57
	Extraction Solution Initial pH (pH)				2.86	4.90
	Antimony (Sb)-Leachable (mg/L)				<1.0	<1.0
	Arsenic (As)-Leachable (mg/L)				<1.0	<1.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-18	L2089639-19	L2089639-24	L2089639-25	L2089639-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH102M-02	BH102M-03	BH103M-01	Z101	BH103M-03
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		11.9	19.2	16.3	14.5
	pH (1:2 soil:water) (pH)	7.76		8.16	7.95	7.97
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	9430		14700	13500	13300
	Antimony (Sb) (mg/kg)	0.75		48.1	0.45	0.28
	Arsenic (As) (mg/kg)	1.87		19.0	2.74	2.40
	Barium (Ba) (mg/kg)	49.9		523	87.6	77.0
	Beryllium (Be) (mg/kg)	0.14		0.35	0.22	0.24
	Boron (B) (mg/kg)	<5.0		45.8	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.085		4.14	0.053	0.033
	Chromium (Cr) (mg/kg)	12.7		47.3	15.4	14.0
	Cobalt (Co) (mg/kg)	4.58		11.5	5.51	5.76
	Copper (Cu) (mg/kg)	15.8		523	19.1	14.2
	Iron (Fe) (mg/kg)	17000		72900	19800	19700
	Lead (Pb) (mg/kg)	26.7		1550	16.5	7.46
	Lithium (Li) (mg/kg)	3.5		11.3	4.6	3.7
	Manganese (Mn) (mg/kg)	211		508	190	206
	Mercury (Hg) (mg/kg)	0.0092		1.12	0.0185	0.0140
	Molybdenum (Mo) (mg/kg)	0.35		3.90	0.50	0.52
	Nickel (Ni) (mg/kg)	6.21		59.8	7.65	7.01
	Selenium (Se) (mg/kg)	<0.20		1.85	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10		0.45	<0.10	<0.10
	Strontium (Sr) (mg/kg)	34.7		193	34.9	31.0
	Thallium (Tl) (mg/kg)	<0.050		0.108	<0.050	<0.050
	Tin (Sn) (mg/kg)	<2.0		90.6	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50		1.71	<0.50	<0.50
	Uranium (U) (mg/kg)	0.438		0.520	0.533	0.532
	Vanadium (V) (mg/kg)	48.3		58.1	54.5	54.6
	Zinc (Zn) (mg/kg)	29.9		2140	39.2	27.4
TCLP Metals	1st Preliminary pH (pH)	8.12		8.98		8.18
	2nd Preliminary pH (pH)	1.46		1.79		1.44
	Final pH (pH)	4.91		5.29		4.93
	Extraction Solution Initial pH (pH)	4.90		4.90		4.90
	Antimony (Sb)-Leachable (mg/L)	<1.0		<1.0		<1.0
	Arsenic (As)-Leachable (mg/L)	<1.0		<1.0		<1.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-28	L2089639-30	L2089639-32	L2089639-33	L2089639-35
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	Z102	BH104M-01	BH104M-03	Z103	BH104M-05
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		15.3	25.0	23.6	19.6
	pH (1:2 soil:water) (pH)	7.95	7.54	8.01	8.06	7.72
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	14600	11500	14300	13200	10100
	Antimony (Sb) (mg/kg)	0.54	38.8	22.8	16.0	0.26
	Arsenic (As) (mg/kg)	2.84	42.2	17.2	13.8	1.48
	Barium (Ba) (mg/kg)	88.6	312	384	321	23.5
	Beryllium (Be) (mg/kg)	0.24	0.22	0.36	0.34	0.14
	Boron (B) (mg/kg)	<5.0	83.8	25.4	24.0	<5.0
	Cadmium (Cd) (mg/kg)	0.049	8.52	2.24	2.41	0.035
	Chromium (Cr) (mg/kg)	14.9	62.3	33.5	31.1	13.0
	Cobalt (Co) (mg/kg)	6.11	12.8	12.3	12.0	4.17
	Copper (Cu) (mg/kg)	18.6	437	246	148	13.5
	Iron (Fe) (mg/kg)	21200	137000	83900	63700	10900
	Lead (Pb) (mg/kg)	15.6	1640	893	532	6.01
	Lithium (Li) (mg/kg)	4.7	5.9	11.1	9.9	4.4
	Manganese (Mn) (mg/kg)	213	801	1390	1230	170
	Mercury (Hg) (mg/kg)	0.0191	0.819	0.448	0.680	0.0075
	Molybdenum (Mo) (mg/kg)	0.54	7.05	1.94	1.79	0.25
	Nickel (Ni) (mg/kg)	8.42	61.4	34.5	36.6	6.73
	Selenium (Se) (mg/kg)	<0.20	1.37	0.46	0.40	<0.20
	Silver (Ag) (mg/kg)	<0.10	0.49	0.40	0.72	<0.10
	Strontium (Sr) (mg/kg)	39.0	50.3	210	202	28.7
	Thallium (Tl) (mg/kg)	<0.050	0.136	0.106	0.098	<0.050
	Tin (Sn) (mg/kg)	<2.0	53.9	83.3	109	<2.0
	Tungsten (W) (mg/kg)	<0.50	4.17	0.72	0.68	<0.50
	Uranium (U) (mg/kg)	0.497	0.463	0.600	0.585	0.383
	Vanadium (V) (mg/kg)	56.7	49.0	74.4	65.1	53.1
	Zinc (Zn) (mg/kg)	50.9	800	2280	775	25.8
TCLP Metals	1st Preliminary pH (pH)	8.32				
	2nd Preliminary pH (pH)	1.46				
	Final pH (pH)	4.93				
	Extraction Solution Initial pH (pH)	4.90				
	Antimony (Sb)-Leachable (mg/L)	<1.0				
	Arsenic (As)-Leachable (mg/L)	<1.0				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-36	L2089639-37	L2089639-38	L2089639-42	L2089639-44
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH105M-01	BH105M-02	BH105M-03	BH105M-06	BH106M-01
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		11.9	16.7	17.7	8.22
	pH (1:2 soil:water) (pH)	7.79	8.63	7.83	7.39	8.36
Saturated Paste Extractables	Chloride (Cl) (mg/kg)			4.60	6.24	
	% Saturation (%)			32.8	33.4	
	Sodium (Na) (mg/kg)			5.6	14.3	
Metals	Aluminum (Al) (mg/kg)	11600	11500	20900	18000	15300
	Antimony (Sb) (mg/kg)	9.62	16.9	0.42	0.34	0.28
	Arsenic (As) (mg/kg)	5.70	10.4	2.45	2.90	4.37
	Barium (Ba) (mg/kg)	60.3	922	88.6	58.1	73.7
	Beryllium (Be) (mg/kg)	0.20	0.28	0.27	0.30	0.21
	Boron (B) (mg/kg)	<5.0	9.9	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.315	9.42	0.070	0.052	0.081
	Chromium (Cr) (mg/kg)	63.1	200	20.0	38.5	19.3
	Cobalt (Co) (mg/kg)	10.1	11.8	7.39	9.50	7.55
	Copper (Cu) (mg/kg)	52.8	827	22.7	29.8	22.1
	Iron (Fe) (mg/kg)	23400	65700	22300	25900	20800
	Lead (Pb) (mg/kg)	557	2280	14.5	7.25	6.09
	Lithium (Li) (mg/kg)	8.4	5.9	6.2	11.4	6.6
	Manganese (Mn) (mg/kg)	361	819	278	252	350
	Mercury (Hg) (mg/kg)	0.0336	0.176	0.0210	0.0313	0.0209
	Molybdenum (Mo) (mg/kg)	1.29	15.7	0.28	0.45	0.44
	Nickel (Ni) (mg/kg)	68.2	75.8	13.8	24.6	15.2
	Selenium (Se) (mg/kg)	<0.20	6.31	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	1.01	<0.10	<0.10	<0.10
	Strontium (Sr) (mg/kg)	35.2	84.3	55.1	31.1	58.4
	Thallium (Tl) (mg/kg)	0.062	0.067	0.057	0.066	0.058
	Tin (Sn) (mg/kg)	3.3	62.0	<2.0	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	6.83	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.290	0.595	0.495	0.631	0.489
	Vanadium (V) (mg/kg)	50.1	47.3	62.4	72.4	54.8
	Zinc (Zn) (mg/kg)	93.6	4690	44.9	50.6	43.6
TCLP Metals	1st Preliminary pH (pH)	8.75	10.63	8.64		9.25
	2nd Preliminary pH (pH)	1.45	5.53	1.46		1.66
	Final pH (pH)	4.95	5.20	4.99		5.53
	Extraction Solution Initial pH (pH)	4.90	2.86	4.90		4.93
	Antimony (Sb)-Leachable (mg/L)	<1.0	<1.0	<1.0		<1.0
	Arsenic (As)-Leachable (mg/L)	<1.0	<1.0	<1.0		<1.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-45	L2089639-47			
	Description	Soil	Soil			
	Sampled Date	04-MAY-18	04-MAY-18			
	Sampled Time					
	Client ID	BH106M-02	BH106M-04			
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	5.89				
	pH (1:2 soil:water) (pH)	7.27	6.75			
Saturated Paste Extractables	Chloride (Cl) (mg/kg)		1.81			
	% Saturation (%)		23.6			
	Sodium (Na) (mg/kg)		3.0			
Metals	Aluminum (Al) (mg/kg)	11300	9560			
	Antimony (Sb) (mg/kg)	4.64	0.23			
	Arsenic (As) (mg/kg)	17.3	2.24			
	Barium (Ba) (mg/kg)	85.1	41.4			
	Beryllium (Be) (mg/kg)	0.19	0.11			
	Boron (B) (mg/kg)	<5.0	<5.0			
	Cadmium (Cd) (mg/kg)	2.52	0.186			
	Chromium (Cr) (mg/kg)	36.2	10.9			
	Cobalt (Co) (mg/kg)	9.73	3.99			
	Copper (Cu) (mg/kg)	1000	13.4			
	Iron (Fe) (mg/kg)	44400	13500			
	Lead (Pb) (mg/kg)	605	3.97			
	Lithium (Li) (mg/kg)	6.8	3.9			
	Manganese (Mn) (mg/kg)	457	177			
	Mercury (Hg) (mg/kg)	0.854	0.0083			
	Molybdenum (Mo) (mg/kg)	2.41	0.18			
	Nickel (Ni) (mg/kg)	48.4	7.41			
	Selenium (Se) (mg/kg)	0.76	<0.20			
	Silver (Ag) (mg/kg)	1.79	<0.10			
	Strontium (Sr) (mg/kg)	41.0	22.1			
	Thallium (Tl) (mg/kg)	0.091	<0.050			
	Tin (Sn) (mg/kg)	10.7	<2.0			
	Tungsten (W) (mg/kg)	<0.50	<0.50			
	Uranium (U) (mg/kg)	0.335	0.257			
	Vanadium (V) (mg/kg)	44.0	39.9			
	Zinc (Zn) (mg/kg)	365	52.9			
TCLP Metals	1st Preliminary pH (pH)	7.76				
	2nd Preliminary pH (pH)	1.51				
	Final pH (pH)	4.94				
	Extraction Solution Initial pH (pH)	4.93				
	Antimony (Sb)-Leachable (mg/L)	<1.0				
	Arsenic (As)-Leachable (mg/L)	<1.0				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-1	L2089639-3	L2089639-4	L2089639-9	L2089639-10
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH100M-01	BH100M-03	BH100M-04	BH101M-02	BH101M-03
Grouping	**Analyte**					
SOIL						
TCLP Metals	Barium (Ba)-Leachable (mg/L)	<2.5	<2.5	<2.5	<2.5	<2.5
	Beryllium (Be)-Leachable (mg/L)	<0.025	<0.025	<0.025	<0.025	<0.025
	Boron (B)-Leachable (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Cadmium (Cd)-Leachable (mg/L)	<0.050	<0.050	<0.050	0.138	<0.050
	Calcium (Ca)-Leachable (mg/L)	169	93.3	56.8	162	29.2
	Chromium (Cr)-Leachable (mg/L)	<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)	<0.050	<0.050	<0.050	0.068	<0.050
	Copper (Cu)-Leachable (mg/L)	0.120	<0.050	<0.050	1140	0.731
	Iron (Fe)-Leachable (mg/L)	<5.0	<5.0	<5.0	46.7	<5.0
	Lead (Pb)-Leachable (mg/L)	0.93	<0.25	<0.25	848	0.87
	Magnesium (Mg)-Leachable (mg/L)	2.23	2.90	13.6	13.2	3.00
	Mercury (Hg)-Leachable (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)	<0.25	<0.25	<0.25	3.05	<0.25
	Selenium (Se)-Leachable (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag)-Leachable (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Thallium (Tl)-Leachable (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Vanadium (V)-Leachable (mg/L)	<0.15	<0.15	<0.15	<0.15	<0.15
	Zinc (Zn)-Leachable (mg/L)	<0.50	<0.50	<0.50	280	0.51
Volatile Organic Compounds	VOC Sample Container		Field MeOH			
	Benzene (mg/kg)		<0.0050			
	Bromodichloromethane (mg/kg)		<0.050			
	Bromoform (mg/kg)		<0.050			
	Carbon Tetrachloride (mg/kg)		<0.050			
	Chlorobenzene (mg/kg)		<0.050			
	Dibromochloromethane (mg/kg)		<0.050			
	Chloroethane (mg/kg)		<0.10			
	Chloroform (mg/kg)		<0.10			
	Chloromethane (mg/kg)		<0.10			
	1,2-Dichlorobenzene (mg/kg)		<0.050			
	1,3-Dichlorobenzene (mg/kg)		<0.050			
	1,4-Dichlorobenzene (mg/kg)		<0.050			
	1,1-Dichloroethane (mg/kg)		<0.050			
	1,2-Dichloroethane (mg/kg)		<0.050			
	1,1-Dichloroethylene (mg/kg)		<0.050			
	cis-1,2-Dichloroethylene (mg/kg)		<0.050			
	trans-1,2-Dichloroethylene (mg/kg)		<0.050			
	Dichloromethane (mg/kg)		<0.30			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2089639-11	L2089639-12	L2089639-13	L2089639-16	L2089639-17
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
Sampled Time					
Client ID	BH101M-04	BH101M-05	BH101M-06	BH102M-01	Z100
Grouping / **Analyte**					
SOIL					
TCLP Metals					
Barium (Ba)-Leachable (mg/L)				<2.5	<2.5
Beryllium (Be)-Leachable (mg/L)				<0.025	<0.025
Boron (B)-Leachable (mg/L)				<0.50	<0.50
Cadmium (Cd)-Leachable (mg/L)				<0.050	<0.050
Calcium (Ca)-Leachable (mg/L)				1360	504
Chromium (Cr)-Leachable (mg/L)				<0.25	<0.25
Cobalt (Co)-Leachable (mg/L)				<0.050	<0.050
Copper (Cu)-Leachable (mg/L)				0.122	0.159
Iron (Fe)-Leachable (mg/L)				<5.0	<5.0
Lead (Pb)-Leachable (mg/L)				0.89	2.68
Magnesium (Mg)-Leachable (mg/L)				5.15	1.73
Mercury (Hg)-Leachable (mg/L)				<0.0010	<0.0010
Nickel (Ni)-Leachable (mg/L)				<0.25	<0.25
Selenium (Se)-Leachable (mg/L)				<1.0	<1.0
Silver (Ag)-Leachable (mg/L)				<0.050	<0.050
Thallium (Tl)-Leachable (mg/L)				<1.0	<1.0
Vanadium (V)-Leachable (mg/L)				<0.15	<0.15
Zinc (Zn)-Leachable (mg/L)				2.14	6.03
Volatile Organic Compounds					
VOC Sample Container		Field MeOH			
Benzene (mg/kg)		<0.0050			
Bromodichloromethane (mg/kg)		<0.050			
Bromoform (mg/kg)		<0.050			
Carbon Tetrachloride (mg/kg)		<0.050			
Chlorobenzene (mg/kg)		<0.050			
Dibromochloromethane (mg/kg)		<0.050			
Chloroethane (mg/kg)		<0.10			
Chloroform (mg/kg)		<0.10			
Chloromethane (mg/kg)		<0.10			
1,2-Dichlorobenzene (mg/kg)		<0.050			
1,3-Dichlorobenzene (mg/kg)		<0.050			
1,4-Dichlorobenzene (mg/kg)		<0.050			
1,1-Dichloroethane (mg/kg)		<0.050			
1,2-Dichloroethane (mg/kg)		<0.050			
1,1-Dichloroethylene (mg/kg)		<0.050			
cis-1,2-Dichloroethylene (mg/kg)		<0.050			
trans-1,2-Dichloroethylene (mg/kg)		<0.050			
Dichloromethane (mg/kg)		<0.30			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-18	L2089639-19	L2089639-24	L2089639-25	L2089639-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH102M-02	BH102M-03	BH103M-01	Z101	BH103M-03
Grouping	**Analyte**					
SOIL						
TCLP Metals	Barium (Ba)-Leachable (mg/L)	<2.5		3.2		<2.5
	Beryllium (Be)-Leachable (mg/L)	<0.025		<0.025		<0.025
	Boron (B)-Leachable (mg/L)	<0.50		<0.50		<0.50
	Cadmium (Cd)-Leachable (mg/L)	<0.050		<0.050		<0.050
	Calcium (Ca)-Leachable (mg/L)	27.4		307		38.9
	Chromium (Cr)-Leachable (mg/L)	<0.25		<0.25		<0.25
	Cobalt (Co)-Leachable (mg/L)	<0.050		<0.050		<0.050
	Copper (Cu)-Leachable (mg/L)	0.108		0.231		0.080
	Iron (Fe)-Leachable (mg/L)	<5.0		<5.0		7.2
	Lead (Pb)-Leachable (mg/L)	<0.25		2.75		<0.25
	Magnesium (Mg)-Leachable (mg/L)	1.12		8.33		3.37
	Mercury (Hg)-Leachable (mg/L)	<0.0010		<0.0010		<0.0010
	Nickel (Ni)-Leachable (mg/L)	<0.25		<0.25		<0.25
	Selenium (Se)-Leachable (mg/L)	<1.0		<1.0		<1.0
	Silver (Ag)-Leachable (mg/L)	<0.050		<0.050		<0.050
	Thallium (Tl)-Leachable (mg/L)	<1.0		<1.0		<1.0
	Vanadium (V)-Leachable (mg/L)	<0.15		<0.15		<0.15
	Zinc (Zn)-Leachable (mg/L)	<0.50		11.5		<0.50
Volatile Organic Compounds	VOC Sample Container		Field MeOH			
	Benzene (mg/kg)		<0.0050			
	Bromodichloromethane (mg/kg)		<0.050			
	Bromoform (mg/kg)		<0.050			
	Carbon Tetrachloride (mg/kg)		<0.050			
	Chlorobenzene (mg/kg)		<0.050			
	Dibromochloromethane (mg/kg)		<0.050			
	Chloroethane (mg/kg)		<0.10			
	Chloroform (mg/kg)		<0.10			
	Chloromethane (mg/kg)		<0.10			
	1,2-Dichlorobenzene (mg/kg)		<0.050			
	1,3-Dichlorobenzene (mg/kg)		<0.050			
	1,4-Dichlorobenzene (mg/kg)		<0.050			
	1,1-Dichloroethane (mg/kg)		<0.050			
	1,2-Dichloroethane (mg/kg)		<0.050			
	1,1-Dichloroethylene (mg/kg)		<0.050			
	cis-1,2-Dichloroethylene (mg/kg)		<0.050			
	trans-1,2-Dichloroethylene (mg/kg)		<0.050			
	Dichloromethane (mg/kg)		<0.30			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-28	L2089639-30	L2089639-32	L2089639-33	L2089639-35
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	Z102	BH104M-01	BH104M-03	Z103	BH104M-05
Grouping	**Analyte**					
SOIL						
TCLP Metals	Barium (Ba)-Leachable (mg/L)	<2.5				
	Beryllium (Be)-Leachable (mg/L)	<0.025				
	Boron (B)-Leachable (mg/L)	<0.50				
	Cadmium (Cd)-Leachable (mg/L)	<0.050				
	Calcium (Ca)-Leachable (mg/L)	32.9				
	Chromium (Cr)-Leachable (mg/L)	<0.25				
	Cobalt (Co)-Leachable (mg/L)	<0.050				
	Copper (Cu)-Leachable (mg/L)	<0.050				
	Iron (Fe)-Leachable (mg/L)	9.7				
	Lead (Pb)-Leachable (mg/L)	<0.25				
	Magnesium (Mg)-Leachable (mg/L)	3.12				
	Mercury (Hg)-Leachable (mg/L)	<0.0010				
	Nickel (Ni)-Leachable (mg/L)	<0.25				
	Selenium (Se)-Leachable (mg/L)	<1.0				
	Silver (Ag)-Leachable (mg/L)	<0.050				
	Thallium (Tl)-Leachable (mg/L)	<1.0				
	Vanadium (V)-Leachable (mg/L)	<0.15				
	Zinc (Zn)-Leachable (mg/L)	<0.50				
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-36	L2089639-37	L2089639-38	L2089639-42	L2089639-44
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH105M-01	BH105M-02	BH105M-03	BH105M-06	BH106M-01
Grouping	**Analyte**					
SOIL						
TCLP Metals	Barium (Ba)-Leachable (mg/L)	<2.5	5.0	<2.5		<2.5
	Beryllium (Be)-Leachable (mg/L)	<0.025	<0.025	<0.025		<0.025
	Boron (B)-Leachable (mg/L)	<0.50	<0.50	<0.50		<0.50
	Cadmium (Cd)-Leachable (mg/L)	<0.050	0.110	<0.050		<0.050
	Calcium (Ca)-Leachable (mg/L)	51.1	1600	96.0		455
	Chromium (Cr)-Leachable (mg/L)	<0.25	<0.25	<0.25		<0.25
	Cobalt (Co)-Leachable (mg/L)	<0.050	<0.050	<0.050		<0.050
	Copper (Cu)-Leachable (mg/L)	0.252	0.152	<0.050		<0.050
	Iron (Fe)-Leachable (mg/L)	<5.0	42.2	13.0		<5.0
	Lead (Pb)-Leachable (mg/L)	6.77	29.3	<0.25		<0.25
	Magnesium (Mg)-Leachable (mg/L)	3.80	8.39	2.95		13.5
	Mercury (Hg)-Leachable (mg/L)	<0.0010	<0.0010	<0.0010		<0.0010
	Nickel (Ni)-Leachable (mg/L)	<0.25	0.52	<0.25		<0.25
	Selenium (Se)-Leachable (mg/L)	<1.0	<1.0	<1.0		<1.0
	Silver (Ag)-Leachable (mg/L)	<0.050	<0.050	<0.050		<0.050
	Thallium (Tl)-Leachable (mg/L)	<1.0	<1.0	<1.0		<1.0
	Vanadium (V)-Leachable (mg/L)	<0.15	<0.15	<0.15		<0.15
	Zinc (Zn)-Leachable (mg/L)	<0.50	46.8	<0.50		<0.50
Volatile Organic Compounds	VOC Sample Container		Field MeOH	Field MeOH	Field MeOH	
	Benzene (mg/kg)		0.116	<0.0050	<0.0050	
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-45	L2089639-47			
	Description	Soil	Soil			
	Sampled Date	04-MAY-18	04-MAY-18			
	Sampled Time					
	Client ID	BH106M-02	BH106M-04			
Grouping	**Analyte**					
SOIL						
TCLP Metals	Barium (Ba)-Leachable (mg/L)	<2.5				
	Beryllium (Be)-Leachable (mg/L)	<0.025				
	Boron (B)-Leachable (mg/L)	<0.50				
	Cadmium (Cd)-Leachable (mg/L)	<0.050				
	Calcium (Ca)-Leachable (mg/L)	20.6				
	Chromium (Cr)-Leachable (mg/L)	<0.25				
	Cobalt (Co)-Leachable (mg/L)	<0.050				
	Copper (Cu)-Leachable (mg/L)	1.22				
	Iron (Fe)-Leachable (mg/L)	<5.0				
	Lead (Pb)-Leachable (mg/L)	1.25				
	Magnesium (Mg)-Leachable (mg/L)	1.66				
	Mercury (Hg)-Leachable (mg/L)	<0.0010				
	Nickel (Ni)-Leachable (mg/L)	<0.25				
	Selenium (Se)-Leachable (mg/L)	<1.0				
	Silver (Ag)-Leachable (mg/L)	<0.050				
	Thallium (Tl)-Leachable (mg/L)	<1.0				
	Vanadium (V)-Leachable (mg/L)	<0.15				
	Zinc (Zn)-Leachable (mg/L)	0.75				
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2089639-1	L2089639-3	L2089639-4	L2089639-9	L2089639-10
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
Sampled Time					
Client ID	BH100M-01	BH100M-03	BH100M-04	BH101M-02	BH101M-03
Grouping / **Analyte**					
SOIL					
Volatile Organic Compounds					
1,2-Dichloropropane (mg/kg)		<0.050			
cis-1,3-Dichloropropylene (mg/kg)		<0.050			
trans-1,3-Dichloropropylene (mg/kg)		<0.050			
1,3-Dichloropropene (cis & trans) (mg/kg)		<0.10			
Ethylbenzene (mg/kg)		<0.015			
Methyl t-butyl ether (MTBE) (mg/kg)		<0.20			
Styrene (mg/kg)		<0.050			
1,1,1,2-Tetrachloroethane (mg/kg)		<0.050			
1,1,2,2-Tetrachloroethane (mg/kg)		<0.050			
Tetrachloroethylene (mg/kg)		<0.050			
Toluene (mg/kg)		<0.050			
1,1,1-Trichloroethane (mg/kg)		<0.050			
1,1,2-Trichloroethane (mg/kg)		<0.050			
Trichloroethylene (mg/kg)		<0.010			
Trichlorofluoromethane (mg/kg)		<0.10			
Vinyl Chloride (mg/kg)		<0.10			
ortho-Xylene (mg/kg)		<0.050			
meta- & para-Xylene (mg/kg)		<0.050			
Xylenes (mg/kg)		<0.075			
Surrogate: 4-Bromofluorobenzene (SS) (%)		82.9			
Surrogate: 1,4-Difluorobenzene (SS) (%)		85.7			
Hydrocarbons					
EPH10-19 (mg/kg)	<200	<200	<260 DLHM	<200	<200
EPH19-32 (mg/kg)	<200	<200	300	230	<200
LEPH (mg/kg)		<200	<260	<200	<200
HEPH (mg/kg)		<200	300	220	<200
Volatile Hydrocarbons (VH6-10) (mg/kg)		<100			
VPH (C6-C10) (mg/kg)		<100			
Surrogate: 2-Bromobenzotrifluoride (%)	76.5	93.3	98.3	92.6	95.3
Surrogate: 3,4-Dichlorotoluene (SS) (%)		113.4			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene (mg/kg)		0.0066	0.0133	<0.015 DLCI	<0.0050
Acenaphthylene (mg/kg)		0.0152	0.0070	0.0203	<0.0050
Anthracene (mg/kg)		0.0167	0.0338	0.0321	<0.0040
Benz(a)anthracene (mg/kg)		0.055	0.057	0.139	<0.010
Benzo(a)pyrene (mg/kg)		0.077	0.060	0.183	<0.010
Benzo(b&j)fluoranthene (mg/kg)		0.089	0.071	0.230	<0.010
Benzo(b+j+k)fluoranthene (mg/kg)		0.124	0.098	0.313	<0.015

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2089639-11	L2089639-12	L2089639-13	L2089639-16	L2089639-17
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
Sampled Time					
Client ID	BH101M-04	BH101M-05	BH101M-06	BH102M-01	Z100
Grouping / **Analyte**					
SOIL					
Volatile Organic Compounds					
1,2-Dichloropropane (mg/kg)		<0.050			
cis-1,3-Dichloropropylene (mg/kg)		<0.050			
trans-1,3-Dichloropropylene (mg/kg)		<0.050			
1,3-Dichloropropene (cis & trans) (mg/kg)		<0.10			
Ethylbenzene (mg/kg)		<0.015			
Methyl t-butyl ether (MTBE) (mg/kg)		<0.20			
Styrene (mg/kg)		<0.050			
1,1,1,2-Tetrachloroethane (mg/kg)		<0.050			
1,1,2,2-Tetrachloroethane (mg/kg)		<0.050			
Tetrachloroethylene (mg/kg)		<0.050			
Toluene (mg/kg)		<0.050			
1,1,1-Trichloroethane (mg/kg)		<0.050			
1,1,2-Trichloroethane (mg/kg)		<0.050			
Trichloroethylene (mg/kg)		<0.010			
Trichlorofluoromethane (mg/kg)		<0.10			
Vinyl Chloride (mg/kg)		<0.10			
ortho-Xylene (mg/kg)		<0.050			
meta- & para-Xylene (mg/kg)		<0.050			
Xylenes (mg/kg)		<0.075			
Surrogate: 4-Bromofluorobenzene (SS) (%)		82.6			
Surrogate: 1,4-Difluorobenzene (SS) (%)		84.4			
Hydrocarbons					
EPH10-19 (mg/kg)				<200	<200
EPH19-32 (mg/kg)				<200	<200
LEPH (mg/kg)				<200	<200
HEPH (mg/kg)				<200	<200
Volatile Hydrocarbons (VH6-10) (mg/kg)		<100			
VPH (C6-C10) (mg/kg)		<100			
Surrogate: 2-Bromobenzotrifluoride (%)				92.2	92.8
Surrogate: 3,4-Dichlorotoluene (SS) (%)		99.5			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene (mg/kg)				0.0349	0.0373
Acenaphthylene (mg/kg)				0.0720	0.113
Anthracene (mg/kg)				0.145	0.205
Benz(a)anthracene (mg/kg)				0.639	0.822
Benzo(a)pyrene (mg/kg)				0.859	1.18
Benzo(b&j)fluoranthene (mg/kg)				1.12	1.45
Benzo(b+j+k)fluoranthene (mg/kg)				1.52	2.03

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2089639-18	L2089639-19	L2089639-24	L2089639-25	L2089639-27
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
Sampled Time					
Client ID	BH102M-02	BH102M-03	BH103M-01	Z101	BH103M-03
Grouping / **Analyte**					
SOIL					
Volatile Organic Compounds					
1,2-Dichloropropane (mg/kg)		<0.050			
cis-1,3-Dichloropropylene (mg/kg)		<0.050			
trans-1,3-Dichloropropylene (mg/kg)		<0.050			
1,3-Dichloropropene (cis & trans) (mg/kg)		<0.10			
Ethylbenzene (mg/kg)		<0.015			
Methyl t-butyl ether (MTBE) (mg/kg)		<0.20			
Styrene (mg/kg)		<0.050			
1,1,1,2-Tetrachloroethane (mg/kg)		<0.050			
1,1,2,2-Tetrachloroethane (mg/kg)		<0.050			
Tetrachloroethylene (mg/kg)		<0.050			
Toluene (mg/kg)		<0.050			
1,1,1-Trichloroethane (mg/kg)		<0.050			
1,1,2-Trichloroethane (mg/kg)		<0.050			
Trichloroethylene (mg/kg)		<0.010			
Trichlorofluoromethane (mg/kg)		<0.10			
Vinyl Chloride (mg/kg)		<0.10			
ortho-Xylene (mg/kg)		<0.050			
meta- & para-Xylene (mg/kg)		<0.050			
Xylenes (mg/kg)		<0.075			
Surrogate: 4-Bromofluorobenzene (SS) (%)		93.2			
Surrogate: 1,4-Difluorobenzene (SS) (%)		88.3			
Hydrocarbons					
EPH10-19 (mg/kg)			660	<200	<200
EPH19-32 (mg/kg)			1760	<200	<200
LEPH (mg/kg)			660		
HEPH (mg/kg)			1750		
Volatile Hydrocarbons (VH6-10) (mg/kg)		<100			
VPH (C6-C10) (mg/kg)		<100			
Surrogate: 2-Bromobenzotrifluoride (%)			93.9	79.0	78.6
Surrogate: 3,4-Dichlorotoluene (SS) (%)		109.0			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene (mg/kg)			<0.30 DLCI		
Acenaphthylene (mg/kg)			<0.30 DLCI		
Anthracene (mg/kg)			0.581		
Benz(a)anthracene (mg/kg)			1.21		
Benzo(a)pyrene (mg/kg)			1.28		
Benzo(b&j)fluoranthene (mg/kg)			1.70		
Benzo(b+j+k)fluoranthene (mg/kg)			2.38		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2089639-28	L2089639-30	L2089639-32	L2089639-33	L2089639-35
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	03-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
Sampled Time					
Client ID	Z102	BH104M-01	BH104M-03	Z103	BH104M-05
Grouping / **Analyte**					
SOIL					
Volatile Organic Compounds					
1,2-Dichloropropane (mg/kg)					
cis-1,3-Dichloropropylene (mg/kg)					
trans-1,3-Dichloropropylene (mg/kg)					
1,3-Dichloropropene (cis & trans) (mg/kg)					
Ethylbenzene (mg/kg)					
Methyl t-butyl ether (MTBE) (mg/kg)					
Styrene (mg/kg)					
1,1,1,2-Tetrachloroethane (mg/kg)					
1,1,2,2-Tetrachloroethane (mg/kg)					
Tetrachloroethylene (mg/kg)					
Toluene (mg/kg)					
1,1,1-Trichloroethane (mg/kg)					
1,1,2-Trichloroethane (mg/kg)					
Trichloroethylene (mg/kg)					
Trichlorofluoromethane (mg/kg)					
Vinyl Chloride (mg/kg)					
ortho-Xylene (mg/kg)					
meta- & para-Xylene (mg/kg)					
Xylenes (mg/kg)					
Surrogate: 4-Bromofluorobenzene (SS) (%)					
Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons					
EPH10-19 (mg/kg)		<200	<200	<200	<200
EPH19-32 (mg/kg)		200	<200	<200	<200
LEPH (mg/kg)			<200	<200	
HEPH (mg/kg)			<200	<200	
Volatile Hydrocarbons (VH6-10) (mg/kg)					
VPH (C6-C10) (mg/kg)					
Surrogate: 2-Bromobenzotrifluoride (%)		79.7	89.4	90.7	96.8
Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons					
Acenaphthene (mg/kg)			<0.016 DLCI	<0.015 DLCI	
Acenaphthylene (mg/kg)			0.0203	<0.015 DLCI	
Anthracene (mg/kg)			0.0265	0.0219	
Benz(a)anthracene (mg/kg)			0.119	0.096	
Benzo(a)pyrene (mg/kg)			0.187	0.161	
Benzo(b&j)fluoranthene (mg/kg)			0.317	0.253	
Benzo(b+j+k)fluoranthene (mg/kg)			0.462	0.361	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2089639-36	L2089639-37	L2089639-38	L2089639-42	L2089639-44
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
Sampled Time					
Client ID	BH105M-01	BH105M-02	BH105M-03	BH105M-06	BH106M-01
Grouping / **Analyte**					
SOIL					
Volatile Organic Compounds					
1,2-Dichloropropane (mg/kg)					
cis-1,3-Dichloropropylene (mg/kg)					
trans-1,3-Dichloropropylene (mg/kg)					
1,3-Dichloropropene (cis & trans) (mg/kg)					
Ethylbenzene (mg/kg)		<0.60 DLQ	<0.015	<0.015	
Methyl t-butyl ether (MTBE) (mg/kg)		<0.20	<0.20	<0.20	
Styrene (mg/kg)		<0.050	<0.050	<0.050	
1,1,1,2-Tetrachloroethane (mg/kg)					
1,1,2,2-Tetrachloroethane (mg/kg)					
Tetrachloroethylene (mg/kg)					
Toluene (mg/kg)		0.349	<0.050	<0.050	
1,1,1-Trichloroethane (mg/kg)					
1,1,2-Trichloroethane (mg/kg)					
Trichloroethylene (mg/kg)					
Trichlorofluoromethane (mg/kg)					
Vinyl Chloride (mg/kg)					
ortho-Xylene (mg/kg)		<0.80 DLQ	<0.050	<0.050	
meta- & para-Xylene (mg/kg)		1.53	<0.050	<0.050	
Xylenes (mg/kg)		1.53	<0.075	<0.075	
Surrogate: 4-Bromofluorobenzene (SS) (%)		70.4	89.4	89.6	
Surrogate: 1,4-Difluorobenzene (SS) (%)		85.4	86.7	86.5	
Hydrocarbons					
EPH10-19 (mg/kg)		7360	450	<200	<200
EPH19-32 (mg/kg)		12800	980	<200	<200
LEPH (mg/kg)		7360	450	<200	
HEPH (mg/kg)		12800	980	<200	
Volatile Hydrocarbons (VH6-10) (mg/kg)		1200	<100	<100	
VPH (C6-C10) (mg/kg)		1200	<100	<100	
Surrogate: 2-Bromobenzotrifluoride (%)		Not Reportable SMI	92.0	90.9	78.9
Surrogate: 3,4-Dichlorotoluene (SS) (%)		Not Reportable	128.4	114.0	
Polycyclic Aromatic Hydrocarbons					
Acenaphthene (mg/kg)		<1.0 DLCI	<0.30 DLCI	<0.0050	
Acenaphthylene (mg/kg)		<0.30 DLCI	<0.050 DLCI	<0.0050	
Anthracene (mg/kg)		<0.50 DLCI	0.0544	<0.0040	
Benz(a)anthracene (mg/kg)		<0.30 DLCI	0.048	<0.010	
Benzo(a)pyrene (mg/kg)		0.271	0.038	<0.010	
Benzo(b&j)fluoranthene (mg/kg)		<0.50 DLQ	<0.090 DLCI	<0.010	
Benzo(b+j+k)fluoranthene (mg/kg)		<0.54	<0.098	<0.015	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-45	L2089639-47			
	Description	Soil	Soil			
	Sampled Date	04-MAY-18	04-MAY-18			
	Sampled Time					
	Client ID	BH106M-02	BH106M-04			
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	1,2-Dichloropropane (mg/kg)					
	cis-1,3-Dichloropropylene (mg/kg)					
	trans-1,3-Dichloropropylene (mg/kg)					
	1,3-Dichloropropene (cis & trans) (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					
	1,1,1,2-Tetrachloroethane (mg/kg)					
	1,1,2,2-Tetrachloroethane (mg/kg)					
	Tetrachloroethylene (mg/kg)					
	Toluene (mg/kg)					
	1,1,1-Trichloroethane (mg/kg)					
	1,1,2-Trichloroethane (mg/kg)					
	Trichloroethylene (mg/kg)					
	Trichlorofluoromethane (mg/kg)					
	Vinyl Chloride (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)	<200				
	EPH19-32 (mg/kg)	<200				
	LEPH (mg/kg)	<200				
	HEPH (mg/kg)	<200				
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)	90.7				
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	0.016				
	Acenaphthylene (mg/kg)	0.075				
	Anthracene (mg/kg)	0.113				
	Benz(a)anthracene (mg/kg)	0.104				
	Benzo(a)pyrene (mg/kg)	0.169				
	Benzo(b&j)fluoranthene (mg/kg)	0.489				
	Benzo(b+j+k)fluoranthene (mg/kg)	0.641				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2089639-1	L2089639-3	L2089639-4	L2089639-9	L2089639-10
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
Sampled Time					
Client ID	BH100M-01	BH100M-03	BH100M-04	BH101M-02	BH101M-03
Grouping / **Analyte**					
SOIL					
Polycyclic Aromatic Hydrocarbons					
Benzo(g,h,i)perylene (mg/kg)		0.048	0.031	0.116	<0.010
Benzo(k)fluoranthene (mg/kg)		0.036	0.027	0.083	<0.010
Chrysene (mg/kg)		0.069	0.061	0.156	<0.010
Dibenz(a,h)anthracene (mg/kg)		0.0122	0.0086	0.0309	<0.0050
Fluoranthene (mg/kg)		0.119	0.122	0.262	<0.010
Fluorene (mg/kg)		<0.010	0.039	<0.015 DLCI	<0.010
Indeno(1,2,3-c,d)pyrene (mg/kg)		0.058	0.038	0.128	<0.010
1-Methylnaphthalene (mg/kg)		<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene (mg/kg)		0.019	<0.010	0.026	<0.010
Naphthalene (mg/kg)		0.031	0.016	0.046	<0.010
Phenanthrene (mg/kg)		0.084	0.118	0.157	<0.010
Pyrene (mg/kg)		0.130	0.126	0.279	<0.010
Quinoline (mg/kg)		<0.050	<0.050	<0.050	<0.050
Surrogate: Acenaphthene d10 (%)		122.6	121.2	102.1	114.6
Surrogate: Chrysene d12 (%)		126.4	130.0	101.9	125.6
Surrogate: Naphthalene d8 (%)		120.7	109.7	92.9	113.1
Surrogate: Phenanthrene d10 (%)		127.6	125.1	109.8	125.1
B(a)P Total Potency Equivalent (mg/kg)		0.114	0.089	0.275	<0.020
IACR (CCME) (mg/kg)		1.27	1.03	3.15	<0.15
Phenolics					
4-Chloro-3-methylphenol (mg/kg)		<0.020			<0.020
2-Chlorophenol (mg/kg)		<0.020			<0.020
3-Chlorophenol (mg/kg)		<0.020			<0.020
4-Chlorophenol (mg/kg)		<0.020			<0.020
2,3-Dichlorophenol (mg/kg)		<0.020			<0.020
2,4 & 2,5-Dichlorophenol (mg/kg)		<0.020			<0.020
2,6-Dichlorophenol (mg/kg)		<0.020			<0.020
3,4-Dichlorophenol (mg/kg)		<0.020			<0.020
3,5-Dichlorophenol (mg/kg)		<0.020			<0.020
2,4-Dimethylphenol (mg/kg)		<0.020			<0.020
o-Cresol (mg/kg)		<0.020			<0.020
m-Cresol (mg/kg)		<0.020			<0.020
p-Cresol (mg/kg)		<0.020			<0.020
Pentachlorophenol (mg/kg)		<0.020			<0.020
Phenol (mg/kg)		<0.020			<0.020
2,3,4,5-Tetrachlorophenol (mg/kg)		<0.020			<0.020
2,3,4,6-Tetrachlorophenol (mg/kg)		<0.020			<0.020

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-11	L2089639-12	L2089639-13	L2089639-16	L2089639-17
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH101M-04	BH101M-05	BH101M-06	BH102M-01	Z100
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Benzo(g,h,i)perylene (mg/kg)				0.488	0.630
	Benzo(k)fluoranthene (mg/kg)				0.400	0.579
	Chrysene (mg/kg)				0.686	0.842
	Dibenz(a,h)anthracene (mg/kg)				0.139	0.167
	Fluoranthene (mg/kg)				1.02	1.37
	Fluorene (mg/kg)				0.037	0.046
	Indeno(1,2,3-c,d)pyrene (mg/kg)				0.600	0.796
	1-Methylnaphthalene (mg/kg)				<0.050	<0.050
	2-Methylnaphthalene (mg/kg)				0.022	0.030
	Naphthalene (mg/kg)				0.033	0.052
	Phenanthrene (mg/kg)				0.381	0.492
	Pyrene (mg/kg)				1.08	1.48
	Quinoline (mg/kg)				<0.050	<0.050
	Surrogate: Acenaphthene d10 (%)				98.9	101.9
	Surrogate: Chrysene d12 (%)				102.5	103.3
	Surrogate: Naphthalene d8 (%)				95.6	92.4
	Surrogate: Phenanthrene d10 (%)				105.5	104.9
	B(a)P Total Potency Equivalent (mg/kg)				1.29	1.73
	IACR (CCME) (mg/kg)				15.0	19.9
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-18	L2089639-19	L2089639-24	L2089639-25	L2089639-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH102M-02	BH102M-03	BH103M-01	Z101	BH103M-03
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Benzo(g,h,i)perylene (mg/kg)			0.750		
	Benzo(k)fluoranthene (mg/kg)			0.679		
	Chrysene (mg/kg)			1.28		
	Dibenz(a,h)anthracene (mg/kg)			0.213		
	Fluoranthene (mg/kg)			2.67		
	Fluorene (mg/kg)			<0.40 DLQ		
	Indeno(1,2,3-c,d)pyrene (mg/kg)			0.833		
	1-Methylnaphthalene (mg/kg)			2.85		
	2-Methylnaphthalene (mg/kg)			3.34		
	Naphthalene (mg/kg)			1.84		
	Phenanthrene (mg/kg)			2.28		
	Pyrene (mg/kg)			2.61		
	Quinoline (mg/kg)			<0.050		
	Surrogate: Acenaphthene d10 (%)			120.9		
	Surrogate: Chrysene d12 (%)			100.2		
	Surrogate: Naphthalene d8 (%)			129.4		
	Surrogate: Phenanthrene d10 (%)			110.2		
	B(a)P Total Potency Equivalent (mg/kg)			1.95		
	IACR (CCME) (mg/kg)			24.0		
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-28	L2089639-30	L2089639-32	L2089639-33	L2089639-35
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	Z102	BH104M-01	BH104M-03	Z103	BH104M-05
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Benzo(g,h,i)perylene (mg/kg)			0.192	0.140	
	Benzo(k)fluoranthene (mg/kg)			0.144	0.109	
	Chrysene (mg/kg)			0.233	0.182	
	Dibenz(a,h)anthracene (mg/kg)			0.0377	0.0278	
	Fluoranthene (mg/kg)			0.418	0.346	
	Fluorene (mg/kg)			0.013	<0.015 DLCI	
	Indeno(1,2,3-c,d)pyrene (mg/kg)			0.207	0.154	
	1-Methylnaphthalene (mg/kg)			<0.050	<0.050	
	2-Methylnaphthalene (mg/kg)			0.028	0.024	
	Naphthalene (mg/kg)			0.035	0.023	
	Phenanthrene (mg/kg)			0.356	0.302	
	Pyrene (mg/kg)			0.405	0.330	
	Quinoline (mg/kg)			<0.050	<0.050	
	Surrogate: Acenaphthene d10 (%)			100.5	104.1	
	Surrogate: Chrysene d12 (%)			98.5	103.9	
	Surrogate: Naphthalene d8 (%)			100.3	102.0	
	Surrogate: Phenanthrene d10 (%)			100.8	107.3	
	B(a)P Total Potency Equivalent (mg/kg)			0.307	0.254	
	IACR (CCME) (mg/kg)			4.13	3.27	
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-36	L2089639-37	L2089639-38	L2089639-42	L2089639-44
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH105M-01	BH105M-02	BH105M-03	BH105M-06	BH106M-01
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Benzo(g,h,i)perylene (mg/kg)		0.199	0.030	<0.010	
	Benzo(k)fluoranthene (mg/kg)		<0.20 DLQ	<0.040 DLCI	<0.010	
	Chrysene (mg/kg)		<0.40 DLCI	<0.070	<0.010	
	Dibenz(a,h)anthracene (mg/kg)		<0.060 DLCI	<0.020 DLCI	<0.0050	
	Fluoranthene (mg/kg)		0.903	0.201	<0.010	
	Fluorene (mg/kg)		1.96	0.219	<0.010	
	Indeno(1,2,3-c,d)pyrene (mg/kg)		0.140	0.025	<0.010	
	1-Methylnaphthalene (mg/kg)		7.32	1.10	<0.050	
	2-Methylnaphthalene (mg/kg)		9.67	0.241	<0.010	
	Naphthalene (mg/kg)		<4.0 DLQ	<0.40 DLCI	<0.010	
	Phenanthrene (mg/kg)		<4.0 DLQ	0.323	<0.010	
	Pyrene (mg/kg)		1.17	0.186	<0.010	
	Quinoline (mg/kg)		<0.40 DLCI	0.051	<0.050	
	Surrogate: Acenaphthene d10 (%)		122.5	122.3	107.9	
	Surrogate: Chrysene d12 (%)		129.3	124.0	119.5	
	Surrogate: Naphthalene d8 (%)		125.6	120.0	105.9	
	Surrogate: Phenanthrene d10 (%)		113.6	127.0	115.8	
	B(a)P Total Potency Equivalent (mg/kg)		0.369	0.062	<0.020	
	IACR (CCME) (mg/kg)		3.7	0.73	<0.15	
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-45	L2089639-47			
	Description	Soil	Soil			
	Sampled Date	04-MAY-18	04-MAY-18			
	Sampled Time					
	Client ID	BH106M-02	BH106M-04			
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Benzo(g,h,i)perylene (mg/kg)	0.339				
	Benzo(k)fluoranthene (mg/kg)	0.152				
	Chrysene (mg/kg)	<0.30 DLCI				
	Dibenz(a,h)anthracene (mg/kg)	0.063				
	Fluoranthene (mg/kg)	0.261				
	Fluorene (mg/kg)	<0.028 DLCI				
	Indeno(1,2,3-c,d)pyrene (mg/kg)	0.347				
	1-Methylnaphthalene (mg/kg)	<0.14 DLCI				
	2-Methylnaphthalene (mg/kg)	0.063				
	Naphthalene (mg/kg)	0.072				
	Phenanthrene (mg/kg)	0.198				
	Pyrene (mg/kg)	0.253				
	Quinoline (mg/kg)	<0.14 DLCI				
	Surrogate: Acenaphthene d10 (%)	109.0				
	Surrogate: Chrysene d12 (%)	107.0				
	Surrogate: Naphthalene d8 (%)	95.7				
	Surrogate: Phenanthrene d10 (%)	113.0				
	B(a)P Total Potency Equivalent (mg/kg)	0.345				
	IACR (CCME) (mg/kg)	5.30				
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-1	L2089639-3	L2089639-4	L2089639-9	L2089639-10
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH100M-01	BH100M-03	BH100M-04	BH101M-02	BH101M-03
Grouping	**Analyte**					
SOIL						
Phenolics	2,3,5,6-Tetrachlorophenol (mg/kg)		<0.020			<0.020
	2,3,4-Trichlorophenol (mg/kg)		<0.020			<0.020
	2,3,5-Trichlorophenol (mg/kg)		<0.020			<0.020
	2,3,6-Trichlorophenol (mg/kg)		<0.020			<0.020
	2,4,5-Trichlorophenol (mg/kg)		<0.020			<0.020
	2,4,6-Trichlorophenol (mg/kg)		<0.020			<0.020
	3,4,5-Trichlorophenol (mg/kg)		<0.020			<0.020
	Surrogate: 2-Chlorophenol-d4 (%)		92.6			96.3
	Surrogate: 2,4-Dichlorophenol-d3 (%)		96.0			96.4
	Surrogate: 2,4,6-Tribromophenol (%)		100.2			99.3
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)		<0.20			<0.20
	2,6-Dimethylphenol (mg/kg)		<0.020			<0.020
	3,4-Dimethylphenol (mg/kg)		<0.020			<0.020
	Hydroquinone (mg/kg)		<0.20			<0.20
	2-Phenylphenol (mg/kg)		<0.60			<0.60

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-11	L2089639-12	L2089639-13	L2089639-16	L2089639-17
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH101M-04	BH101M-05	BH101M-06	BH102M-01	Z100
Grouping	**Analyte**					
SOIL						
Phenolics	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					
	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-18	L2089639-19	L2089639-24	L2089639-25	L2089639-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18	03-MAY-18
	Sampled Time					
	Client ID	BH102M-02	BH102M-03	BH103M-01	Z101	BH103M-03
Grouping	**Analyte**					
SOIL						
Phenolics	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					
	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-28	L2089639-30	L2089639-32	L2089639-33	L2089639-35
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	03-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	Z102	BH104M-01	BH104M-03	Z103	BH104M-05
Grouping	**Analyte**					
SOIL						
Phenolics	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					
	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-36	L2089639-37	L2089639-38	L2089639-42	L2089639-44
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH105M-01	BH105M-02	BH105M-03	BH105M-06	BH106M-01
Grouping	**Analyte**					
SOIL						
Phenolics	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					
	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2089639-45	L2089639-47			
	Description	Soil	Soil			
	Sampled Date	04-MAY-18	04-MAY-18			
	Sampled Time					
	Client ID	BH106M-02	BH106M-04			
Grouping	**Analyte**					
SOIL						
Phenolics	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					
	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Copper (Cu)	B	L2089639-10, -16, -17, -24, -3, -32, -33, -37, -4, -9
Duplicate	Copper (Cu)	DUP-H	L2089639-10, -16, -17, -24, -3, -32, -33, -37, -4, -9
Duplicate	Lead (Pb)	DUP-H	L2089639-1, -18, -25, -27, -28, -30, -35, -36, -38, -42, -45, -47
Duplicate	Molybdenum (Mo)	DUP-H	L2089639-10, -16, -17, -24, -3, -32, -33, -37, -4, -9
Duplicate	Nickel (Ni)	DUP-H	L2089639-10, -16, -17, -24, -3, -32, -33, -37, -4, -9
Duplicate	Zinc (Zn)	DUP-H	L2089639-1, -18, -25, -27, -28, -30, -35, -36, -38, -42, -45, -47
Duplicate	Antimony (Sb)	DUP-H,J	L2089639-1, -18, -25, -27, -28, -30, -35, -36, -38, -42, -45, -47
Matrix Spike	Calcium (Ca)-Leachable	MS-B	L2089639-44, -45
Matrix Spike	1-Methylnaphthalene	MS-B	L2089639-37
Matrix Spike	2-Methylnaphthalene	MS-B	L2089639-37
Matrix Spike	Acenaphthene	MS-B	L2089639-37
Matrix Spike	Acenaphthylene	MS-B	L2089639-37
Matrix Spike	Anthracene	MS-B	L2089639-37
Matrix Spike	Benz(a)anthracene	MS-B	L2089639-37
Matrix Spike	Benzo(a)pyrene	MS-B	L2089639-37
Matrix Spike	Benzo(b&j)fluoranthene	MS-B	L2089639-38, -42, -45
Matrix Spike	Benzo(b&j)fluoranthene	MS-B	L2089639-37
Matrix Spike	Benzo(g,h,i)perylene	MS-B	L2089639-38, -42, -45
Matrix Spike	Chrysene	MS-B	L2089639-37
Matrix Spike	Fluoranthene	MS-B	L2089639-38, -42, -45
Matrix Spike	Fluoranthene	MS-B	L2089639-37
Matrix Spike	Fluorene	MS-B	L2089639-37
Matrix Spike	Indeno(1,2,3-c,d)pyrene	MS-B	L2089639-38, -42, -45
Matrix Spike	Naphthalene	MS-B	L2089639-37
Matrix Spike	Phenanthrene	MS-B	L2089639-37
Matrix Spike	Pyrene	MS-B	L2089639-38, -42, -45
Matrix Spike	Pyrene	MS-B	L2089639-37
Matrix Spike	Quinoline	MS-B	L2089639-37

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DLHM	Detection Limit Adjusted: Sample has High Moisture Content
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
DUP-H,J	Duplicate results outside ALS DQO, due to sample heterogeneity. Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRR	Refer to Report Remarks for issues regarding this analysis
SMI	Surrogate recovery could not be measured due to sample matrix interference.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.

CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

Reference Information

EPH-TUMB-FID-VA Soil EPH in Solids by Tumbler and GCFID BC MOE EPH GCFID

Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).

HG-200.2-CVAF-VA Soil Mercury in Soil by CVAAS EPA 200.2/1631E (mod)

Soil samples are digested with hot nitric and hydrochloric acids, followed by CVAAS analysis. This method is fully compliant with the BC SALM strong acid leachable metals digestion method.

HG-TCLP-CVAFS-VA Soil Mercury by CVAAS (TCLP) EPA 1311/245.7

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter and analysed using atomic absorption spectrophotometry (EPA 245.7).

LEPH/HEPH-CALC-VA Soil LEPHs and HEPHs BC MOE LEPH/HEPH

LEPHs and HEPHs are measures of Light and Heavy Extractable Petroleum Hydrocarbons in soil. Results are calculated by subtraction of applicable PAH concentrations from EPH10-19 and EPH19-32, as per the BC Lab Manual LEPH/HEPH calculation procedure.
LEPHs = EPH10-19 minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene.
HEPHs = EPH19-32 minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

MET-200.2-CCMS-VA Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (mod)

This method uses a heated strong acid digestion with HNO3 and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Analysis is by Collision/Reaction Cell ICPMS.

MET-PASTE-ICP-VA Soil Metals in Soil (Paste) by ICPOES Carter-CSSS / EPA 6010B (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.

MET-TCLP-ICP-VA Soil Metals by ICPOES (TCLP) EPA 1311/6010B

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter and analysed using inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MOISTURE-VA Soil Moisture content CWS for PHC in Soil - Tier 1

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

PAH-TMB-H/A-MS-VA Soil PAH - Rotary Extraction (Hexane/Acetone) EPA 3570/8270

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

Benzo(a)pyrene Total Potency Equivalents [B(a)P TPE] represents the sum of estimated cancer potency relative to B(a)P for all potentially carcinogenic unsubstituted PAHs, and is calculated as per the CCME PAH Soil Quality Guidelines reference document (2010).

PH-1:2-VA Soil pH in Soil (1:2 Soil:Water Extraction) BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PHEN-M-TMB-MS-VA Soil Misc. Phenolics in Soil EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PHEN-TMB-MS-VA Soil Phenolics by Tumbler/GC-MS EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

Reference Information

VH-HSFID-VA	Soil	VH in soil by Headspace GCFID	BC Env. Lab Manual (VH in Solids)

This analysis involves the extraction of a subsample of the sediment/soil with methanol. Aliquots of the methanol extract are then added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is analyzed for Volatile Hydrocarbons (VH) by capillary column gas chromatography with flame-ionization detection (GC/FID). The methanol extraction and VH analysis are carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999).

VH-SURR-FID-VA	Soil	VH Surrogates for Soils	BC Env. Lab Manual (VH in Solids)
VOC-HSMS-VA	Soil	VOCs in soil by Headspace GCMS	EPA 5035A/5021A/8260C

The soil methanol extract is added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.

VOC7-L-HSMS-VA	Soil	VOCs in soil by Headspace GCMS	EPA 5035A/5021A/8260C

The soil methanol extract is added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.

VOC7/VOC-SURR-MS-VA	Soil	VOC7 and/or VOC Surrogates for Soils	EPA 5035A/5021A/8260C
VPH-CALC-VA	Soil	VPH is VH minus select aromatics	BC MOE VPH

VPHs measures Volatile Petroleum Hydrocarbons in soil. Results are calculated by subtraction of specific Monocyclic Aromatic Hydrocarbons from VH6-10, as per the BC Lab Manual VPH calculation procedure.
VPHs = VH6-10 minus Benzene, Toluene, Ethylbenzene, Xylenes, and Styrene

XYLENES-CALC-VA	Soil	Sum of Xylene Isomer Concentrations	EPA 8260B & 524.2

Calculation of Total Xylenes

Total Xylenes is the sum of the concentrations of the ortho, meta, and para Xylene isomers. Results below detection limit (DL) are treated as zero. The DL for Total Xylenes is set to a value no less than the square root of the sum of the squares of the DLs of the individual Xylenes.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

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

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

17-686599	17-686601	17-686603	17-686611

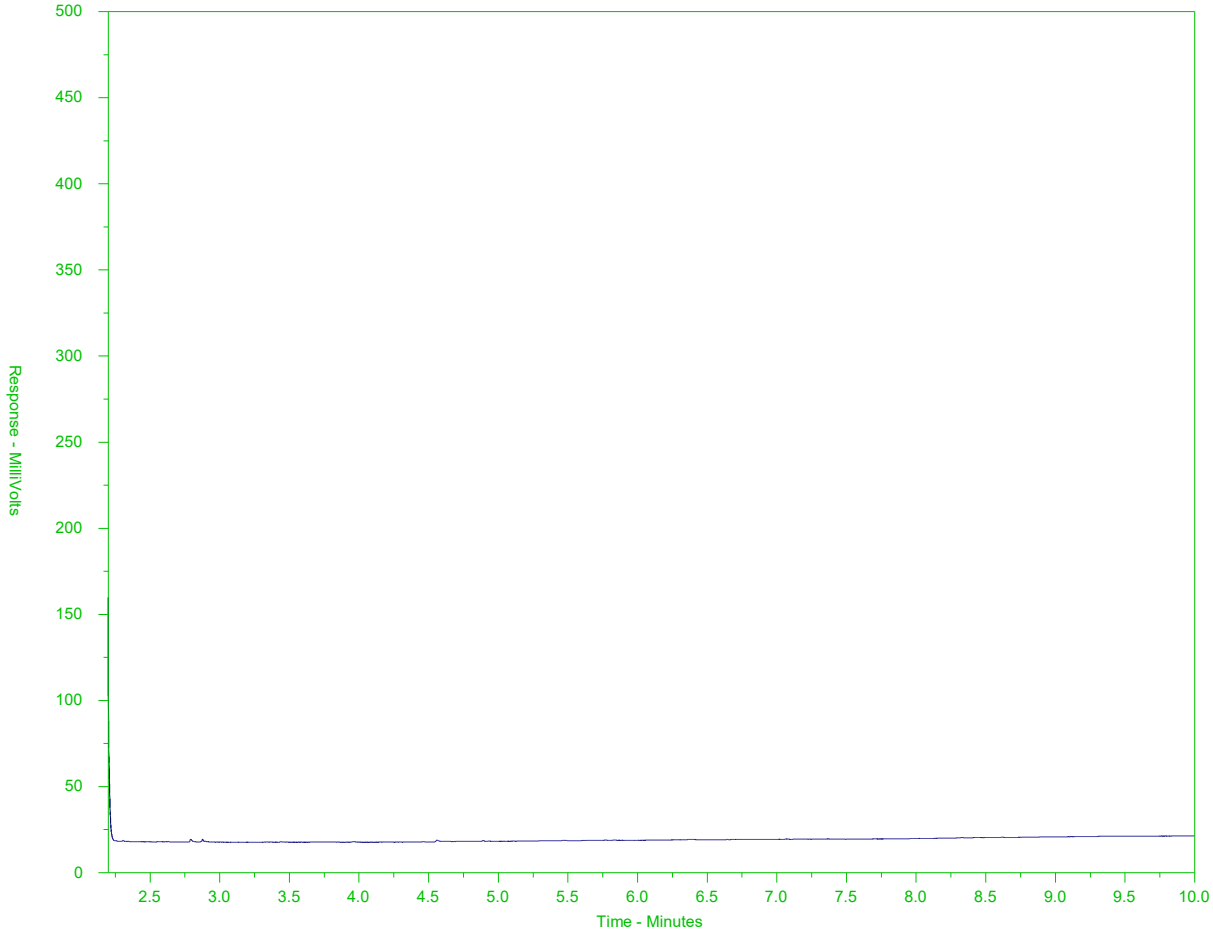
GLOSSARY OF REPORT TERMS

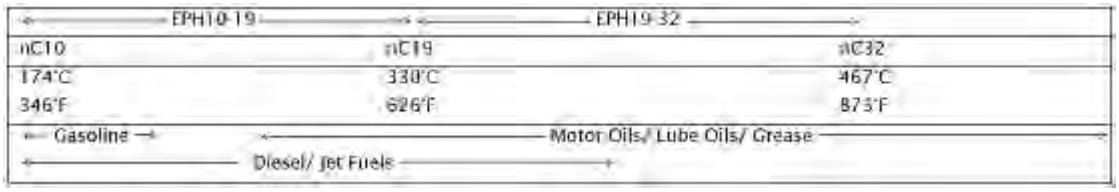
Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-1
Client Sample ID: BH100M-01





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

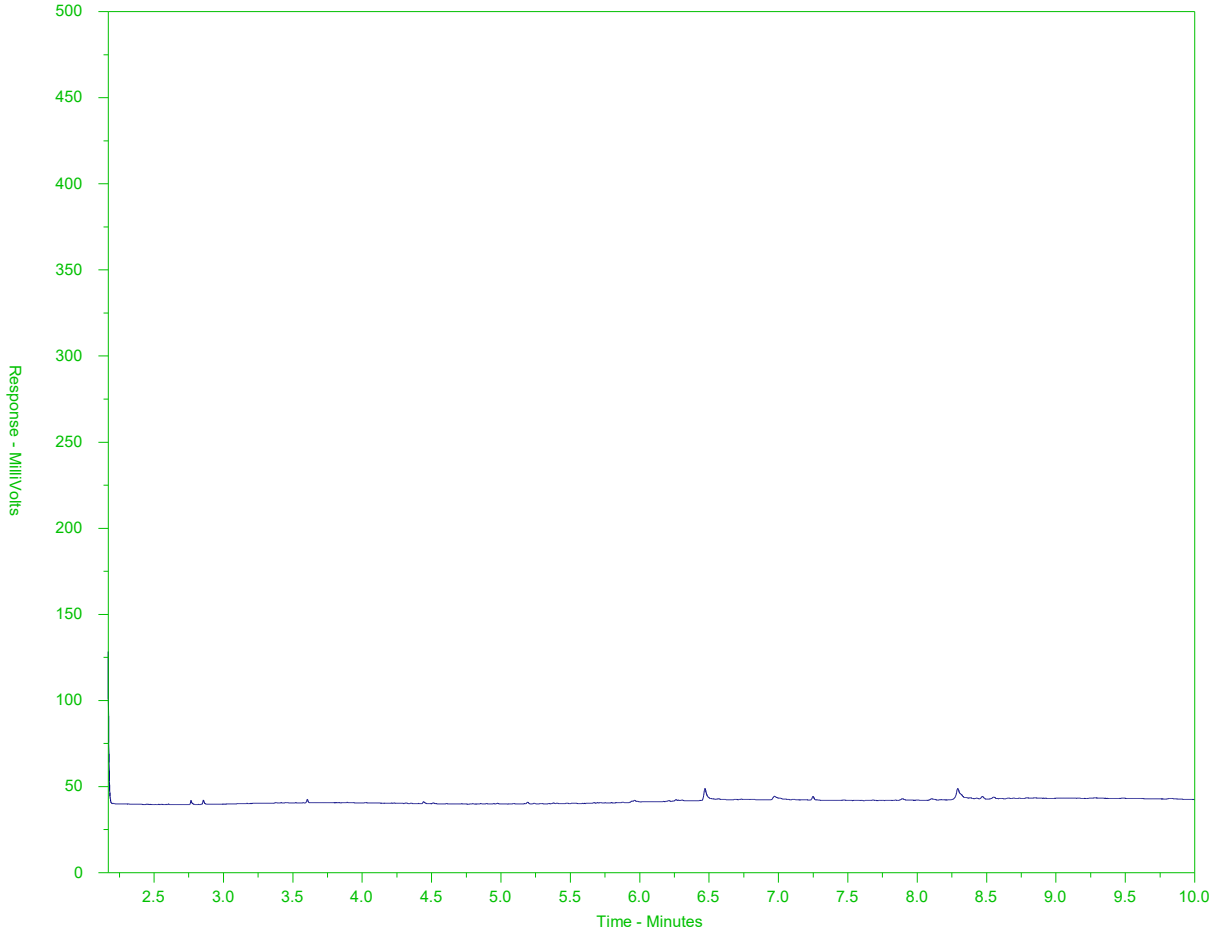
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-3
Client Sample ID: BH100M-03



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

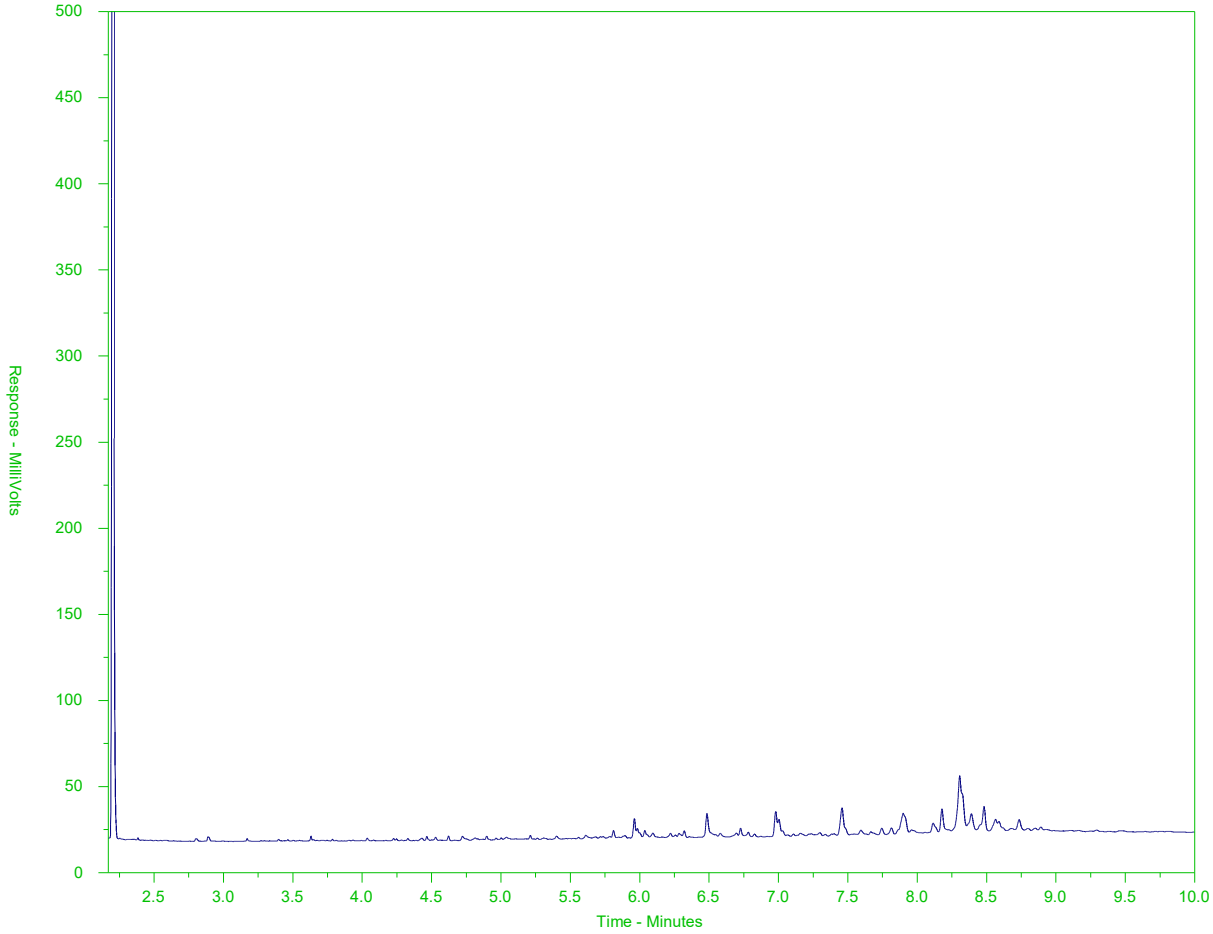
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

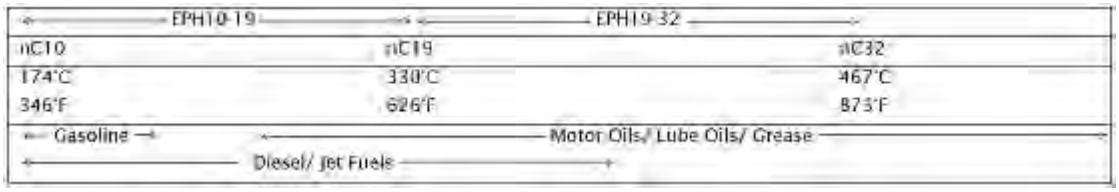
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-4
Client Sample ID: BH100M-04





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

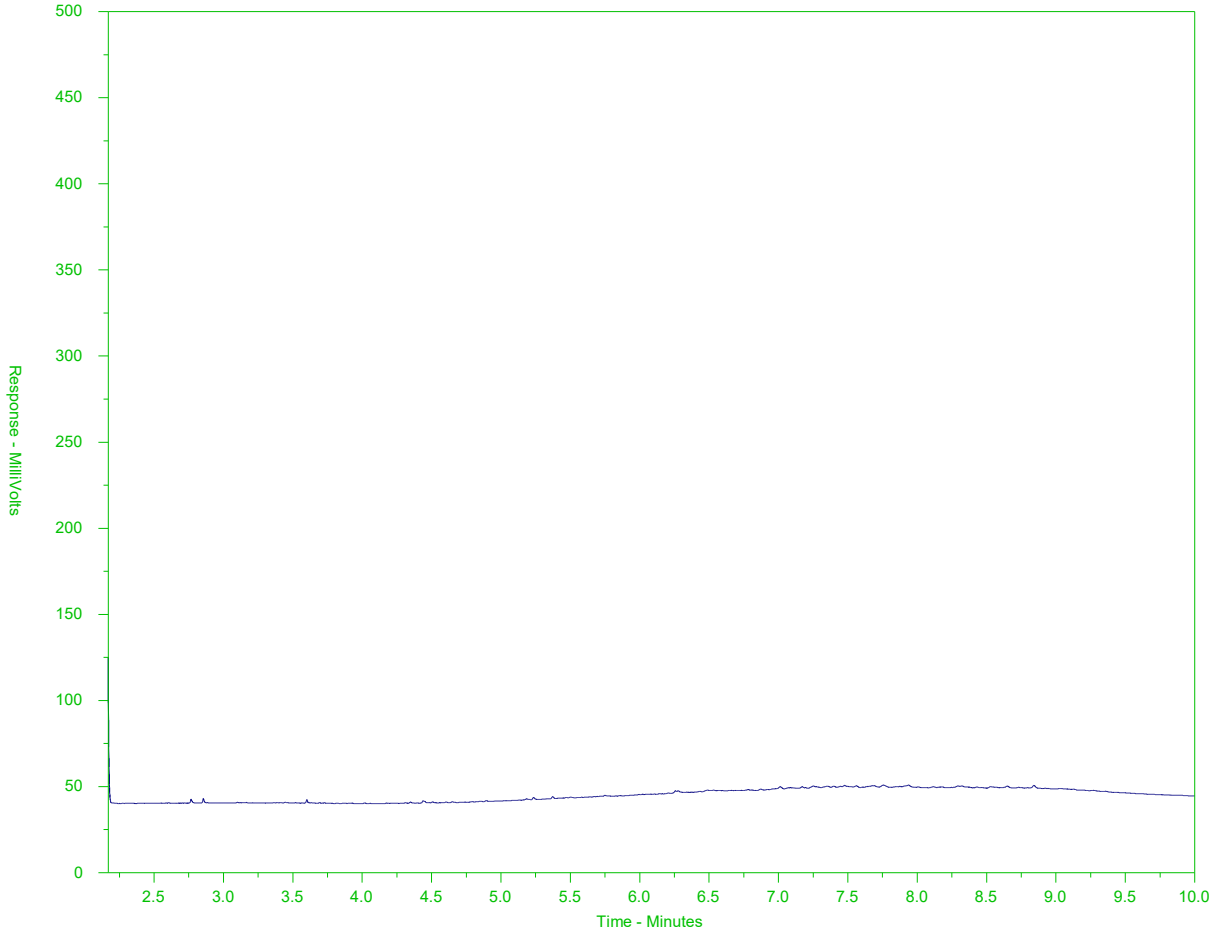
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-9
Client Sample ID: BH101M-02



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

Gasoline — Motor Oils/ Lube Oils/ Grease

Diesel/ Jet Fuels

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

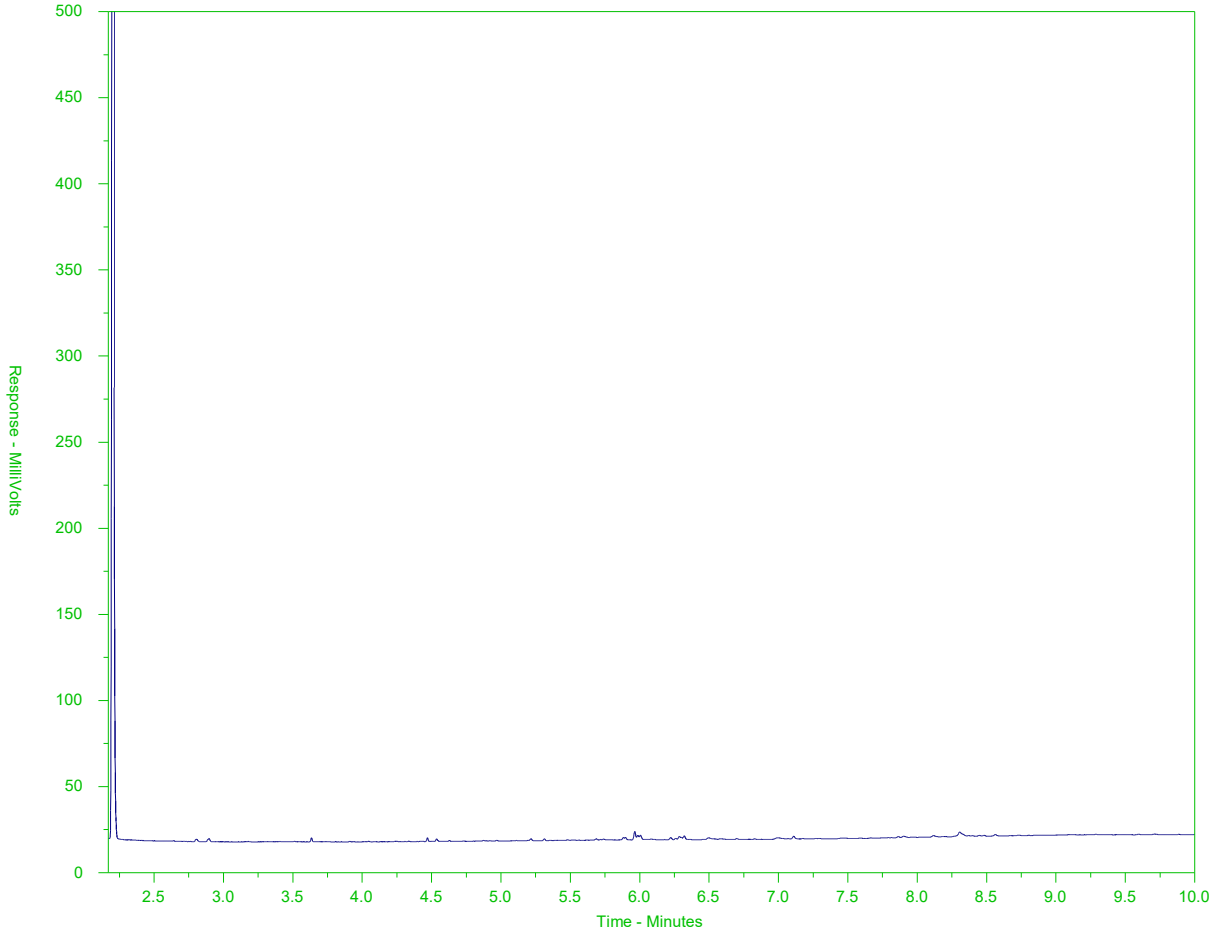
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-10
Client Sample ID: BH101M-03



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

Gasoline — Motor Oils/ Lube Oils/ Grease

Diesel/ Jet Fuels

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

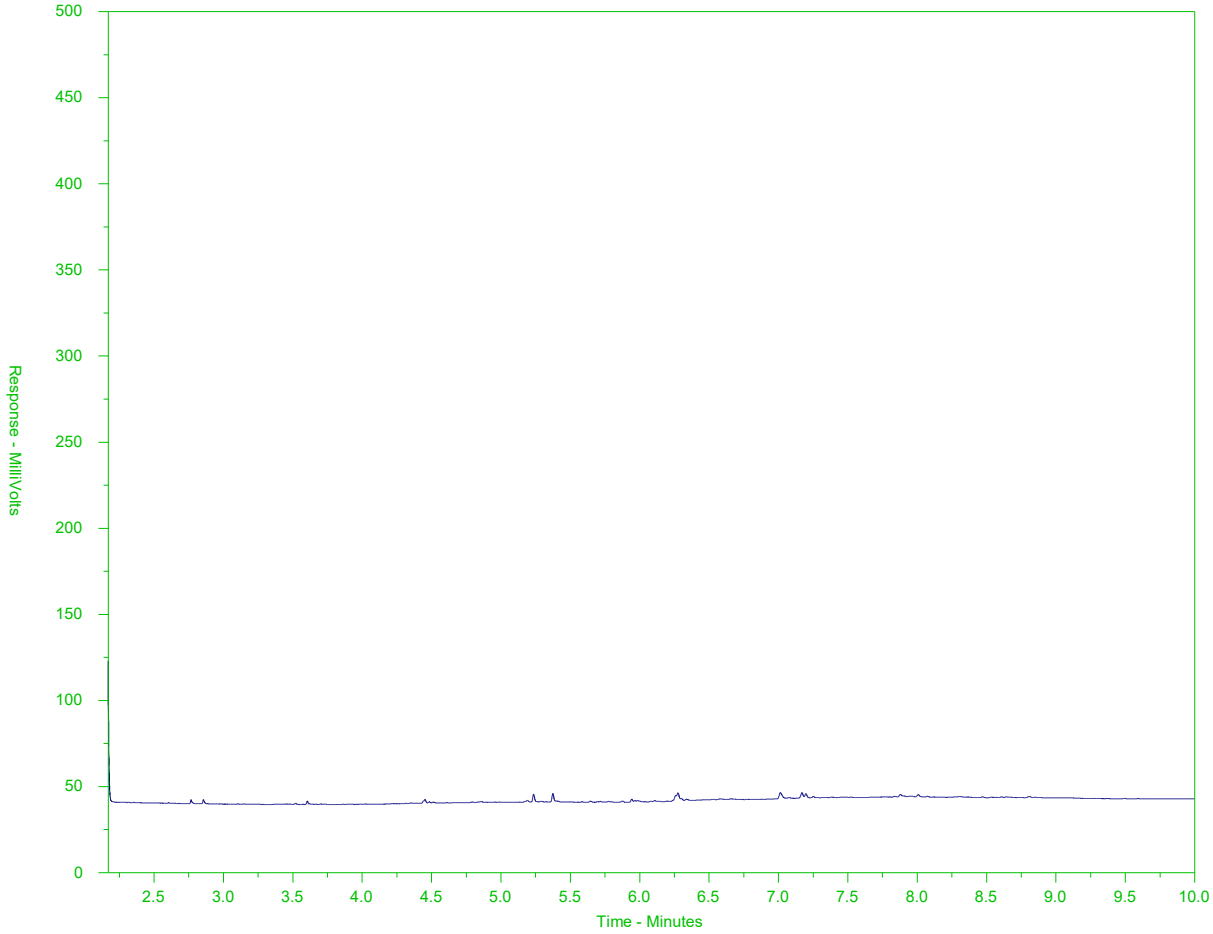
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-16
Client Sample ID: BH102M-01



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

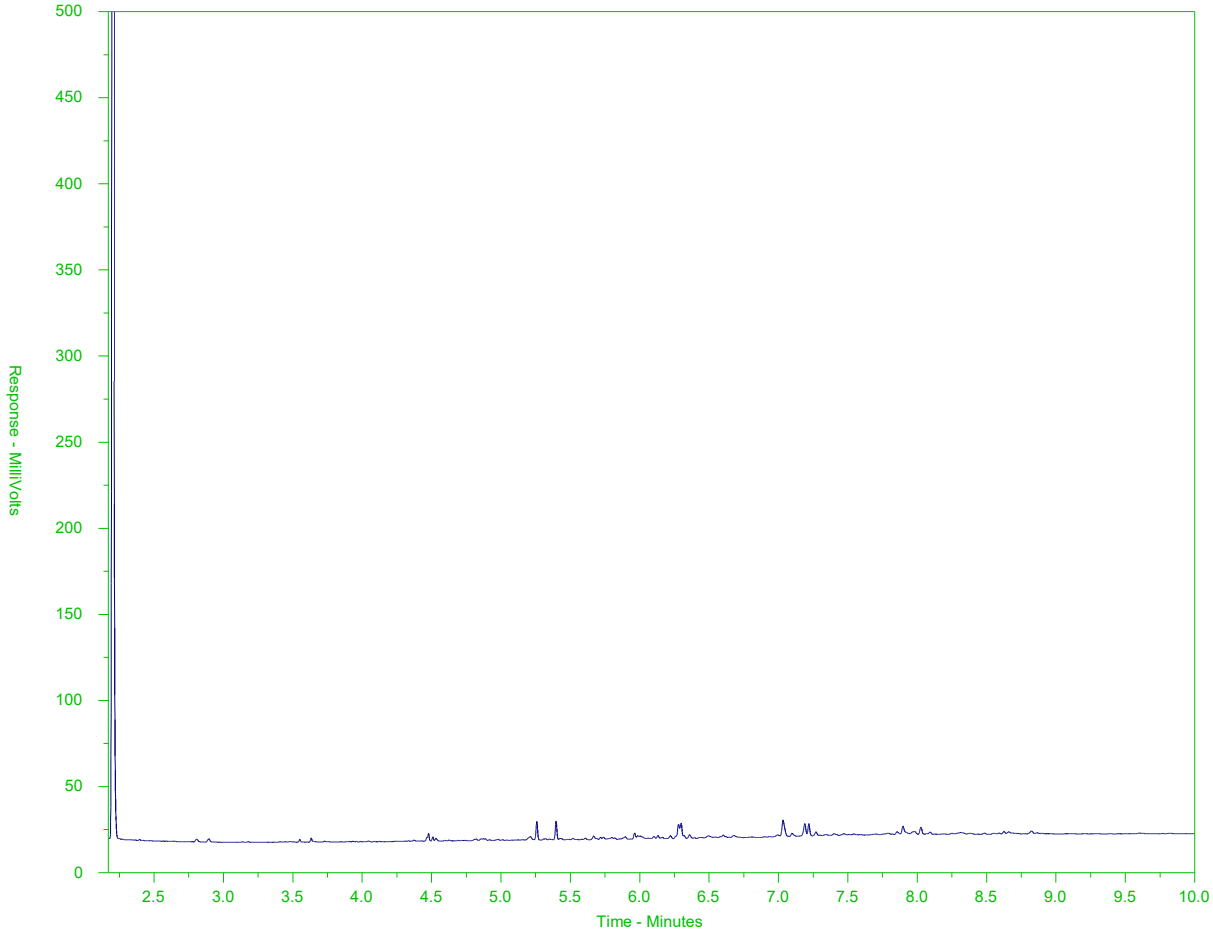
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-17
Client Sample ID: Z100



The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

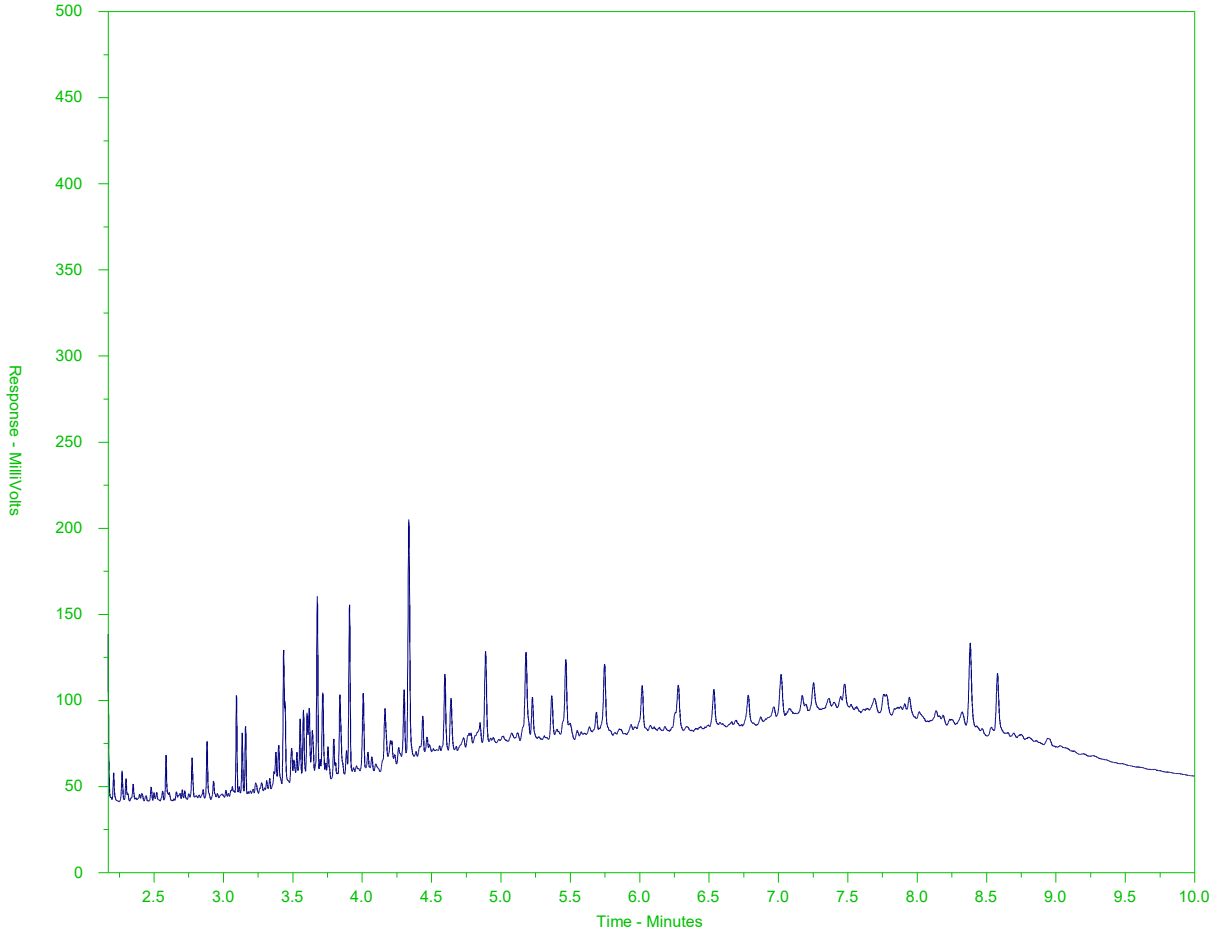
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-24
Client Sample ID: BH103M-01



EPH10-19		EPH19-32	
nC10	nC19		nC32
174°C	330°C		467°C
346°F	626°F		873°F
Gasoline		Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels			

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

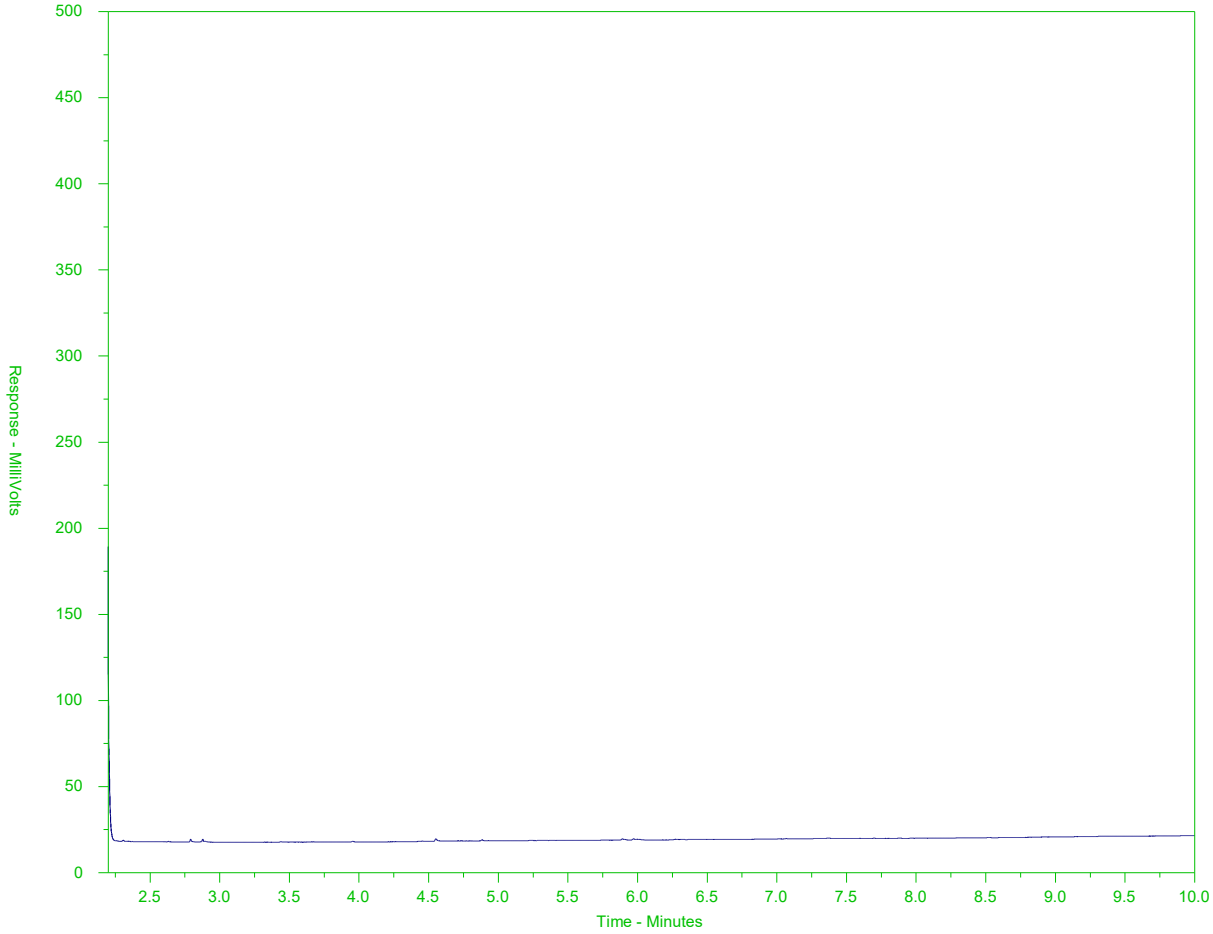
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

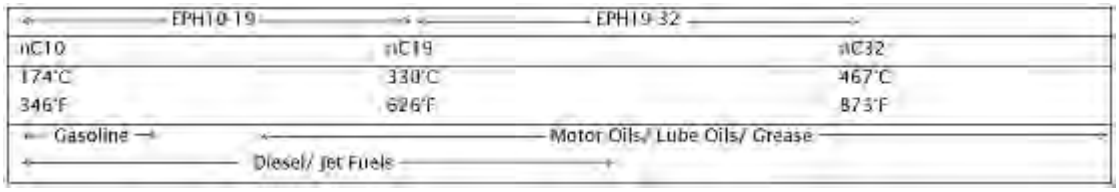
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-25
Client Sample ID: Z101





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

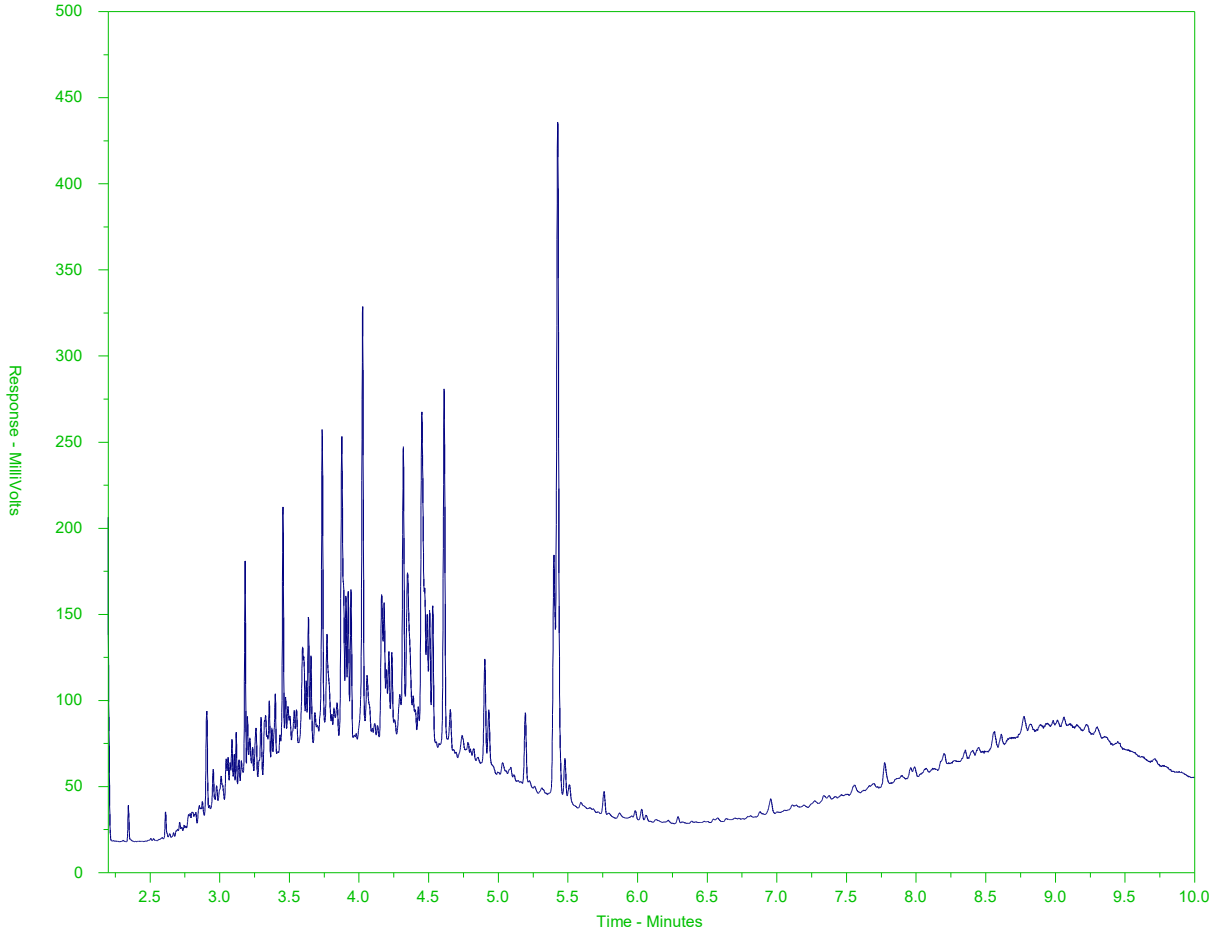
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

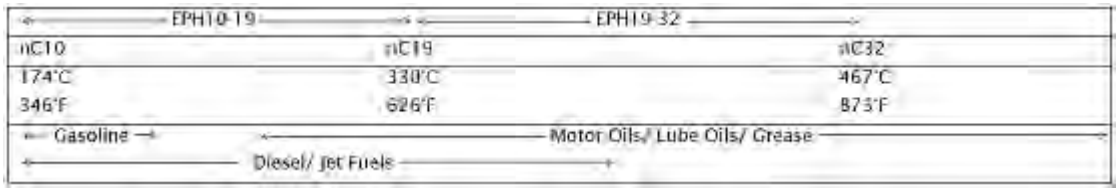
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WG2799212-4#L2089639-25
Client Sample ID: Z101





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

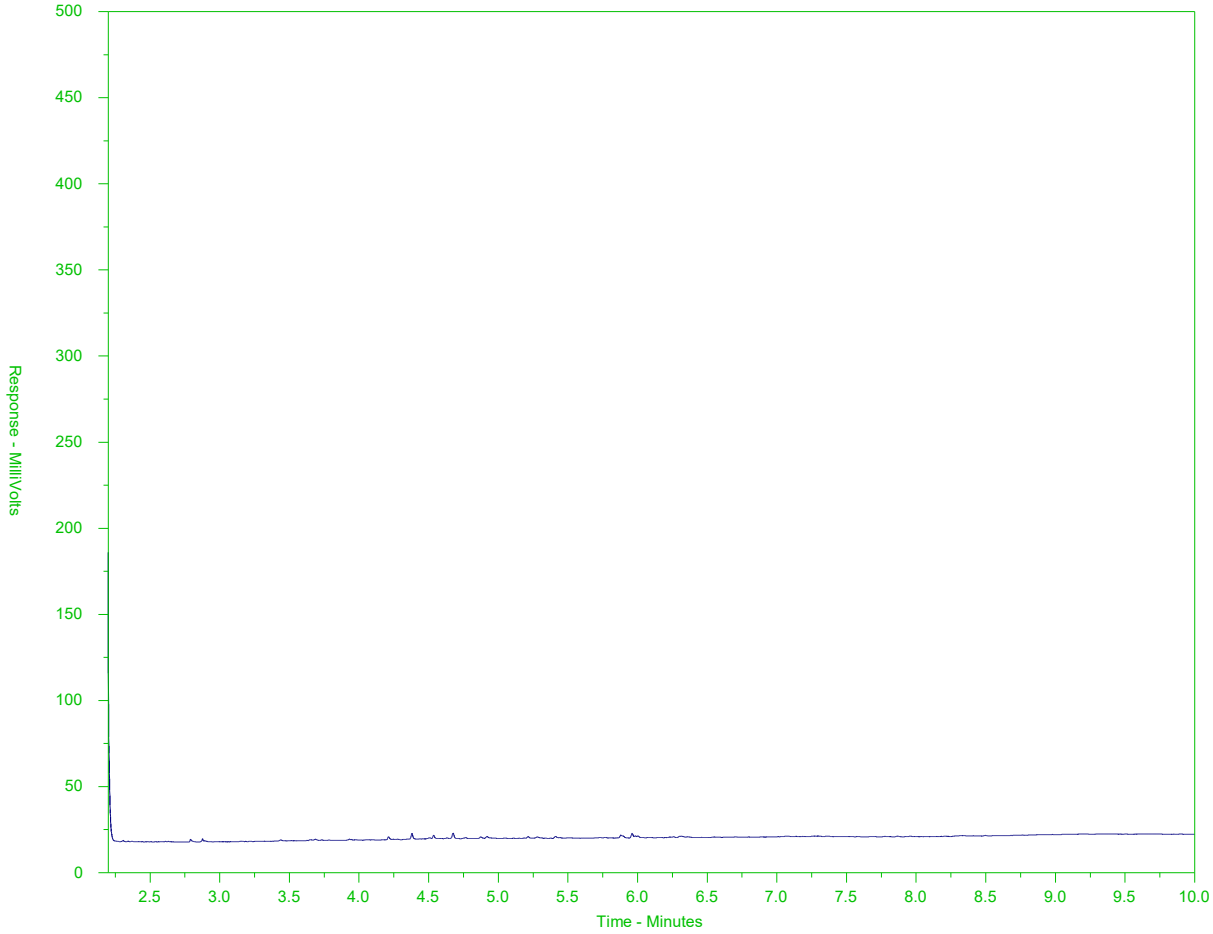
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-27
Client Sample ID: BH103M-03



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

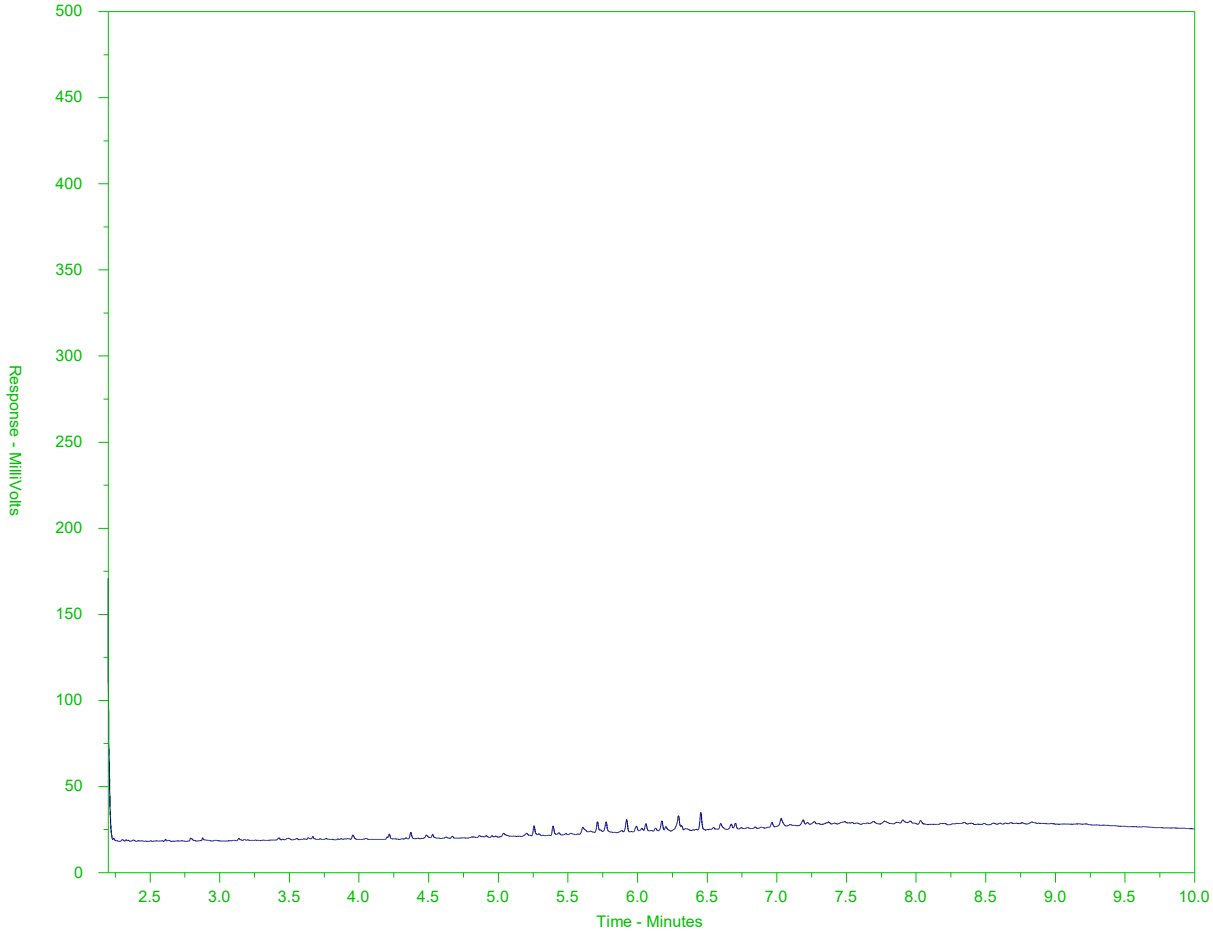
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

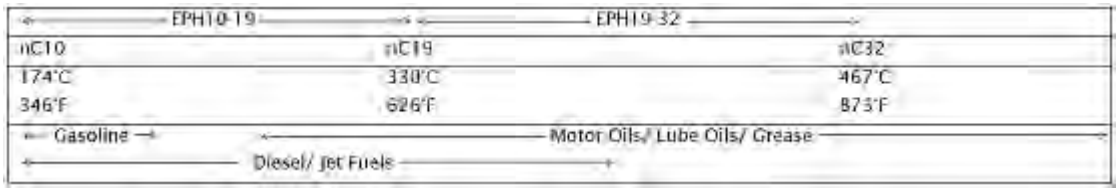
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-30
Client Sample ID: BH104M-01





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

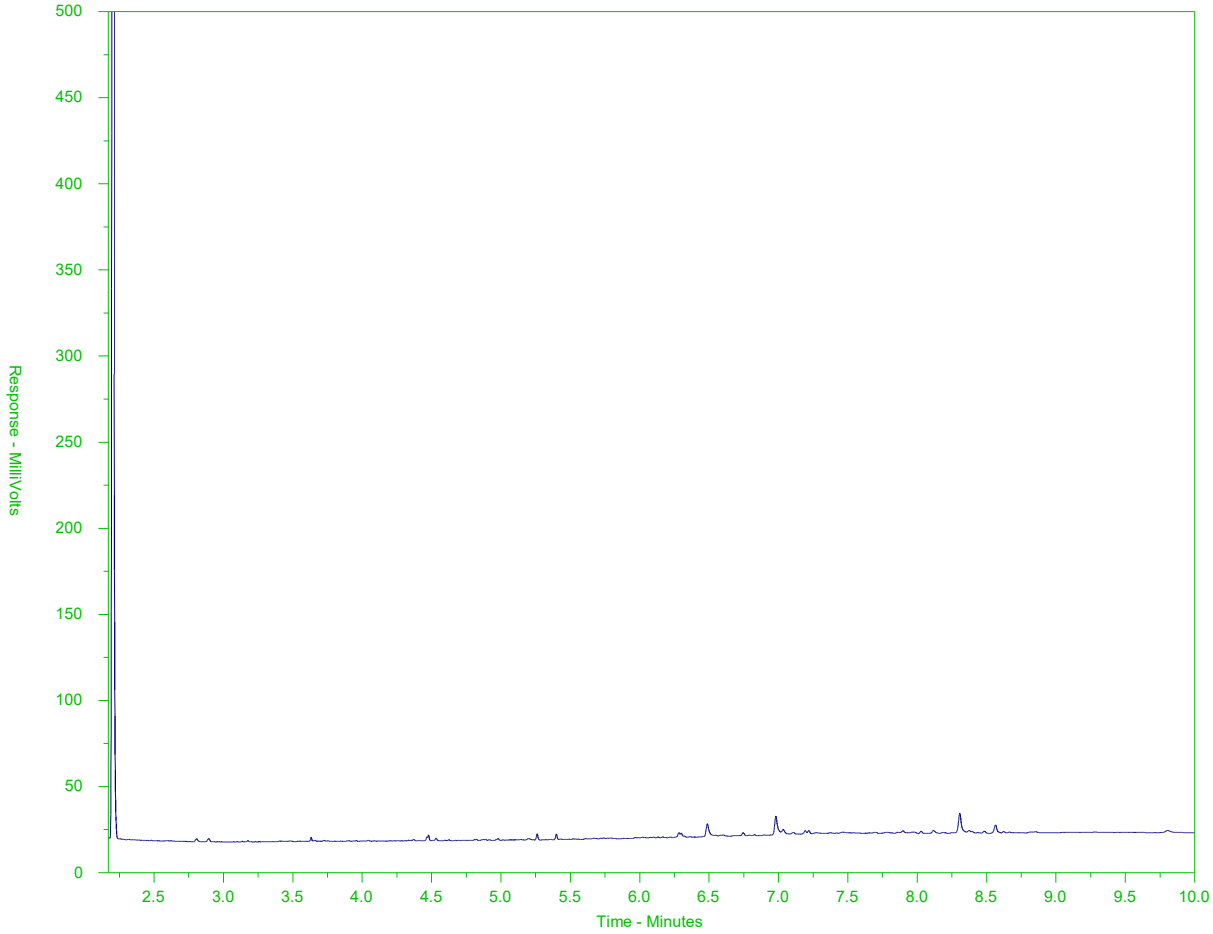
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-32
Client Sample ID: BH104M-03



EPH10-19		EPH19-32	
nC10	nC19		nC32
174°C	330°C		467°C
346°F	626°F		873°F
Gasoline		Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels			

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

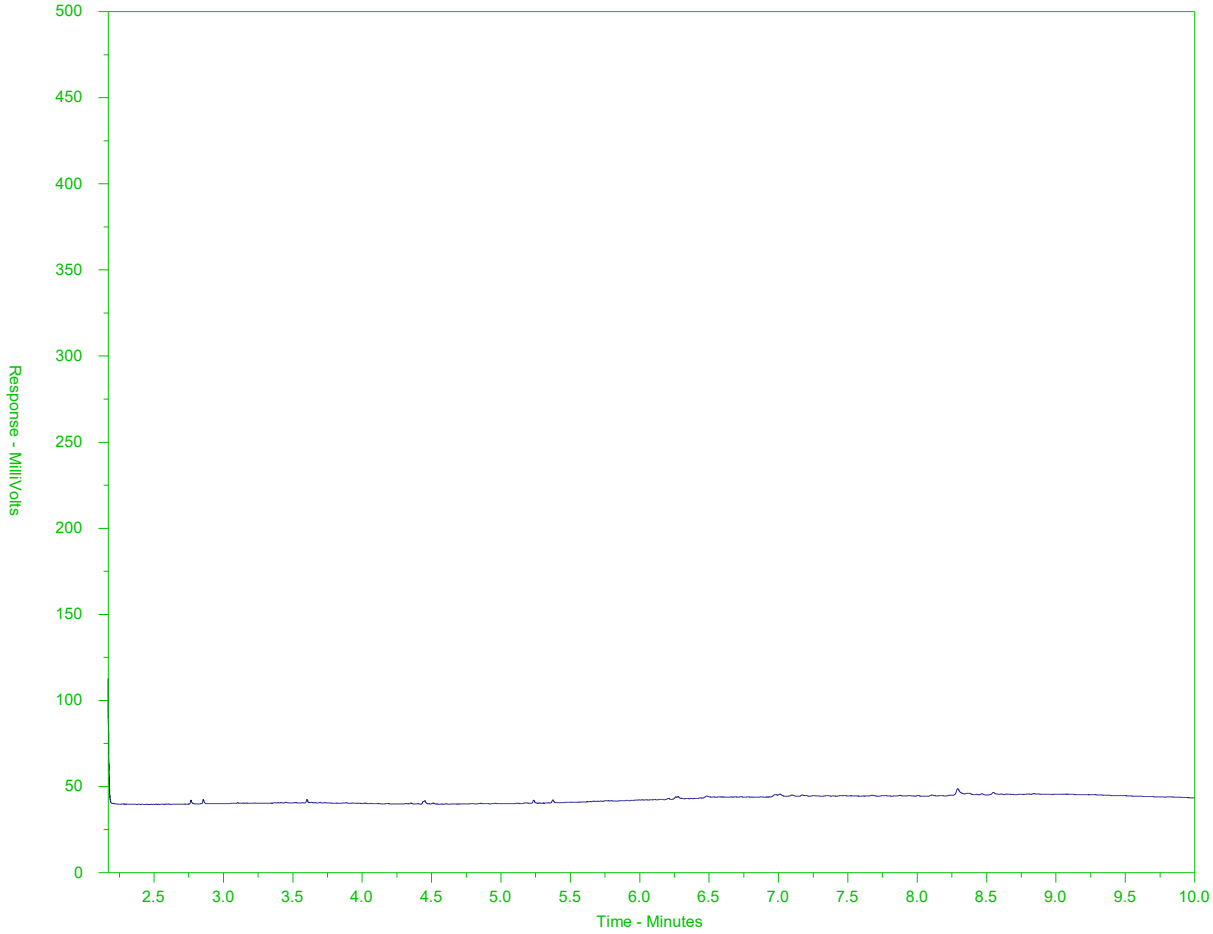
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-33
Client Sample ID: Z103



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

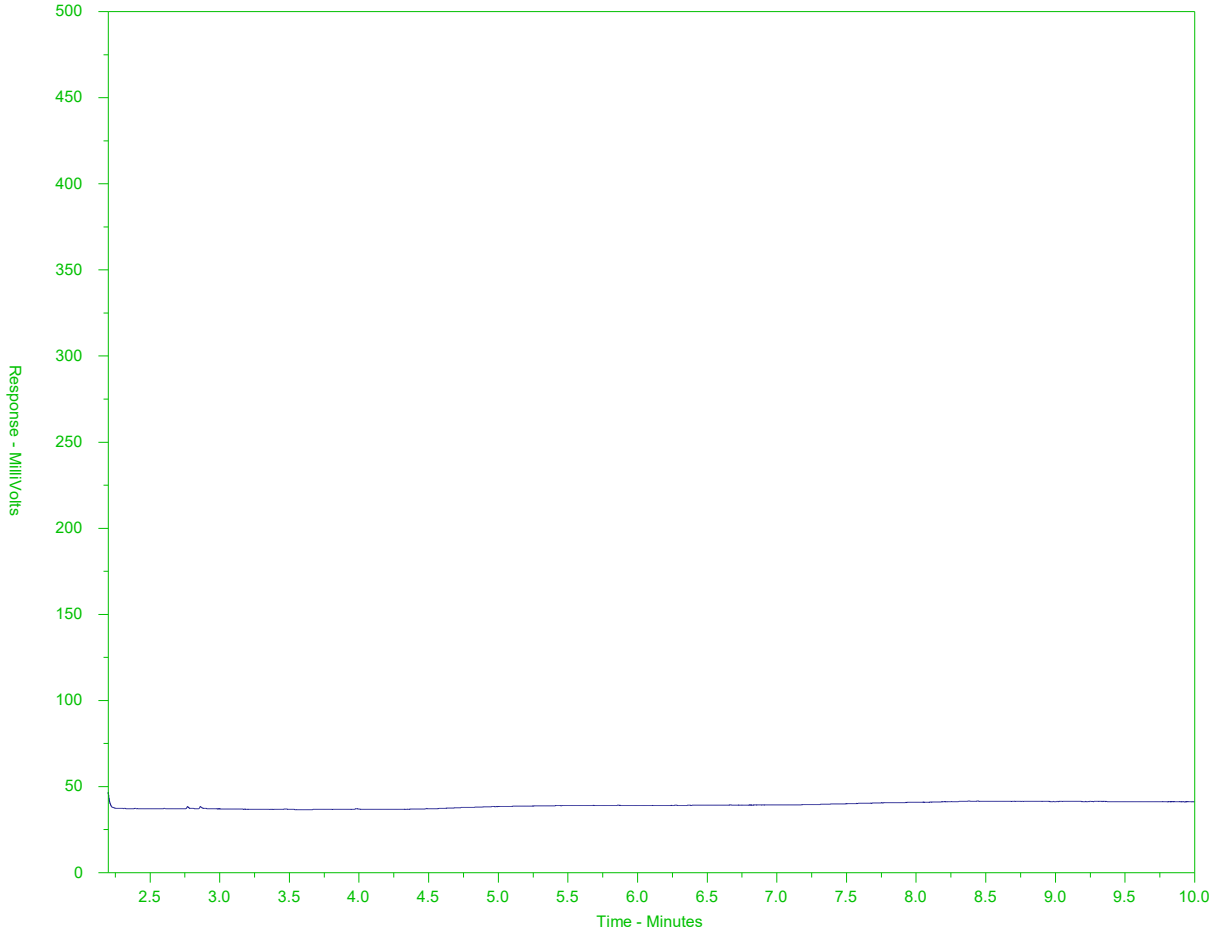
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

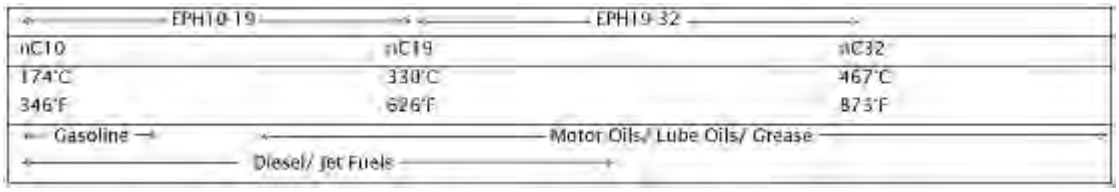
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-35
Client Sample ID: BH104M-05





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

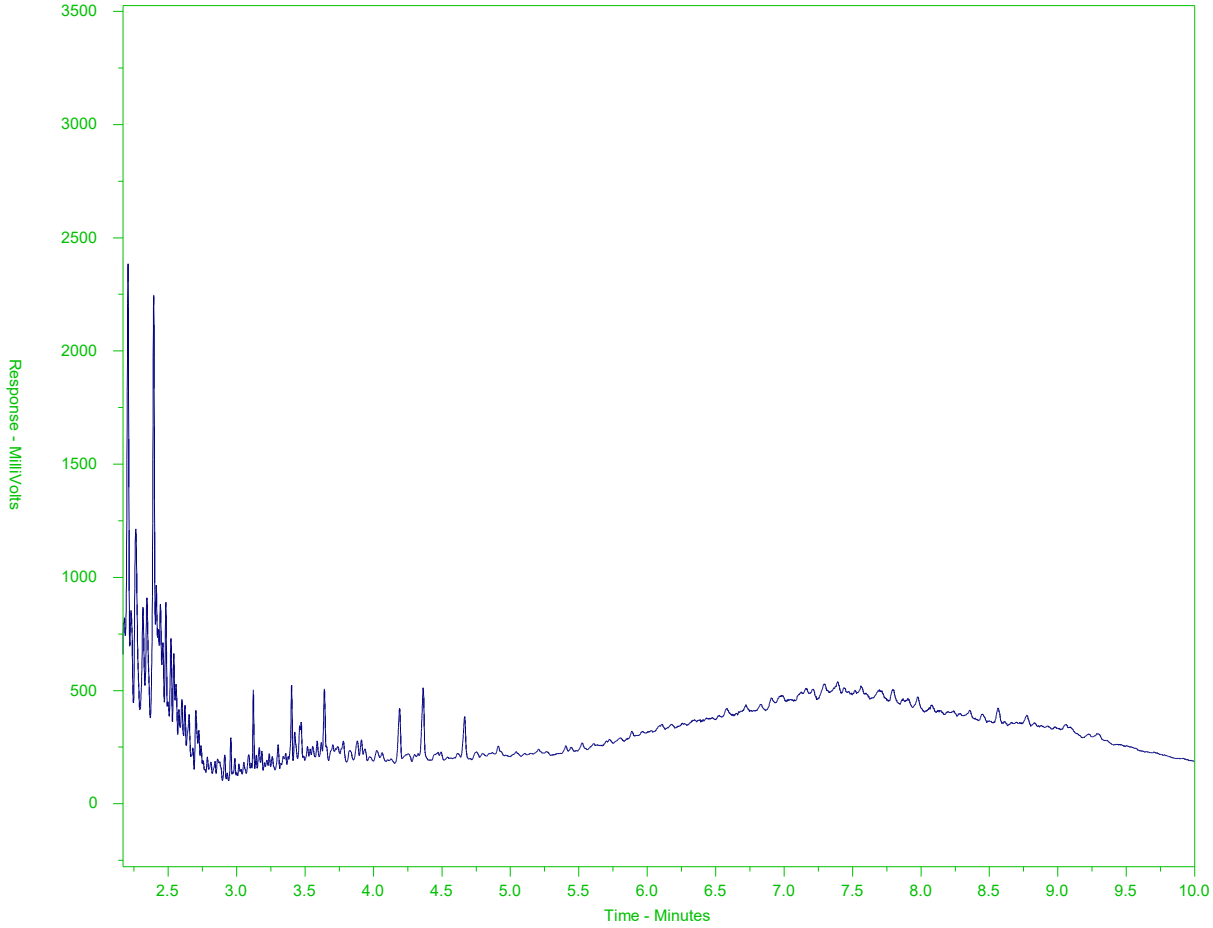
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

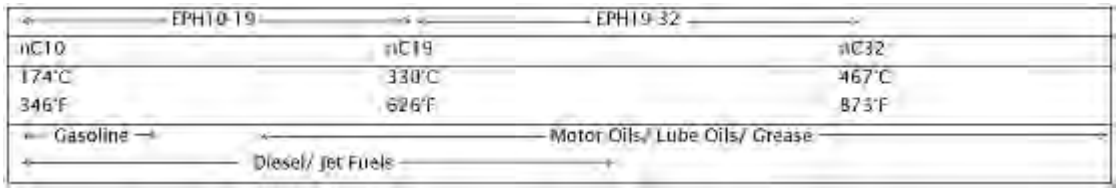
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-37
Client Sample ID: BH105M-02





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

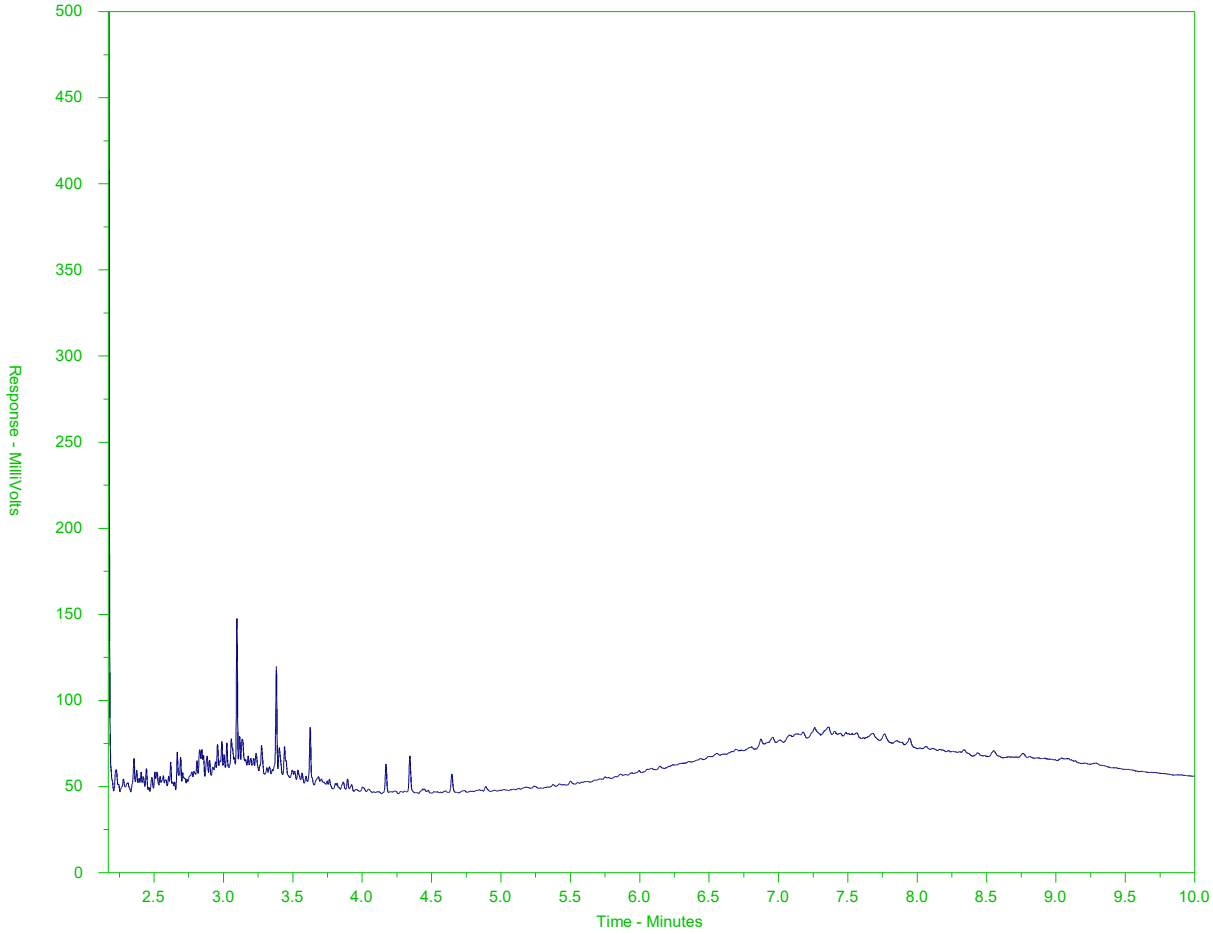
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-38
Client Sample ID: BH105M-03



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

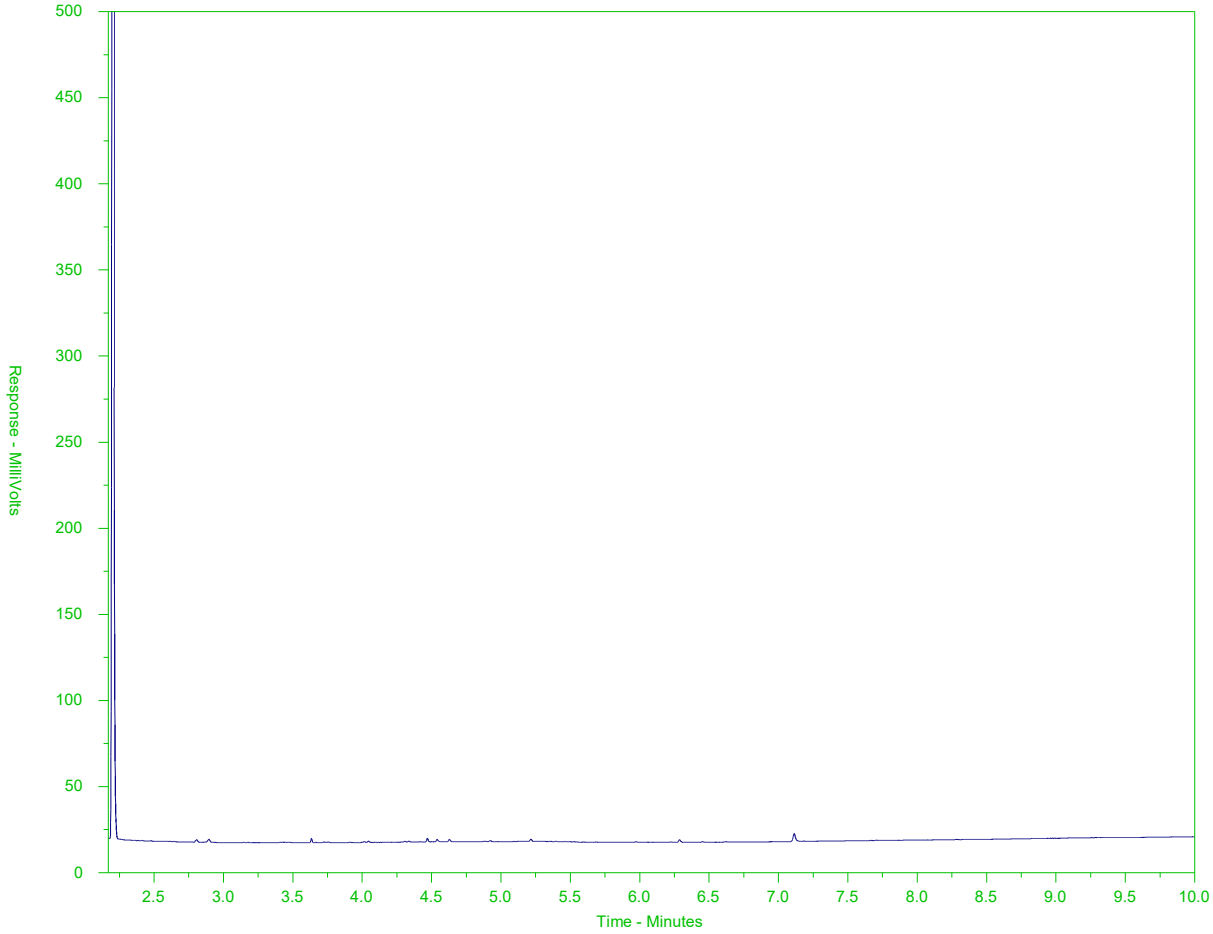
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-42
Client Sample ID: BH105M-06



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

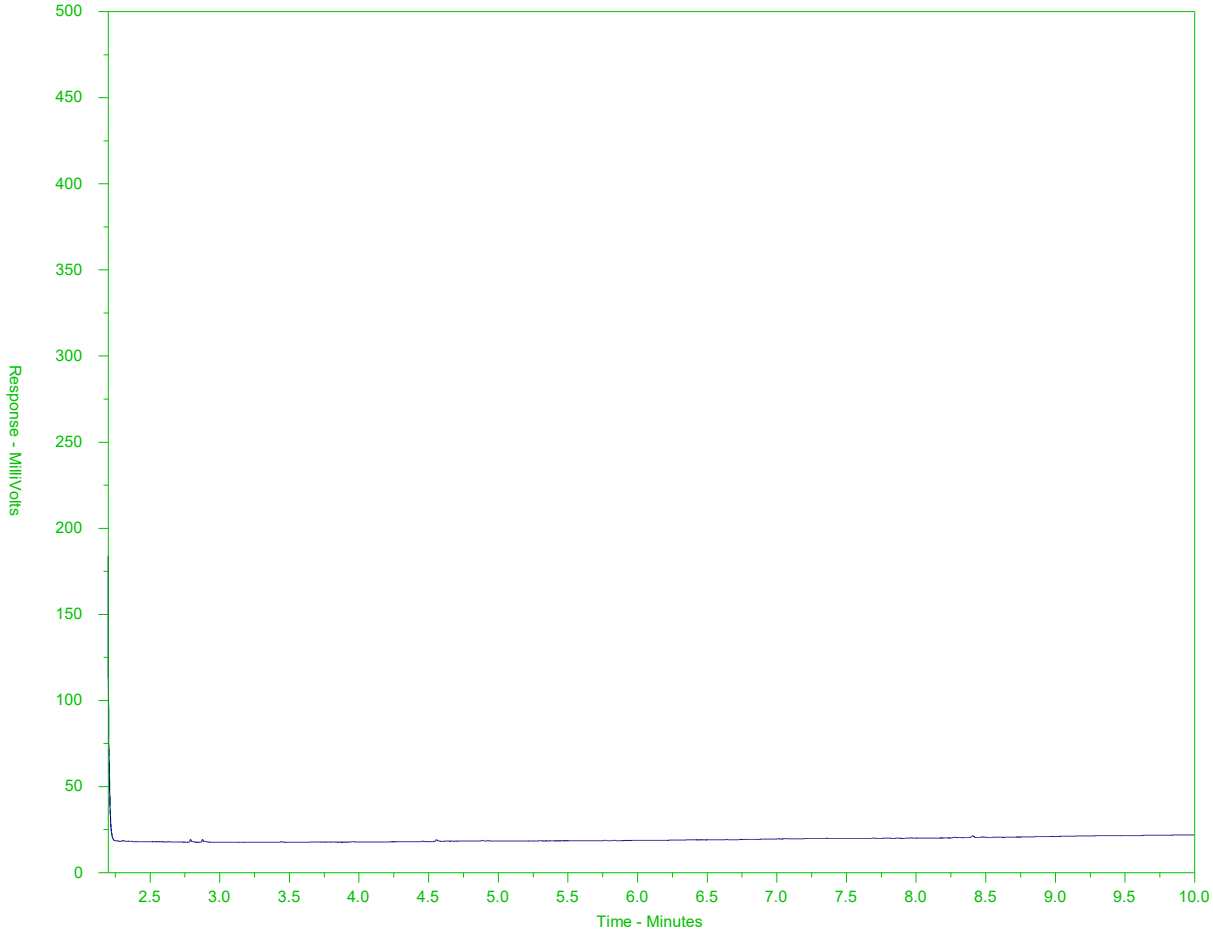
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-44
Client Sample ID: BH106M-01



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

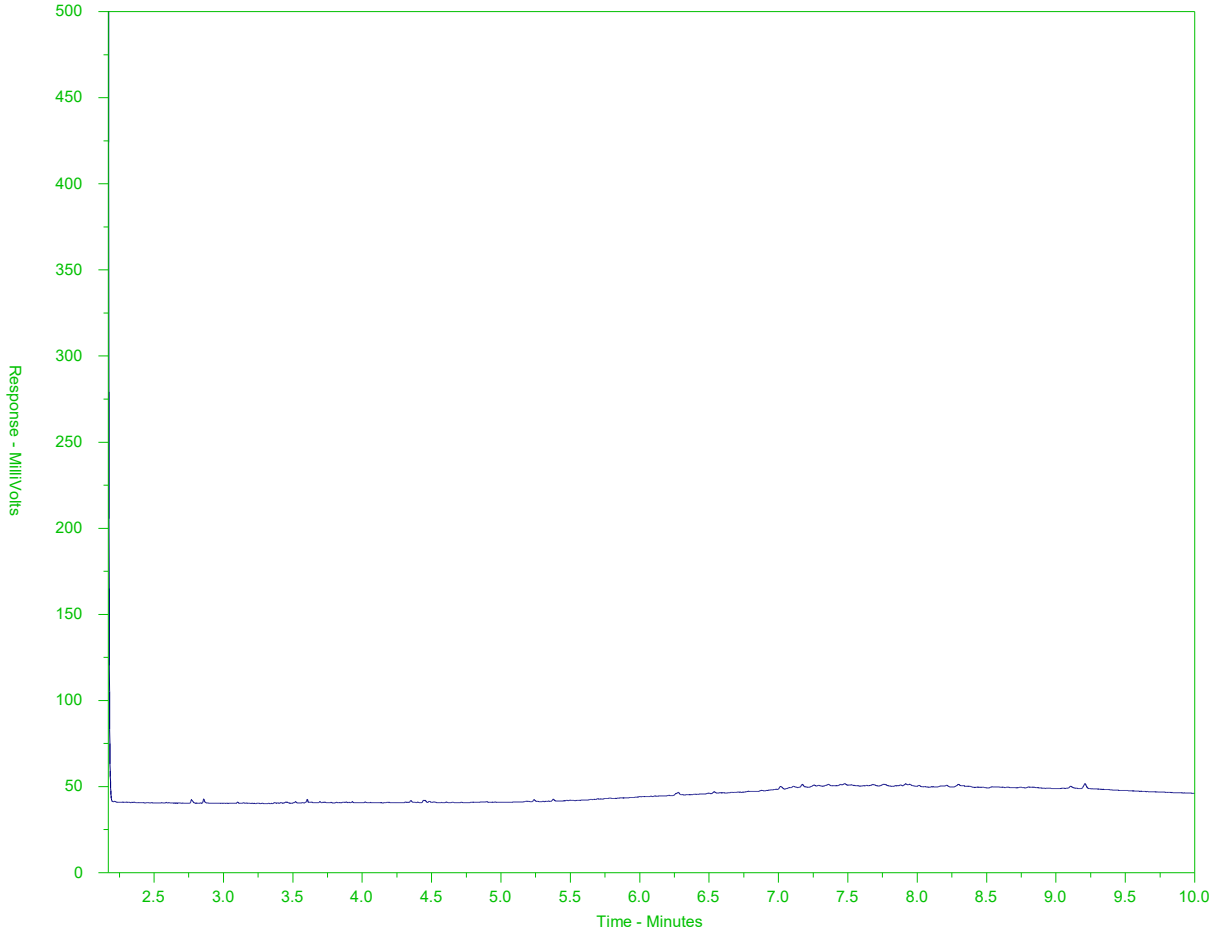
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2089639-45
Client Sample ID: BH106M-02



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

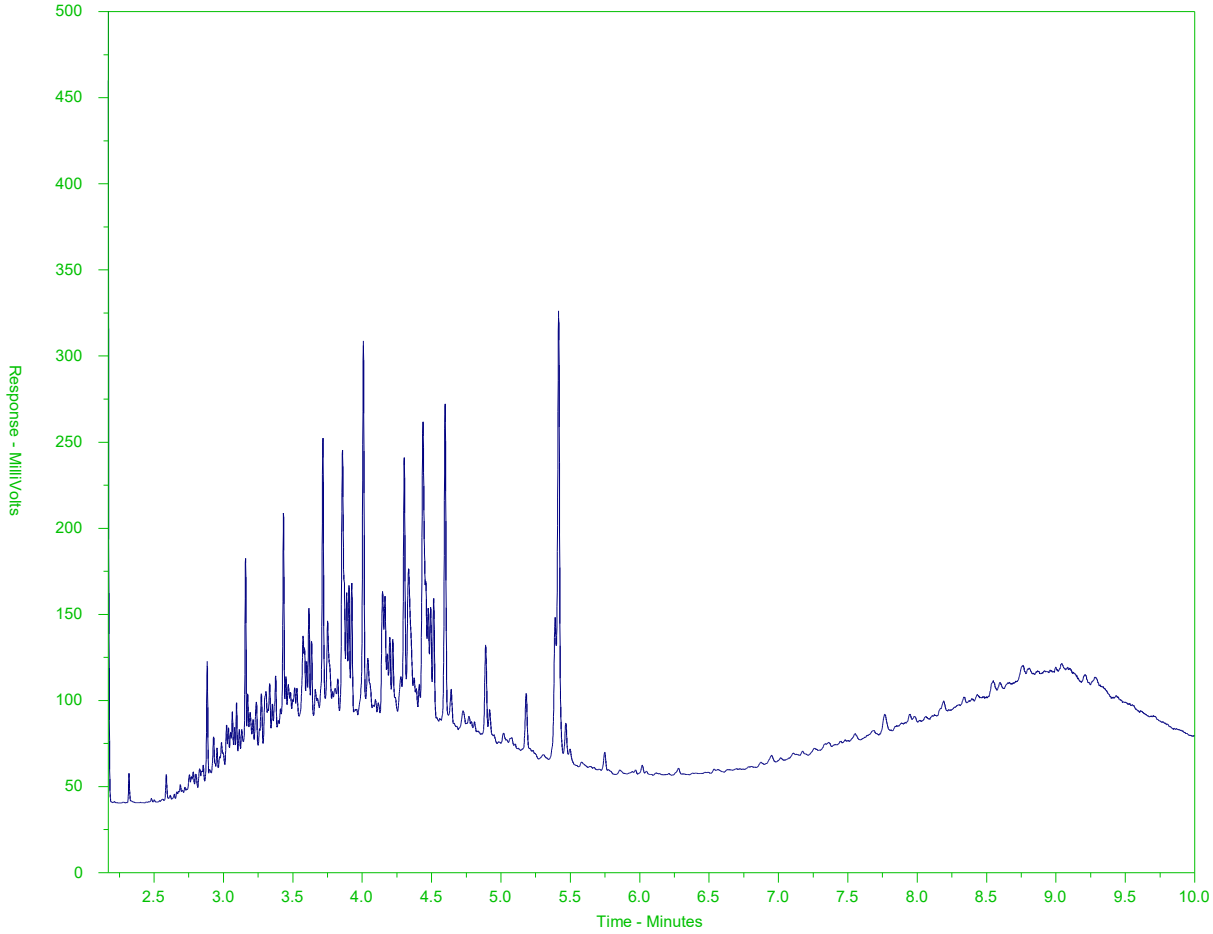
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WG2773726-4#L2089639-45
Client Sample ID: BH106M-02



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

Gasoline — Motor Oils/ Lube Oils/ Grease

Diesel/ Jet Fuels

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2089639-COFC

COC Number: 17 - 686611

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	PGL Environmental	Select Report Format: ☑ PDF ☐ EXCEL ☑ EDD (DIGITAL)	Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Zayed Mohamed	Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐
Phone:	604 682 3707	☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Date and Time Required for all E&P TATs:
Street:	1500 - 1185 W Georgia	Email 1 or Fax: zmohamed@pgeenp.com	For tests that can not be performed according to the service level selected, you will be contacted.
City/Province:	Vancouver	Email 2: sbarr@pgeenp.com	
Postal Code:		Email 3: arivas@pgeenp.com	
Invoice To	Same as Report To ☑ YES ☐ NO	**Invoice Distribution**	**Analysis Request**
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	5355-01.01	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: B. Mock	Sampler: A. Rivas

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH100M-01	3 May 17		Soil			2
	BH100M-02						2
	BH100M-03						4
	BH100M-04						4
	BH100M-05						2
	BH100M-06						2
	BH100M-07						2
	BH101M-01						4
	BH101M-02						2
	BH101M-03						4
	BH101M-04						2
	BH101M-05						2

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)	SAMPLE CONDITION AS RECEIVED (lab use only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	Analysis to be sent via email	Frozen ☐ SIF Observations Yes ☐ No ☐
Are samples for human consumption/ use? ☐ YES ☐ NO	Caution - may contain metal/glass fragments	Ice Packs ☑ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
		Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				10	10	10	13

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)			
Released by:	Date: 4 May 2018	Time: 14:00	Received by:	Date:	Time:	Received by: JC	Date: MAY - 4 2018	Time: 3:10 pm	

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JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2089639-COFC

COC Number: 17 - 686599

Report To	Contact and company name below will appear on the final report
Company:	FOL Environmental
Contact:	Zayed Mongmet
Phone:	604 682 3707
	Company address below will appear on the final report
Street:	
City/Province:	
Postal Code:	

Report Format / Distribution

Select Report Format: ☐ PDF ☐ EXCEL | | EDD (DIGITAL)
Quality Control (QC) Report with Report ☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☐ EMAIL | | MAIL ☐ FAX
Email 1 or Fax
Email 2 See P. 1
Email 3

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Distribution

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax
Email 2

Project Information

ALS Account # / Quote #:	
Job #:	See P. 1
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):
ALS Contact:
Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH101M-06	3 May		Soil	~~4~~		4
	BH101M-07				1		4
	BH101M-08						4
	BH102M-01						2
	Z100						2
	BH102M-02						2
	BH102M-03						4
	BH102M-04						2
	BH102M-05						2
	BH102M-06						2
	BH102M-07						2
	BH103M-01						2

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO
Are samples for human consumption/ use? | | YES | | NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice Packs ☑ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				10	10	10	13

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)			
Released by: Andrea Rivers	Date: 4 May	Time: 14.00	Received by:	Date:	Time:	Received by: JL	Date: MAY - 4 2018	Time: 3:10pm	

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Environmental
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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2089639-COFC

COC Number: 17 - 686601

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	
Company:	PGL	Select Report Format: ☐ PDF ☐ EXCEL ☐ EDD (DIGITAL)	
Contact:	Zayed Mohamed	Quality Control (QC) Report with Report ☐ YES ☐ NO	
Phone:		☐ Compare Results to Criteria on Report - provide details below if box checked	
	Company address below will appear on the final report	Select Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	
Street:		Email 1 or Fax	
City/Province:		Email 2 See P. 1	
Postal Code:		Email 3	
Invoice To	Same as Report To ☐ YES ☐ NO	**Invoice Distribution**	
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	5355-01.01	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: no holiday 3 pm

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	~~BH103M-02~~ Z101	3 May 18		Soil			2
	BH103M-02						4
	BH103M-03						4
	Z102						2
	BH103M-04						2
	BH104M-01	4 May 18					2
	BH104M-02						2
	BH104M-03						4
	Z103 ~~-04~~						4
	BH104M ~~-03~~ -04						2
	BH104M-05						2
	BH105M-01						2

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☑ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				10	10	10	13

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)			
Released by: Andrew Ru	Date: 4 May 18	Time: 14:0	Received by:	Date:	Time:	Received by: JC	Date: MAY - 4 2018	Time: 3:10pm	

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1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2089639-COFC

COC Number: 17 - 686603

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	PGL	Select Report Format: ☐ PDF ☐ EXCEL | | EDD (DIGITAL)	Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Zayed Mohamed	Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐
Phone:		☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution: ☐ EMAIL | | MAIL ☐ FAX	
Street:		Email 1 or Fax	Date and Time Required for all E&P TATs:
City/Province:		Email 2 See P1	For tests that can not be performed according to the service level selected, you will be contacted.
Postal Code:		Email 3	

Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax
Contact:		Email 2

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	5355-01.01	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH105M-02	4 May 18		Soil			4
	BH105M-03	↓		↓			4
	Z104						4
	BH105M-04						4
	BH105M-05						4
	BH105M-06						4
	BH105M-07						4
	BH106M-01						2
	BH106M-02						2
	BH106M-03						4
	BH106M-04						2
	BH106M-05						2

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? | | YES | | NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No	☐
Ice Packs	☑	Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				10	10	10	13

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)			
Released by:	Date: 4 May 18	Time: 1400	Received by:	Date:	Time:	Received by: JC	Date: MAY - 4 2018	Time: 7:10PM	

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Pottinger Gaherty Environmental Consultants (PGL)
ATTN: Zayed Mohamed
1500 - 1185 West Georgia Street
Vancouver BC V6E 4E6

Date Received: 08-MAY-18
Report Date: 22-JUN-18 12:12 (MT)
Version: FINAL REV. 2

Client Phone: 604-682-3707

Certificate of Analysis

Lab Work Order #: L2091003

Project P.O. #:	NOT SUBMITTED
Job Reference:	5355-01.01
C of C Numbers:	17-686602, 17-686604, 17-686605, 17-686606, 17-686610
Legal Site Desc:	

Comments:

22-JUN-2018 This report replaces the previous version and contains additional analyses, as requested.

Brent Mack, B.Sc.
Account Manager

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ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-1	L2091003-2	L2091003-5	L2091003-6	L2091003-7
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH107-01	BH107-02	BH107-05	Z105	BH107-06
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	7.31	8.08	12.3	11.6	11.9
	pH (1:2 soil:water) (pH)	8.55	7.68	7.22	7.21	7.29
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	8830	11700	12100	11800	12100
	Antimony (Sb) (mg/kg)	0.17	1.25	0.60	1.31	0.34
	Arsenic (As) (mg/kg)	2.28	7.26	4.81	5.32	3.11
	Barium (Ba) (mg/kg)	42.9	76.8	76.7	66.9	55.2
	Beryllium (Be) (mg/kg)	0.13	0.19	0.18	0.17	0.16
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.040	1.64	0.656	0.779	0.447
	Chromium (Cr) (mg/kg)	11.7	20.8	12.6	14.6	13.2
	Cobalt (Co) (mg/kg)	5.00	7.45	5.33	5.39	5.38
	Copper (Cu) (mg/kg)	12.1	141	69.4	81.5	41.1
	Iron (Fe) (mg/kg)	17500	21700	16300	17400	17600
	Lead (Pb) (mg/kg)	2.31	50.0	27.0	32.5	13.9
	Lithium (Li) (mg/kg)	4.3	7.1	5.1	5.0	5.7
	Manganese (Mn) (mg/kg)	266	319	247	246	236
	Mercury (Hg) (mg/kg)	0.0126	0.267	0.105	0.116	0.0462
	Molybdenum (Mo) (mg/kg)	0.34	0.77	0.44	0.53	0.33
	Nickel (Ni) (mg/kg)	7.83	22.6	10.0	10.3	9.33
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	0.25	0.12	0.13	<0.10
	Strontium (Sr) (mg/kg)	31.6	36.5	68.3	33.7	32.9
	Thallium (Tl) (mg/kg)	<0.050	0.064	0.054	0.052	<0.050
	Tin (Sn) (mg/kg)	<2.0	3.0	<2.0	2.2	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.344	0.427	0.321	0.354	0.439
	Vanadium (V) (mg/kg)	40.3	48.4	41.1	45.6	45.7
	Zinc (Zn) (mg/kg)	27.8	223	128	137	124
Volatile Organic Compounds	VOC Sample Container		Field MeOH			
	Benzene (mg/kg)		<0.0050			
	Ethylbenzene (mg/kg)		<0.015			
	Methyl t-butyl ether (MTBE) (mg/kg)		<0.20			
	Styrene (mg/kg)		<0.050			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-9	L2091003-10	L2091003-11	L2091003-12	L2091003-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH107-08	BH108-01	BH108-02	BH108-03	BH109-01
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	13.5	8.55	11.6		12.5
	pH (1:2 soil:water) (pH)	7.27		6.73	8.08	
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	11900		11600	11400	
	Antimony (Sb) (mg/kg)	0.24		1.98	1.37	
	Arsenic (As) (mg/kg)	2.53		9.79	10.3	
	Barium (Ba) (mg/kg)	54.7		192	101	
	Beryllium (Be) (mg/kg)	0.17		0.20	0.17	
	Boron (B) (mg/kg)	<5.0		6.0	<5.0	
	Cadmium (Cd) (mg/kg)	0.264		1.18	0.551	
	Chromium (Cr) (mg/kg)	14.1		26.2	22.2	
	Cobalt (Co) (mg/kg)	5.44		7.18	6.38	
	Copper (Cu) (mg/kg)	31.4		196	65.4	
	Iron (Fe) (mg/kg)	16700		21300	18400	
	Lead (Pb) (mg/kg)	14.1		159	72.4	
	Lithium (Li) (mg/kg)	4.9		6.3	6.2	
	Manganese (Mn) (mg/kg)	221		302	258	
	Mercury (Hg) (mg/kg)	0.0296		0.222	0.202	
	Molybdenum (Mo) (mg/kg)	0.24		0.92	0.55	
	Nickel (Ni) (mg/kg)	9.36		23.8	18.5	
	Selenium (Se) (mg/kg)	<0.20		<0.20	<0.20	
	Silver (Ag) (mg/kg)	<0.10		0.43	<0.10	
	Strontium (Sr) (mg/kg)	25.4		65.4	47.0	
	Thallium (Tl) (mg/kg)	<0.050		0.056	<0.050	
	Tin (Sn) (mg/kg)	<2.0		11.7	6.3	
	Tungsten (W) (mg/kg)	<0.50		<0.50	<0.50	
	Uranium (U) (mg/kg)	0.323		0.444	0.375	
	Vanadium (V) (mg/kg)	47.0		49.0	42.4	
	Zinc (Zn) (mg/kg)	66.0		222	161	
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-14	L2091003-17	L2091003-18	L2091003-19	L2091003-21
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH109-02	BH110M-01	BH110M-02	BH110M-03	BH111-01
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	4.75		6.73		
	pH (1:2 soil:water) (pH)	7.65	8.56	8.14	7.65	8.45
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	13400	11900	11200	14200	15300
	Antimony (Sb) (mg/kg)	0.28	0.26	1.99	0.52	1.12
	Arsenic (As) (mg/kg)	5.08	3.47	7.86	5.14	5.28
	Barium (Ba) (mg/kg)	57.8	56.4	86.8	72.5	74.9
	Beryllium (Be) (mg/kg)	0.21	0.17	0.24	0.19	0.24
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.130	0.084	2.51	0.547	0.271
	Chromium (Cr) (mg/kg)	27.7	16.0	31.0	21.6	35.0
	Cobalt (Co) (mg/kg)	9.70	7.43	8.45	6.49	11.9
	Copper (Cu) (mg/kg)	23.4	21.1	168	66.6	30.0
	Iron (Fe) (mg/kg)	22200	20100	27700	20500	26600
	Lead (Pb) (mg/kg)	9.24	3.56	53.0	11.9	12.1
	Lithium (Li) (mg/kg)	8.5	6.2	9.7	5.9	11.7
	Manganese (Mn) (mg/kg)	429	343	399	294	508
	Mercury (Hg) (mg/kg)	0.0207	0.0166	0.173	0.0352	0.0421
	Molybdenum (Mo) (mg/kg)	1.20	0.37	2.12	0.37	0.61
	Nickel (Ni) (mg/kg)	59.8	13.2	27.6	12.6	62.7
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	0.26	<0.10	<0.10
	Strontium (Sr) (mg/kg)	37.5	50.5	45.4	41.3	37.9
	Thallium (Tl) (mg/kg)	0.067	<0.050	0.095	0.058	0.068
	Tin (Sn) (mg/kg)	<2.0	<2.0	3.4	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.450	0.351	0.593	0.415	0.365
	Vanadium (V) (mg/kg)	50.7	53.6	49.4	56.5	57.0
	Zinc (Zn) (mg/kg)	47.5	40.6	456	101	77.4
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-22	L2091003-23	L2091003-25	L2091003-27	L2091003-30
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH111-02	BH112-01	BH112-03	BH113-01	BH114-02
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	7.26	7.08		10.9	7.72
	pH (1:2 soil:water) (pH)	7.33	8.07	7.87	8.23	7.54
Saturated Paste Extractables	Chloride (Cl) (mg/kg)			3.78		
	% Saturation (%)			28.7		
	Sodium (Na) (mg/kg)			5.2		
Metals	Aluminum (Al) (mg/kg)	14200	11100	11700	13500	11000
	Antimony (Sb) (mg/kg)	0.76	0.49	0.37	0.55	0.40
	Arsenic (As) (mg/kg)	3.90	4.85	2.08	5.69	4.00
	Barium (Ba) (mg/kg)	81.2	70.8	56.6	84.6	63.3
	Beryllium (Be) (mg/kg)	0.19	0.21	0.16	0.20	0.18
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.157	0.159	0.065	0.105	0.115
	Chromium (Cr) (mg/kg)	17.7	19.1	18.7	17.8	19.5
	Cobalt (Co) (mg/kg)	7.09	8.03	6.54	8.75	6.77
	Copper (Cu) (mg/kg)	25.5	19.0	19.7	19.1	22.6
	Iron (Fe) (mg/kg)	21900	18300	18900	18900	18600
	Lead (Pb) (mg/kg)	29.8	18.5	6.92	23.5	10.6
	Lithium (Li) (mg/kg)	6.4	7.7	5.5	8.3	6.1
	Manganese (Mn) (mg/kg)	271	332	273	320	290
	Mercury (Hg) (mg/kg)	0.0363	0.0390	0.0173	0.0234	0.0245
	Molybdenum (Mo) (mg/kg)	0.39	0.44	0.25	0.46	0.44
	Nickel (Ni) (mg/kg)	16.8	21.3	12.4	12.3	23.8
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Strontium (Sr) (mg/kg)	31.6	34.2	42.9	39.1	27.8
	Thallium (Tl) (mg/kg)	0.056	0.060	0.054	0.092	<0.050
	Tin (Sn) (mg/kg)	3.1	<2.0	<2.0	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.402	0.286	0.386	0.332	0.325
	Vanadium (V) (mg/kg)	54.2	44.7	53.9	49.6	49.0
	Zinc (Zn) (mg/kg)	94.6	185	42.0	67.8	44.9
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-32	L2091003-33	L2091003-34	L2091003-36	L2091003-38
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH115-01	BH115-02	Z106	BH115-04	BH116-02
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	9.55	12.6	13.1		7.57
	pH (1:2 soil:water) (pH)	7.03	7.20	7.24	7.15	7.39
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	13200	10100	9850	19600	11300
	Antimony (Sb) (mg/kg)	0.44	0.17	0.16	0.22	1.30
	Arsenic (As) (mg/kg)	2.92	1.86	1.83	2.51	4.35
	Barium (Ba) (mg/kg)	76.2	45.1	44.7	84.4	83.4
	Beryllium (Be) (mg/kg)	0.18	0.14	0.13	0.27	0.16
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.092	0.048	0.055	0.056	0.743
	Chromium (Cr) (mg/kg)	18.8	13.3	13.7	22.3	16.0
	Cobalt (Co) (mg/kg)	6.56	4.89	4.88	8.25	7.04
	Copper (Cu) (mg/kg)	21.9	12.4	12.7	24.1	52.8
	Iron (Fe) (mg/kg)	19200	16100	15600	23800	19400
	Lead (Pb) (mg/kg)	7.24	2.31	2.44	3.40	38.4
	Lithium (Li) (mg/kg)	5.6	4.4	4.2	6.5	5.6
	Manganese (Mn) (mg/kg)	302	220	217	304	289
	Mercury (Hg) (mg/kg)	0.0187	0.0076	0.0077	0.0162	0.0501
	Molybdenum (Mo) (mg/kg)	0.31	0.17	0.16	0.30	0.77
	Nickel (Ni) (mg/kg)	19.1	9.00	10.3	14.2	23.9
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	0.13
	Strontium (Sr) (mg/kg)	29.3	36.4	35.9	53.6	25.8
	Thallium (Tl) (mg/kg)	0.052	<0.050	<0.050	0.066	0.080
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.362	0.341	0.334	0.538	0.314
	Vanadium (V) (mg/kg)	51.1	49.0	46.5	65.6	46.3
	Zinc (Zn) (mg/kg)	41.0	25.7	24.6	38.8	136
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-39	L2091003-41	L2091003-44	L2091003-46	L2091003-47
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH116-03	BH117-02	BH118-01	BH118-02	BH118-03
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		10.8	5.33		
	pH (1:2 soil:water) (pH)	6.99	6.56	7.87	7.18	7.07
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	10000	11800	16000	15300	14400
	Antimony (Sb) (mg/kg)	0.25	0.48	1.20	0.43	0.20
	Arsenic (As) (mg/kg)	1.74	2.48	6.03	2.66	2.08
	Barium (Ba) (mg/kg)	48.5	56.2	92.9	65.5	55.1
	Beryllium (Be) (mg/kg)	0.13	0.14	0.22	0.18	0.17
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.110	0.301	1.05	0.602	0.243
	Chromium (Cr) (mg/kg)	11.4	12.6	24.9	16.0	14.7
	Cobalt (Co) (mg/kg)	4.24	5.51	10.4	6.39	5.64
	Copper (Cu) (mg/kg)	13.9	26.3	51.4	20.6	16.3
	Iron (Fe) (mg/kg)	13800	15200	25300	19000	17400
	Lead (Pb) (mg/kg)	4.26	6.41	57.3	5.96	2.83
	Lithium (Li) (mg/kg)	4.4	5.5	11.5	6.4	5.5
	Manganese (Mn) (mg/kg)	199	238	489	282	300
	Mercury (Hg) (mg/kg)	0.0074	0.0190	0.0386	0.0243	0.0147
	Molybdenum (Mo) (mg/kg)	0.22	0.40	0.71	0.36	0.31
	Nickel (Ni) (mg/kg)	8.00	12.5	41.7	14.3	10.3
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	0.14	<0.10	<0.10
	Strontium (Sr) (mg/kg)	30.1	20.1	57.6	35.5	35.8
	Thallium (Tl) (mg/kg)	<0.050	0.056	0.064	0.055	<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	3.6	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.242	0.242	0.379	0.372	0.310
	Vanadium (V) (mg/kg)	41.3	41.2	57.2	53.6	48.8
	Zinc (Zn) (mg/kg)	28.4	90.1	224	102	55.7
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-49	L2091003-50	L2091003-51	L2091003-52	L2091003-53
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH119M-01	BH119M-02	BH119M-03	BH119M-04	BH119M-05
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)			27.7		20.6
	pH (1:2 soil:water) (pH)	7.85	8.09	9.38	8.01	8.30
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	12900	19700	31300	15300	17100
	Antimony (Sb) (mg/kg)	0.28	0.58	1.72	2.72	0.86
	Arsenic (As) (mg/kg)	4.08	192	16.4	5.11	3.61
	Barium (Ba) (mg/kg)	74.7	218	1110	233	152
	Beryllium (Be) (mg/kg)	0.21	0.30	0.91	0.27	0.31
	Boron (B) (mg/kg)	<5.0	8.1	112	22.1	11.2
	Cadmium (Cd) (mg/kg)	0.087	0.156	0.303	0.111	0.071
	Chromium (Cr) (mg/kg)	15.7	22.8	96.9	15.9	16.1
	Cobalt (Co) (mg/kg)	6.47	8.41	11.4	5.34	7.36
	Copper (Cu) (mg/kg)	19.2	35.1	138	21.2	30.8
	Iron (Fe) (mg/kg)	18300	20500	33900	17300	19800
	Lead (Pb) (mg/kg)	9.87	33.5	134	92.2	89.1
	Lithium (Li) (mg/kg)	6.4	10.4	23.5	19.2	10.9
	Manganese (Mn) (mg/kg)	298	344	429	186	301
	Mercury (Hg) (mg/kg)	0.0160	0.0675	0.0967	0.160	0.0582
	Molybdenum (Mo) (mg/kg)	0.36	0.76	3.45	1.56	1.09
	Nickel (Ni) (mg/kg)	12.7	19.9	56.5	12.1	10.1
	Selenium (Se) (mg/kg)	<0.20	<0.20	0.45	0.29	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	0.37	0.14	<0.10
	Strontium (Sr) (mg/kg)	48.2	150	1140	146	66.7
	Thallium (Tl) (mg/kg)	0.052	0.051	0.137	0.057	0.069
	Tin (Sn) (mg/kg)	2.1	4.8	150	12.4	35.9
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.362	0.478	1.14	0.496	0.357
	Vanadium (V) (mg/kg)	50.3	61.4	103	47.9	52.5
	Zinc (Zn) (mg/kg)	41.6	68.9	171	63.1	86.5
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-55	L2091003-56	L2091003-57	L2091003-60	L2091003-61
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH120M-01	BH120M-02	BH120M-03	BH120M-06	BH120M-07
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)				15.4	31.7
	pH (1:2 soil:water) (pH)	8.33	8.04	8.15	8.55	8.43
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	13500	9690	22000	11400	16700
	Antimony (Sb) (mg/kg)	0.78	0.89	2.26	1.78	0.48
	Arsenic (As) (mg/kg)	4.16	2.00	10.6	6.07	12.5
	Barium (Ba) (mg/kg)	156	48.2	582	249	55.6
	Beryllium (Be) (mg/kg)	0.24	0.14	0.65	0.25	0.44
	Boron (B) (mg/kg)	7.0	<5.0	53.8	15.3	13.6
	Cadmium (Cd) (mg/kg)	0.142	0.058	0.157	0.290	0.420
	Chromium (Cr) (mg/kg)	16.4	11.1	23.7	14.9	35.9
	Cobalt (Co) (mg/kg)	6.95	4.25	7.61	5.53	11.7
	Copper (Cu) (mg/kg)	32.6	13.5	86.7	40.3	31.8
	Iron (Fe) (mg/kg)	19900	13300	20400	17200	30900
	Lead (Pb) (mg/kg)	56.7	6.81	93.6	175	14.6
	Lithium (Li) (mg/kg)	8.0	4.3	16.4	7.1	22.2
	Manganese (Mn) (mg/kg)	293	180	299	234	319
	Mercury (Hg) (mg/kg)	0.0396	0.0118	0.252	0.0740	0.0664
	Molybdenum (Mo) (mg/kg)	0.55	0.23	1.35	0.84	3.83
	Nickel (Ni) (mg/kg)	15.1	7.26	30.8	14.0	35.3
	Selenium (Se) (mg/kg)	<0.20	<0.20	0.23	<0.20	0.59
	Silver (Ag) (mg/kg)	<0.10	<0.10	0.28	0.17	0.16
	Strontium (Sr) (mg/kg)	82.1	37.5	543	116	47.8
	Thallium (Tl) (mg/kg)	0.051	<0.050	0.148	0.061	0.165
	Tin (Sn) (mg/kg)	12.1	<2.0	21.0	44.4	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.501	0.296	0.661	0.432	3.69
	Vanadium (V) (mg/kg)	54.4	42.1	73.9	41.9	54.8
	Zinc (Zn) (mg/kg)	69.8	26.8	122	181	74.9
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-62				
	Description	Soil				
	Sampled Date	07-MAY-18				
	Sampled Time					
	Client ID	BH119M-07				
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)					
	pH (1:2 soil:water) (pH)	8.70				
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Aluminum (Al) (mg/kg)	17900				
	Antimony (Sb) (mg/kg)	0.48				
	Arsenic (As) (mg/kg)	13.1				
	Barium (Ba) (mg/kg)	61.6				
	Beryllium (Be) (mg/kg)	0.47				
	Boron (B) (mg/kg)	19.2				
	Cadmium (Cd) (mg/kg)	0.381				
	Chromium (Cr) (mg/kg)	37.3				
	Cobalt (Co) (mg/kg)	12.3				
	Copper (Cu) (mg/kg)	30.9				
	Iron (Fe) (mg/kg)	32500				
	Lead (Pb) (mg/kg)	12.5				
	Lithium (Li) (mg/kg)	23.2				
	Manganese (Mn) (mg/kg)	354				
	Mercury (Hg) (mg/kg)	0.0563				
	Molybdenum (Mo) (mg/kg)	4.19				
	Nickel (Ni) (mg/kg)	36.3				
	Selenium (Se) (mg/kg)	0.58				
	Silver (Ag) (mg/kg)	0.15				
	Strontium (Sr) (mg/kg)	60.2				
	Thallium (Tl) (mg/kg)	0.163				
	Tin (Sn) (mg/kg)	<2.0				
	Tungsten (W) (mg/kg)	<0.50				
	Uranium (U) (mg/kg)	3.50				
	Vanadium (V) (mg/kg)	58.2				
	Zinc (Zn) (mg/kg)	76.3				
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-1	L2091003-2	L2091003-5	L2091003-6	L2091003-7
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH107-01	BH107-02	BH107-05	Z105	BH107-06
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)		<0.050			
	ortho-Xylene (mg/kg)		<0.050			
	meta- & para-Xylene (mg/kg)		0.051			
	Xylenes (mg/kg)		<0.075			
	Surrogate: 4-Bromofluorobenzene (SS) (%)		85.0			
	Surrogate: 1,4-Difluorobenzene (SS) (%)		87.2			
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	<200	<200	<200
	EPH19-32 (mg/kg)	<200	<200	<200	<200	<200
	LEPH (mg/kg)		<200	<200	<200	<200
	HEPH (mg/kg)		<200	<200	<200	<200
	Volatile Hydrocarbons (VH6-10) (mg/kg)		<100			
	VPH (C6-C10) (mg/kg)		<100			
	Surrogate: 2-Bromobenzotrifluoride (%)	81.9	84.6	81.6	86.5	85.2
	Surrogate: 3,4-Dichlorotoluene (SS) (%)		65.5 SURR-ND			
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)		<0.013 DLCI	0.122	1.17	0.0877
	Acenaphthylene (mg/kg)		0.0297	0.0195	0.0467	0.0077
	Anthracene (mg/kg)		0.0494	0.198	1.19	0.118
	Benz(a)anthracene (mg/kg)		0.077	0.157	0.660	0.114
	Benzo(a)pyrene (mg/kg)		0.098	0.125	0.388	0.070
	Benzo(b&j)fluoranthene (mg/kg)		0.186	0.189	0.573	0.120
	Benzo(b+j+k)fluoranthene (mg/kg)		0.244	0.268	0.806	0.163
	Benzo(g,h,i)perylene (mg/kg)		0.090	0.072	0.146	0.031
	Benzo(k)fluoranthene (mg/kg)		0.058	0.079	0.233	0.043
	Chrysene (mg/kg)		0.121	0.151	0.580	0.110
	Dibenz(a,h)anthracene (mg/kg)		0.0234	0.0202	0.0485	0.0098
	Fluoranthene (mg/kg)		0.174	0.473	2.44	0.361
	Fluorene (mg/kg)		<0.013 DLCI	0.177	1.30	0.095
	Indeno(1,2,3-c,d)pyrene (mg/kg)		0.102	0.083	0.177	0.037
	1-Methylnaphthalene (mg/kg)		0.062	0.084	0.499	0.051
	2-Methylnaphthalene (mg/kg)		0.081	0.110	0.795	0.095
	Naphthalene (mg/kg)		0.051	0.269	1.26	0.247
	Phenanthrene (mg/kg)		0.129	0.616	4.38	0.321
	Pyrene (mg/kg)		0.165	0.365	1.78	0.303
	Quinoline (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Surrogate: Acenaphthene d10 (%)		122.1	105.0	111.0	90.1

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-9	L2091003-10	L2091003-11	L2091003-12	L2091003-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH107-08	BH108-01	BH108-02	BH108-03	BH109-01
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	<200		<200
	EPH19-32 (mg/kg)	<200	<200	<200		<200
	LEPH (mg/kg)	<200		<200		
	HEPH (mg/kg)	<200		<200		
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)	88.2	77.3	83.8		75.5
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	0.155		0.0688		
	Acenaphthylene (mg/kg)	0.0062		0.0290		
	Anthracene (mg/kg)	0.146		0.177		
	Benz(a)anthracene (mg/kg)	0.092		0.476		
	Benzo(a)pyrene (mg/kg)	0.061		0.596		
	Benzo(b&j)fluoranthene (mg/kg)	0.087		0.688		
	Benzo(b+j+k)fluoranthene (mg/kg)	0.122		0.963		
	Benzo(g,h,i)perylene (mg/kg)	0.027		0.420		
	Benzo(k)fluoranthene (mg/kg)	0.036		0.276		
	Chrysene (mg/kg)	0.084		0.543		
	Dibenz(a,h)anthracene (mg/kg)	0.0086		0.0782		
	Fluoranthene (mg/kg)	0.316		1.14		
	Fluorene (mg/kg)	0.146		0.049		
	Indeno(1,2,3-c,d)pyrene (mg/kg)	0.032		0.420		
	1-Methylnaphthalene (mg/kg)	0.086		0.067		
	2-Methylnaphthalene (mg/kg)	0.143		0.079		
	Naphthalene (mg/kg)	0.431		0.081		
	Phenanthrene (mg/kg)	0.506		0.804		
	Pyrene (mg/kg)	0.238		1.34		
	Quinoline (mg/kg)	<0.050		<0.050		
	Surrogate: Acenaphthene d10 (%)	108.6		97.6		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-14	L2091003-17	L2091003-18	L2091003-19	L2091003-21
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH109-02	BH110M-01	BH110M-02	BH110M-03	BH111-01
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)	<200		<200		
	EPH19-32 (mg/kg)	<200		<200		
	LEPH (mg/kg)	<200		<200		
	HEPH (mg/kg)	<200		<200		
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)	84.4		87.1		
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050		<0.013 DLCI		
	Acenaphthylene (mg/kg)	<0.0050		<0.013 DLCI		
	Anthracene (mg/kg)	0.0195		0.0280		
	Benz(a)anthracene (mg/kg)	<0.010		0.028		
	Benzo(a)pyrene (mg/kg)	0.012		0.032		
	Benzo(b&j)fluoranthene (mg/kg)	0.050		0.062		
	Benzo(b+j+k)fluoranthene (mg/kg)	0.068		0.082		
	Benzo(g,h,i)perylene (mg/kg)	0.015		0.033		
	Benzo(k)fluoranthene (mg/kg)	0.018		0.021		
	Chrysene (mg/kg)	<0.030 DLCI		<0.040 DLCI		
	Dibenz(a,h)anthracene (mg/kg)	<0.0050		<0.013 DLCI		
	Fluoranthene (mg/kg)	0.030		0.062		
	Fluorene (mg/kg)	<0.010		<0.013 DLCI		
	Indeno(1,2,3-c,d)pyrene (mg/kg)	0.018		0.037		
	1-Methylnaphthalene (mg/kg)	<0.050		<0.050		
	2-Methylnaphthalene (mg/kg)	<0.010		0.045		
	Naphthalene (mg/kg)	<0.010		0.028		
	Phenanthrene (mg/kg)	0.013		0.079		
	Pyrene (mg/kg)	0.026		0.053		
	Quinoline (mg/kg)	<0.050		<0.050		
	Surrogate: Acenaphthene d10 (%)	107.7		91.6		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-22	L2091003-23	L2091003-25	L2091003-27	L2091003-30
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH111-02	BH112-01	BH112-03	BH113-01	BH114-02
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200		<200	<200
	EPH19-32 (mg/kg)	<200	<200		<200	<200
	LEPH (mg/kg)	<200	<200			
	HEPH (mg/kg)	<200	<200			
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)	79.9	85.7		82.2	84.4
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050			
	Acenaphthylene (mg/kg)	0.0061	0.0062			
	Anthracene (mg/kg)	0.0105	0.0083			
	Benz(a)anthracene (mg/kg)	0.042	0.028			
	Benzo(a)pyrene (mg/kg)	0.041	0.033			
	Benzo(b&j)fluoranthene (mg/kg)	0.064	0.046			
	Benzo(b+j+k)fluoranthene (mg/kg)	0.088	0.063			
	Benzo(g,h,i)perylene (mg/kg)	0.024	0.022			
	Benzo(k)fluoranthene (mg/kg)	0.024	0.017			
	Chrysene (mg/kg)	0.048	0.035			
	Dibenz(a,h)anthracene (mg/kg)	0.0068	0.0055			
	Fluoranthene (mg/kg)	0.090	0.056			
	Fluorene (mg/kg)	<0.010	<0.010			
	Indeno(1,2,3-c,d)pyrene (mg/kg)	0.029	0.026			
	1-Methylnaphthalene (mg/kg)	<0.050	<0.050			
	2-Methylnaphthalene (mg/kg)	0.015	<0.010			
	Naphthalene (mg/kg)	0.015	<0.010			
	Phenanthrene (mg/kg)	0.034	0.036			
	Pyrene (mg/kg)	0.075	0.058			
	Quinoline (mg/kg)	<0.050	<0.050			
	Surrogate: Acenaphthene d10 (%)	105.3	103.4			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-32	L2091003-33	L2091003-34	L2091003-36	L2091003-38
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH115-01	BH115-02	Z106	BH115-04	BH116-02
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	<200		<200
	EPH19-32 (mg/kg)	<200	<200	<200		650
	LEPH (mg/kg)					
	HEPH (mg/kg)					
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)	80.5	85.8	85.7		84.7
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)					
	Acenaphthylene (mg/kg)					
	Anthracene (mg/kg)					
	Benz(a)anthracene (mg/kg)					
	Benzo(a)pyrene (mg/kg)					
	Benzo(b&j)fluoranthene (mg/kg)					
	Benzo(b+j+k)fluoranthene (mg/kg)					
	Benzo(g,h,i)perylene (mg/kg)					
	Benzo(k)fluoranthene (mg/kg)					
	Chrysene (mg/kg)					
	Dibenz(a,h)anthracene (mg/kg)					
	Fluoranthene (mg/kg)					
	Fluorene (mg/kg)					
	Indeno(1,2,3-c,d)pyrene (mg/kg)					
	1-Methylnaphthalene (mg/kg)					
	2-Methylnaphthalene (mg/kg)					
	Naphthalene (mg/kg)					
	Phenanthrene (mg/kg)					
	Pyrene (mg/kg)					
	Quinoline (mg/kg)					
	Surrogate: Acenaphthene d10 (%)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-39	L2091003-41	L2091003-44	L2091003-46	L2091003-47
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH116-03	BH117-02	BH118-01	BH118-02	BH118-03
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)		<200	<200		
	EPH19-32 (mg/kg)		<200	<200		
	LEPH (mg/kg)					
	HEPH (mg/kg)					
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)		78.3	83.4		
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)					
	Acenaphthylene (mg/kg)					
	Anthracene (mg/kg)					
	Benz(a)anthracene (mg/kg)					
	Benzo(a)pyrene (mg/kg)					
	Benzo(b&j)fluoranthene (mg/kg)					
	Benzo(b+j+k)fluoranthene (mg/kg)					
	Benzo(g,h,i)perylene (mg/kg)					
	Benzo(k)fluoranthene (mg/kg)					
	Chrysene (mg/kg)					
	Dibenz(a,h)anthracene (mg/kg)					
	Fluoranthene (mg/kg)					
	Fluorene (mg/kg)					
	Indeno(1,2,3-c,d)pyrene (mg/kg)					
	1-Methylnaphthalene (mg/kg)					
	2-Methylnaphthalene (mg/kg)					
	Naphthalene (mg/kg)					
	Phenanthrene (mg/kg)					
	Pyrene (mg/kg)					
	Quinoline (mg/kg)					
	Surrogate: Acenaphthene d10 (%)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2091003-49	L2091003-50	L2091003-51	L2091003-52	L2091003-53
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
Sampled Time					
Client ID	BH119M-01	BH119M-02	BH119M-03	BH119M-04	BH119M-05
Grouping / **Analyte**					
SOIL					
Volatile Organic Compounds					
Toluene (mg/kg)					
ortho-Xylene (mg/kg)					
meta- & para-Xylene (mg/kg)					
Xylenes (mg/kg)					
Surrogate: 4-Bromofluorobenzene (SS) (%)					
Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons					
EPH10-19 (mg/kg)			<200		<200
EPH19-32 (mg/kg)			<200		<200
LEPH (mg/kg)			<200		<200
HEPH (mg/kg)			<200		<200
Volatile Hydrocarbons (VH6-10) (mg/kg)					
VPH (C6-C10) (mg/kg)					
Surrogate: 2-Bromobenzotrifluoride (%)			83.2		81.1
Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons					
Acenaphthene (mg/kg)			<0.040 DLCI		0.212
Acenaphthylene (mg/kg)			<0.030 DLCI		0.0899
Anthracene (mg/kg)			0.0666		0.299
Benz(a)anthracene (mg/kg)			0.080		0.711
Benzo(a)pyrene (mg/kg)			0.063		0.876
Benzo(b&j)fluoranthene (mg/kg)			0.101		0.929
Benzo(b+j+k)fluoranthene (mg/kg)			0.137		1.35
Benzo(g,h,i)perylene (mg/kg)			0.042		0.403
Benzo(k)fluoranthene (mg/kg)			0.036		0.421
Chrysene (mg/kg)			0.091		0.703
Dibenz(a,h)anthracene (mg/kg)			<0.016 DLCI		0.113
Fluoranthene (mg/kg)			0.189		1.39
Fluorene (mg/kg)			<0.050 DLQ		0.265
Indeno(1,2,3-c,d)pyrene (mg/kg)			0.039		0.522
1-Methylnaphthalene (mg/kg)			0.292		0.054
2-Methylnaphthalene (mg/kg)			0.328		0.044
Naphthalene (mg/kg)			0.244		0.182
Phenanthrene (mg/kg)			0.351		0.784
Pyrene (mg/kg)			0.184		1.36
Quinoline (mg/kg)			<0.050		<0.050
Surrogate: Acenaphthene d10 (%)			87.7		102.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-55	L2091003-56	L2091003-57	L2091003-60	L2091003-61
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH120M-01	BH120M-02	BH120M-03	BH120M-06	BH120M-07
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)				<200	<200
	EPH19-32 (mg/kg)				<200	<200
	LEPH (mg/kg)				<200	<200
	HEPH (mg/kg)				<200	<200
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)				81.6	86.3
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)				0.163	<0.0050
	Acenaphthylene (mg/kg)				0.199	<0.0050
	Anthracene (mg/kg)				0.843	0.0099
	Benz(a)anthracene (mg/kg)				1.09	0.025
	Benzo(a)pyrene (mg/kg)				1.01	0.033
	Benzo(b&j)fluoranthene (mg/kg)				1.08	0.037
	Benzo(b+j+k)fluoranthene (mg/kg)				1.53	0.051
	Benzo(g,h,i)perylene (mg/kg)				0.526	0.021
	Benzo(k)fluoranthene (mg/kg)				0.449	0.014
	Chrysene (mg/kg)				1.04	0.025
	Dibenz(a,h)anthracene (mg/kg)				0.127	0.0055
	Fluoranthene (mg/kg)				2.42	0.051
	Fluorene (mg/kg)				0.588	<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)				0.578	0.024
	1-Methylnaphthalene (mg/kg)				0.900	<0.050
	2-Methylnaphthalene (mg/kg)				1.20	<0.010
	Naphthalene (mg/kg)				3.24	0.017
	Phenanthrene (mg/kg)				3.43	0.036
	Pyrene (mg/kg)				2.69	0.057
	Quinoline (mg/kg)				<0.050	<0.050
	Surrogate: Acenaphthene d10 (%)				112.4	106.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-62				
	Description	Soil				
	Sampled Date	07-MAY-18				
	Sampled Time					
	Client ID	BH119M-07				
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	Toluene (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					
	HEPH (mg/kg)					
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)					
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)					
	Acenaphthylene (mg/kg)					
	Anthracene (mg/kg)					
	Benz(a)anthracene (mg/kg)					
	Benzo(a)pyrene (mg/kg)					
	Benzo(b&j)fluoranthene (mg/kg)					
	Benzo(b+j+k)fluoranthene (mg/kg)					
	Benzo(g,h,i)perylene (mg/kg)					
	Benzo(k)fluoranthene (mg/kg)					
	Chrysene (mg/kg)					
	Dibenz(a,h)anthracene (mg/kg)					
	Fluoranthene (mg/kg)					
	Fluorene (mg/kg)					
	Indeno(1,2,3-c,d)pyrene (mg/kg)					
	1-Methylnaphthalene (mg/kg)					
	2-Methylnaphthalene (mg/kg)					
	Naphthalene (mg/kg)					
	Phenanthrene (mg/kg)					
	Pyrene (mg/kg)					
	Quinoline (mg/kg)					
	Surrogate: Acenaphthene d10 (%)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-1	L2091003-2	L2091003-5	L2091003-6	L2091003-7
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH107-01	BH107-02	BH107-05	Z105	BH107-06
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)		121.9	116.1	116.6	98.8
	Surrogate: Naphthalene d8 (%)		114.2	104.7	107.2	88.8
	Surrogate: Phenanthrene d10 (%)		124.3	113.9	117.4	99.1
	B(a)P Total Potency Equivalent (mg/kg)		0.166	0.198	0.608	0.112
	IACR (CCME) (mg/kg)		2.24	2.69	8.66	1.67
Phenolics	4-Chloro-3-methylphenol (mg/kg)			<0.020	<0.020	
	2-Chlorophenol (mg/kg)			<0.020	<0.020	
	3-Chlorophenol (mg/kg)			<0.020	<0.020	
	4-Chlorophenol (mg/kg)			<0.020	<0.020	
	2,3-Dichlorophenol (mg/kg)			<0.020	<0.020	
	2,4 & 2,5-Dichlorophenol (mg/kg)			<0.020	<0.020	
	2,6-Dichlorophenol (mg/kg)			<0.020	<0.020	
	3,4-Dichlorophenol (mg/kg)			<0.020	<0.020	
	3,5-Dichlorophenol (mg/kg)			<0.020	<0.020	
	2,4-Dimethylphenol (mg/kg)			<0.020	<0.020	
	o-Cresol (mg/kg)			<0.020	<0.020	
	m-Cresol (mg/kg)			<0.020	<0.020	
	p-Cresol (mg/kg)			<0.020	<0.030 DLQ	
	Pentachlorophenol (mg/kg)			<0.020	<0.020	
	Phenol (mg/kg)			<0.020	<0.020	
	2,3,4,5-Tetrachlorophenol (mg/kg)			<0.020	<0.020	
	2,3,4,6-Tetrachlorophenol (mg/kg)			<0.020	<0.020	
	2,3,5,6-Tetrachlorophenol (mg/kg)			<0.020	<0.020	
	2,3,4-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,3,5-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,3,6-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,4,5-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,4,6-Trichlorophenol (mg/kg)			<0.020	<0.020	
	3,4,5-Trichlorophenol (mg/kg)			<0.020	<0.020	
	Surrogate: 2-Chlorophenol-d4 (%)			98.2	87.8	
	Surrogate: 2,4-Dichlorophenol-d3 (%)			98.2	94.7	
	Surrogate: 2,4,6-Tribromophenol (%)			103.5	94.3	
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)			<0.20	1.66	
	2,6-Dimethylphenol (mg/kg)			<0.020	<0.020	
	3,4-Dimethylphenol (mg/kg)			<0.020	<0.020	
	Hydroquinone (mg/kg)			<0.20	<0.20	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-9	L2091003-10	L2091003-11	L2091003-12	L2091003-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH107-08	BH108-01	BH108-02	BH108-03	BH109-01
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)	122.2		92.7		
	Surrogate: Naphthalene d8 (%)	108.5		96.2		
	Surrogate: Phenanthrene d10 (%)	119.1		95.6		
	B(a)P Total Potency Equivalent (mg/kg)	0.095		0.870		
	IACR (CCME) (mg/kg)	1.30		9.89		
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-14	L2091003-17	L2091003-18	L2091003-19	L2091003-21
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH109-02	BH110M-01	BH110M-02	BH110M-03	BH111-01
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)	120.3		86.6		
	Surrogate: Naphthalene d8 (%)	107.8		88.6		
	Surrogate: Phenanthrene d10 (%)	118.2		91.3		
	B(a)P Total Potency Equivalent (mg/kg)	0.024		0.054		
	IACR (CCME) (mg/kg)	0.50		0.74		
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-22	L2091003-23	L2091003-25	L2091003-27	L2091003-30
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH111-02	BH112-01	BH112-03	BH113-01	BH114-02
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)	115.4	104.2			
	Surrogate: Naphthalene d8 (%)	104.8	102.9			
	Surrogate: Phenanthrene d10 (%)	113.9	107.1			
	B(a)P Total Potency Equivalent (mg/kg)	0.064	0.051			
	IACR (CCME) (mg/kg)	0.85	0.62			
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-32	L2091003-33	L2091003-34	L2091003-36	L2091003-38
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH115-01	BH115-02	Z106	BH115-04	BH116-02
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)					
	Surrogate: Naphthalene d8 (%)					
	Surrogate: Phenanthrene d10 (%)					
	B(a)P Total Potency Equivalent (mg/kg)					
	IACR (CCME) (mg/kg)					
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-39	L2091003-41	L2091003-44	L2091003-46	L2091003-47
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH116-03	BH117-02	BH118-01	BH118-02	BH118-03
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)					
	Surrogate: Naphthalene d8 (%)					
	Surrogate: Phenanthrene d10 (%)					
	B(a)P Total Potency Equivalent (mg/kg)					
	IACR (CCME) (mg/kg)					
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-49	L2091003-50	L2091003-51	L2091003-52	L2091003-53
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH119M-01	BH119M-02	BH119M-03	BH119M-04	BH119M-05
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)			61.3		110.8
	Surrogate: Naphthalene d8 (%)			82.9		97.4
	Surrogate: Phenanthrene d10 (%)			80.8		114.0
	B(a)P Total Potency Equivalent (mg/kg)			0.098		1.26
	IACR (CCME) (mg/kg)			1.36		14.0
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-55	L2091003-56	L2091003-57	L2091003-60	L2091003-61
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH120M-01	BH120M-02	BH120M-03	BH120M-06	BH120M-07
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)				118.2	121.0
	Surrogate: Naphthalene d8 (%)				106.7	104.2
	Surrogate: Phenanthrene d10 (%)				119.1	117.8
	B(a)P Total Potency Equivalent (mg/kg)				1.48	0.049
	IACR (CCME) (mg/kg)				17.0	0.53
Phenolics	4-Chloro-3-methylphenol (mg/kg)				<0.020	
	2-Chlorophenol (mg/kg)				<0.020	
	3-Chlorophenol (mg/kg)				<0.020	
	4-Chlorophenol (mg/kg)				<0.020	
	2,3-Dichlorophenol (mg/kg)				<0.020	
	2,4 & 2,5-Dichlorophenol (mg/kg)				<0.020	
	2,6-Dichlorophenol (mg/kg)				<0.020	
	3,4-Dichlorophenol (mg/kg)				<0.020	
	3,5-Dichlorophenol (mg/kg)				<0.020	
	2,4-Dimethylphenol (mg/kg)				<0.020	
	o-Cresol (mg/kg)				<0.030 DLQ	
	m-Cresol (mg/kg)				<0.020	
	p-Cresol (mg/kg)				<0.030 DLQ	
	Pentachlorophenol (mg/kg)				<0.020	
	Phenol (mg/kg)				<0.020	
	2,3,4,5-Tetrachlorophenol (mg/kg)				<0.020	
	2,3,4,6-Tetrachlorophenol (mg/kg)				<0.020	
	2,3,5,6-Tetrachlorophenol (mg/kg)				<0.020	
	2,3,4-Trichlorophenol (mg/kg)				<0.020	
	2,3,5-Trichlorophenol (mg/kg)				<0.020	
	2,3,6-Trichlorophenol (mg/kg)				<0.020	
	2,4,5-Trichlorophenol (mg/kg)				<0.020	
	2,4,6-Trichlorophenol (mg/kg)				<0.020	
	3,4,5-Trichlorophenol (mg/kg)				<0.020	
	Surrogate: 2-Chlorophenol-d4 (%)				96.6	
	Surrogate: 2,4-Dichlorophenol-d3 (%)				97.6	
	Surrogate: 2,4,6-Tribromophenol (%)				97.3	
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)				<0.20	
	2,6-Dimethylphenol (mg/kg)				<0.020	
	3,4-Dimethylphenol (mg/kg)				<0.020	
	Hydroquinone (mg/kg)				<0.20	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-62				
	Description	Soil				
	Sampled Date	07-MAY-18				
	Sampled Time					
	Client ID	BH119M-07				
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Surrogate: Chrysene d12 (%)					
	Surrogate: Naphthalene d8 (%)					
	Surrogate: Phenanthrene d10 (%)					
	B(a)P Total Potency Equivalent (mg/kg)					
	IACR (CCME) (mg/kg)					
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	2,4-Dimethylphenol (mg/kg)					
	o-Cresol (mg/kg)					
	m-Cresol (mg/kg)					
	p-Cresol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	Phenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					
	Surrogate: 2-Chlorophenol-d4 (%)					
	Surrogate: 2,4-Dichlorophenol-d3 (%)					
	Surrogate: 2,4,6-Tribromophenol (%)					
Non-Chlorinated Phenolics	Butylated Hydroxytoluene (mg/kg)					
	2,6-Dimethylphenol (mg/kg)					
	3,4-Dimethylphenol (mg/kg)					
	Hydroquinone (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2091003-1	L2091003-2	L2091003-5	L2091003-6	L2091003-7
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
Sampled Time					
Client ID	BH107-01	BH107-02	BH107-05	Z105	BH107-06
Grouping / **Analyte**					
SOIL					
Non-Chlorinated Phenolics / 2-Phenylphenol (mg/kg)			<0.60	<0.60	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-9	L2091003-10	L2091003-11	L2091003-12	L2091003-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18	04-MAY-18
	Sampled Time					
	Client ID	BH107-08	BH108-01	BH108-02	BH108-03	BH109-01
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-14	L2091003-17	L2091003-18	L2091003-19	L2091003-21
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	04-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH109-02	BH110M-01	BH110M-02	BH110M-03	BH111-01
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-22	L2091003-23	L2091003-25	L2091003-27	L2091003-30
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH111-02	BH112-01	BH112-03	BH113-01	BH114-02
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-32	L2091003-33	L2091003-34	L2091003-36	L2091003-38
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH115-01	BH115-02	Z106	BH115-04	BH116-02
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-39	L2091003-41	L2091003-44	L2091003-46	L2091003-47
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH116-03	BH117-02	BH118-01	BH118-02	BH118-03
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-49	L2091003-50	L2091003-51	L2091003-52	L2091003-53
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH119M-01	BH119M-02	BH119M-03	BH119M-04	BH119M-05
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-55	L2091003-56	L2091003-57	L2091003-60	L2091003-61
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18	07-MAY-18
	Sampled Time					
	Client ID	BH120M-01	BH120M-02	BH120M-03	BH120M-06	BH120M-07
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)				<0.60	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091003-62				
	Description	Soil				
	Sampled Date	07-MAY-18				
	Sampled Time					
	Client ID	BH119M-07				
Grouping	**Analyte**					
SOIL						
Non-Chlorinated Phenolics	2-Phenylphenol (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	2-Methylnaphthalene	B	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Duplicate	Barium (Ba)	DUP-H	L2091003-11, -14, -18, -19, -2, -22, -23, -25, -27, -30, -32, -33, -34, -36, -38, -41, -5, -6, -9
Duplicate	Uranium (U)	DUP-H	L2091003-21, -7
Duplicate	1-Methylnaphthalene	DUP-H	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Duplicate	Acenaphthene	DUP-H	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Duplicate	Fluorene	DUP-H	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Duplicate	Naphthalene	DUP-H	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Matrix Spike	Phenanthrene	E	L2091003-7
Matrix Spike	Fluoranthene	MS-B	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Matrix Spike	Naphthalene	MS-B	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Matrix Spike	Phenanthrene	MS-B	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9
Matrix Spike	Pyrene	MS-B	L2091003-11, -14, -18, -2, -22, -23, -5, -51, -6, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
E	Matrix Spike recovery outside ALS DQO due to heterogeneous analyte background in sample.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
SURR-ND	Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.

CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID

Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).

HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)

Soil samples are digested with hot nitric and hydrochloric acids, followed by CVAAS analysis. This method is fully compliant with the BC SALM strong acid leachable metals digestion method.

LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LEPH/HEPH

LEPHs and HEPHs are measures of Light and Heavy Extractable Petroleum Hydrocarbons in soil. Results are calculated by subtraction of applicable PAH concentrations from EPH10-19 and EPH19-32, as per the BC Lab Manual LEPH/HEPH calculation procedure.
LEPHs = EPH10-19 minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene.
HEPHs = EPH19-32 minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

This method uses a heated strong acid digestion with HNO3 and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Analysis is by Collision/Reaction Cell ICPMS.

MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.

MOISTURE-VA	Soil	Moisture content	CWS for PHC in Soil - Tier 1

Reference Information

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

PAH-TMB-H/A-MS-VA Soil PAH - Rotary Extraction (Hexane/Acetone) EPA 3570/8270

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

Benzo(a)pyrene Total Potency Equivalents [B(a)P TPE] represents the sum of estimated cancer potency relative to B(a)P for all potentially carcinogenic unsubstituted PAHs, and is calculated as per the CCME PAH Soil Quality Guidelines reference document (2010).

PH-1:2-VA Soil pH in Soil (1:2 Soil:Water Extraction) BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PHEN-M-TMB-MS-VA Soil Misc. Phenolics in Soil EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PHEN-TMB-MS-VA Soil Phenolics by Tumbler/GC-MS EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

VH-HSFID-VA Soil VH in soil by Headspace GCFID BC Env. Lab Manual (VH in Solids)

This analysis involves the extraction of a subsample of the sediment/soil with methanol. Aliquots of the methanol extract are then added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is analyzed for Volatile Hydrocarbons (VH) by capillary column gas chromatography with flame-ionization detection (GC/FID). The methanol extraction and VH analysis are carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999).

VH-SURR-FID-VA Soil VH Surrogates for Soils BC Env. Lab Manual (VH in Solids)

VOC7-L-HSMS-VA Soil VOCs in soil by Headspace GCMS EPA 5035A/5021A/8260C

The soil methanol extract is added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.

VOC7/VOC-SURR-MS-VA Soil VOC7 and/or VOC Surrogates for Soils EPA 5035A/5021A/8260C

VPH-CALC-VA Soil VPH is VH minus select aromatics BC MOE VPH

VPHs measures Volatile Petroleum Hydrocarbons in soil. Results are calculated by subtraction of specific Monocyclic Aromatic Hydrocarbons from VH6-10, as per the BC Lab Manual VPH calculation procedure.
VPHs = VH6-10 minus Benzene, Toluene, Ethylbenzene, Xylenes, and Styrene

XYLENES-CALC-VA Soil Sum of Xylene Isomer Concentrations EPA 8260B & 524.2

Calculation of Total Xylenes

Total Xylenes is the sum of the concentrations of the ortho, meta, and para Xylene isomers. Results below detection limit (DL) are treated as zero. The DL for Total Xylenes is set to a value no less than the square root of the sum of the squares of the DLs of the individual Xylenes.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

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

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

17-686602 17-686604 17-686605 17-686606 17-686610

Reference Information

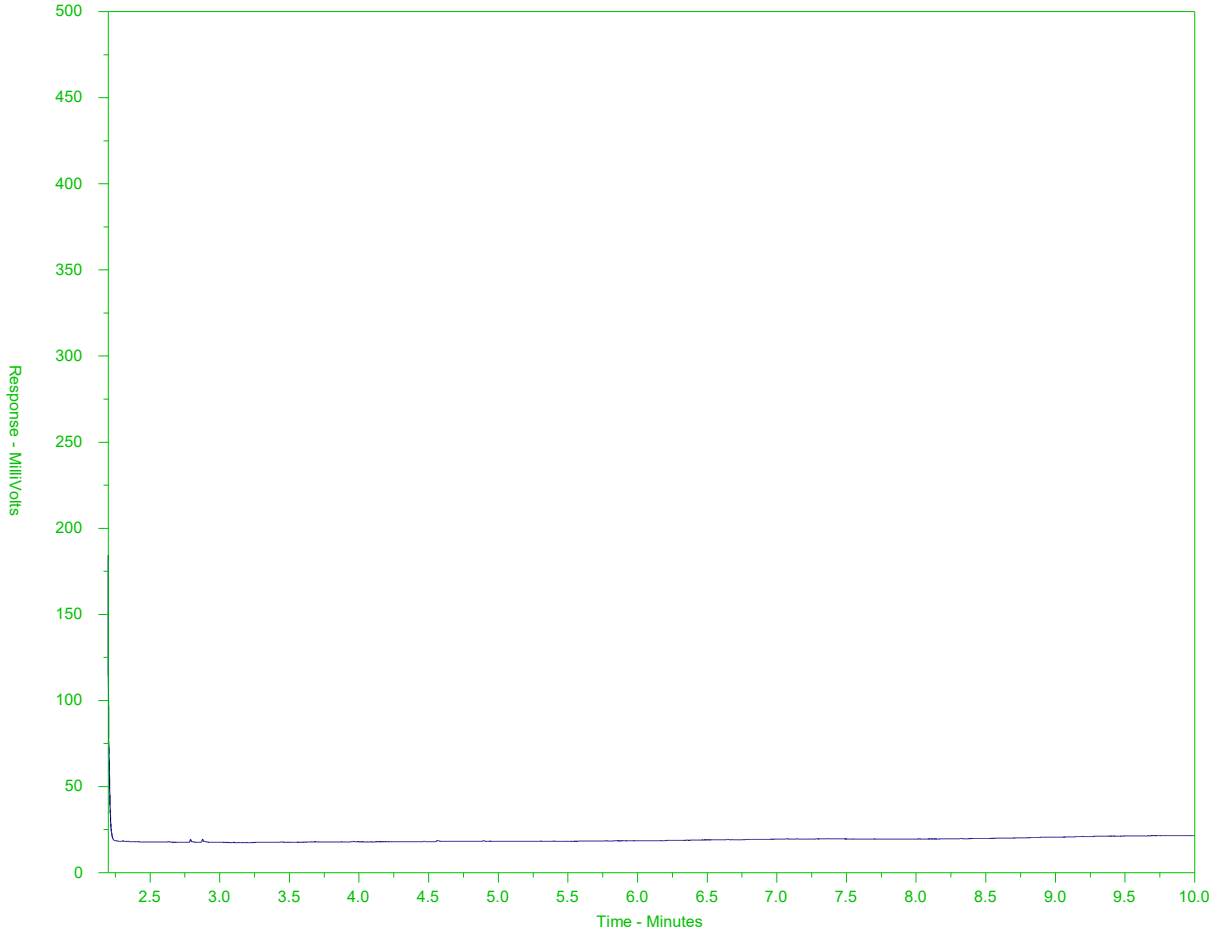
GLOSSARY OF REPORT TERMS

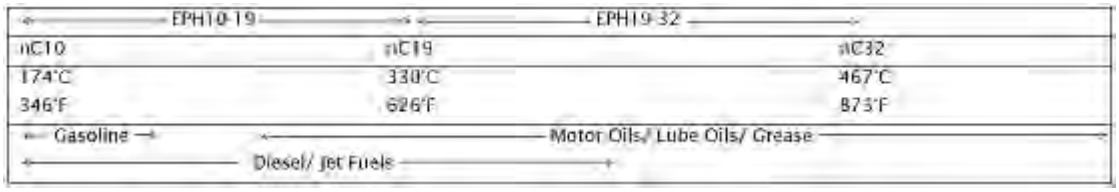
Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-1
Client Sample ID: BH107-01





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

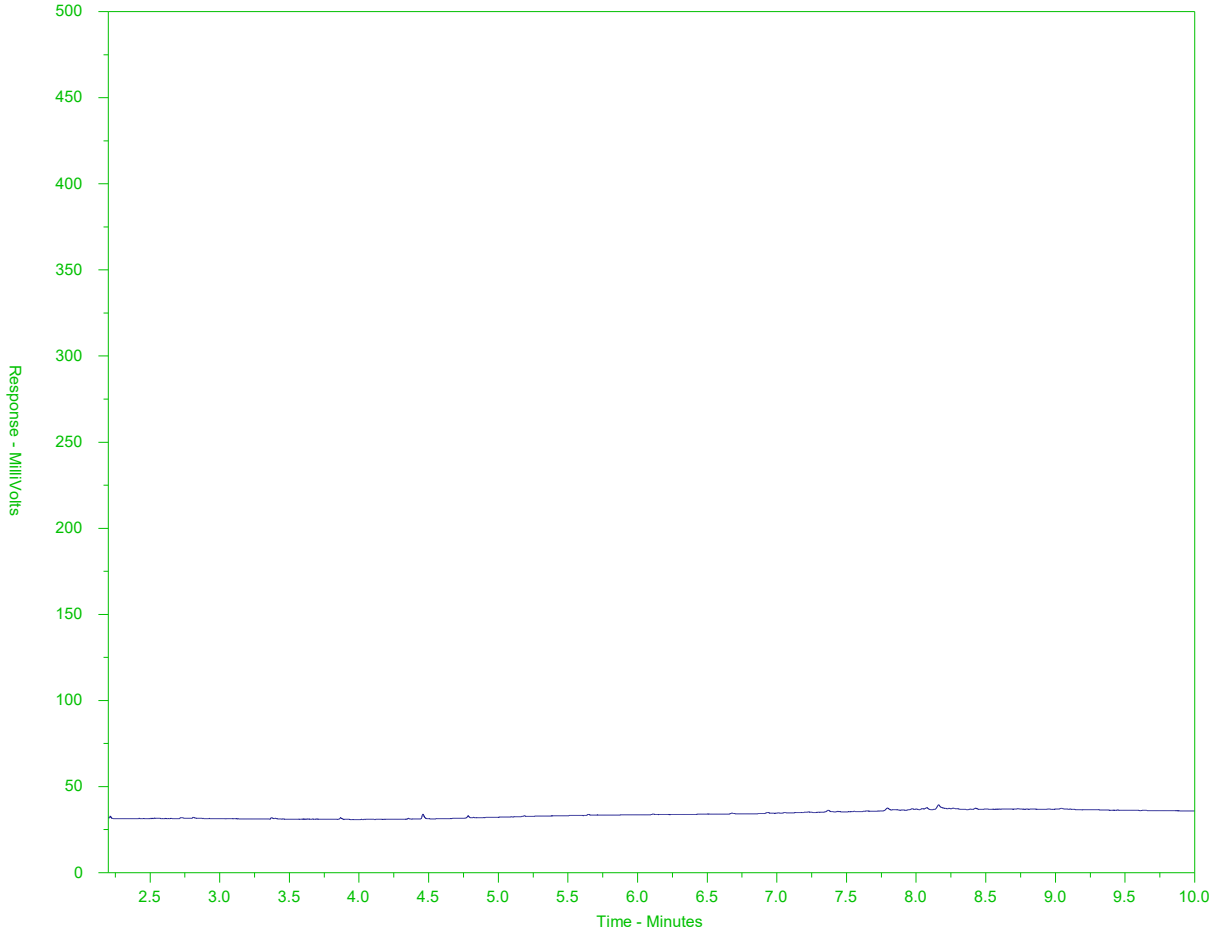
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-2
Client Sample ID: BH107-02



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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

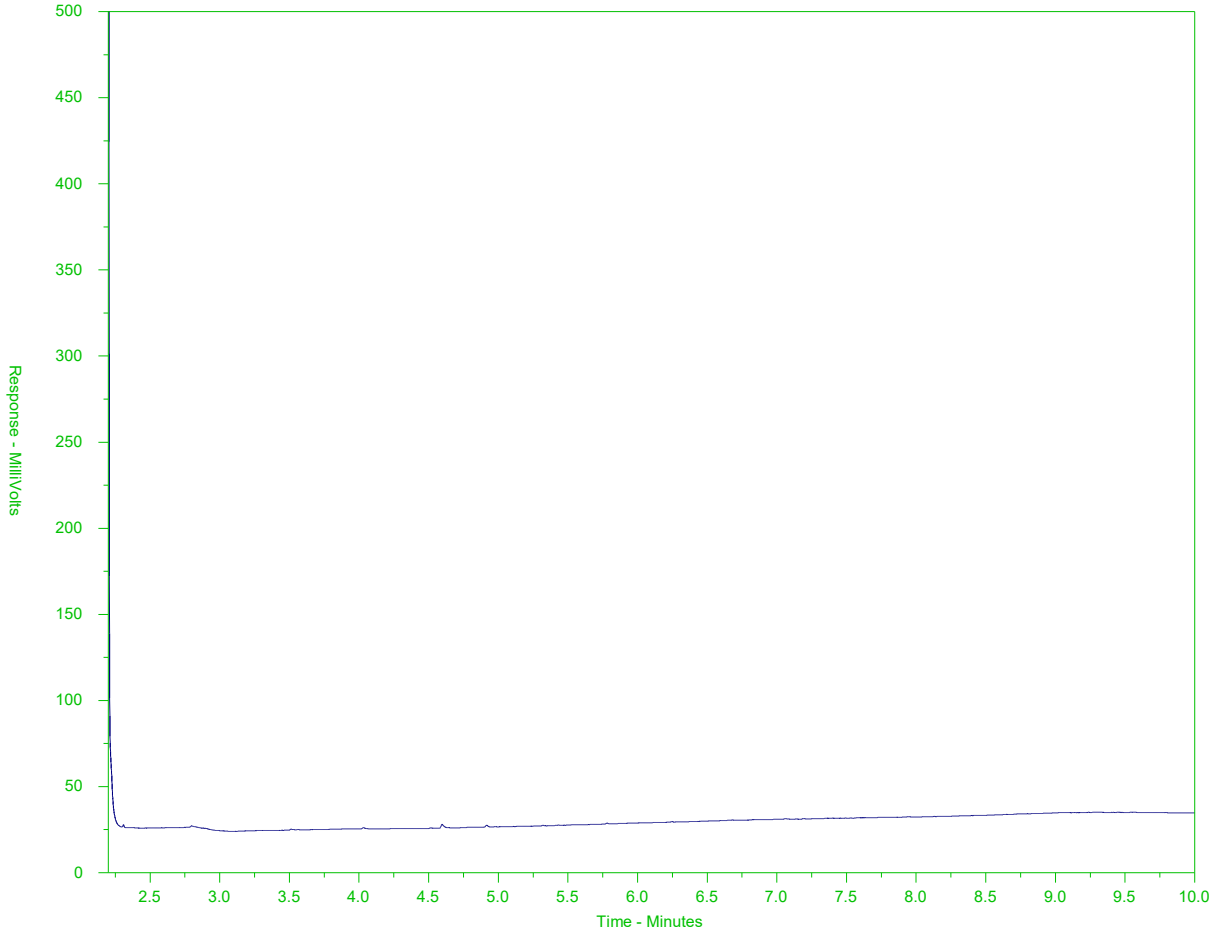
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

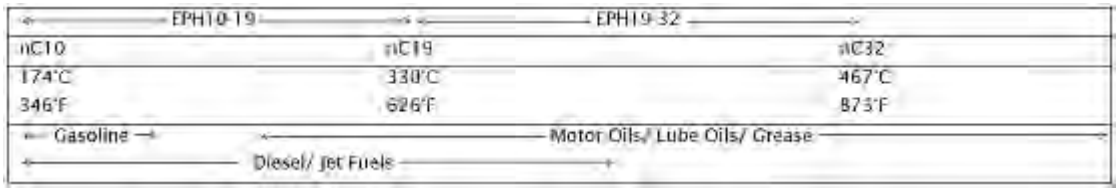
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-5
Client Sample ID: BH107-05





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

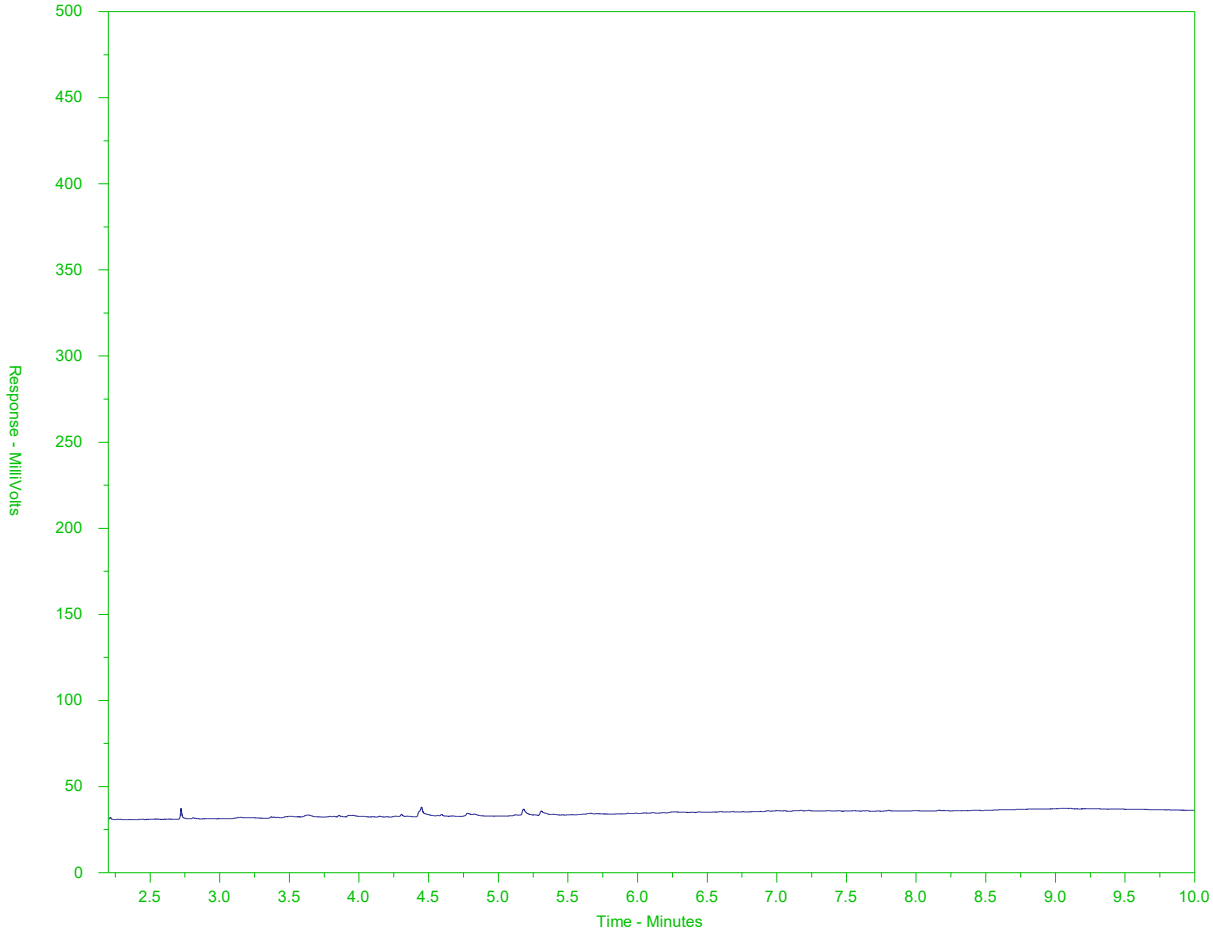
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

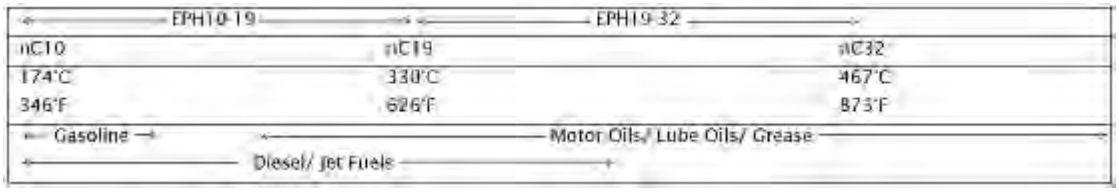
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-6
Client Sample ID: Z105





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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

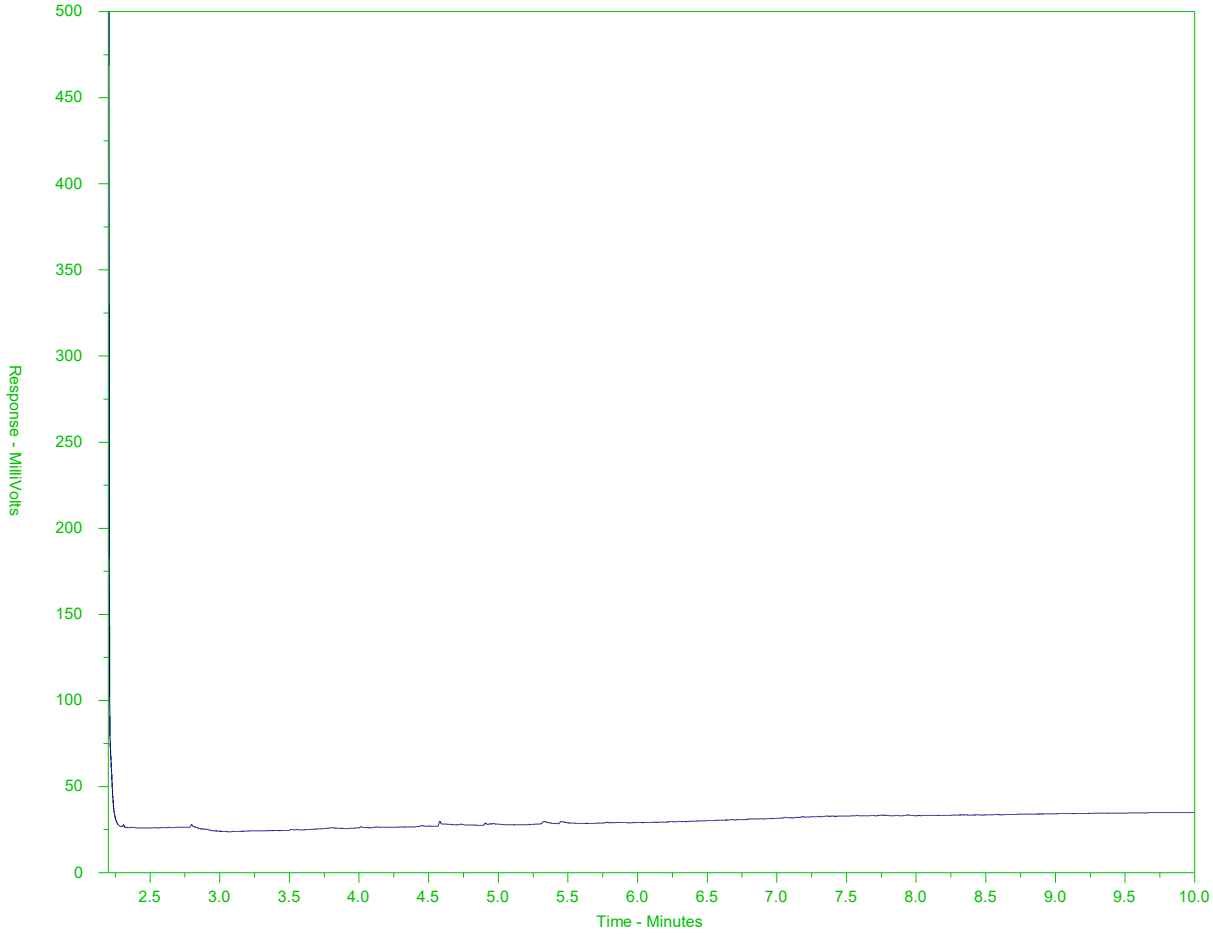
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

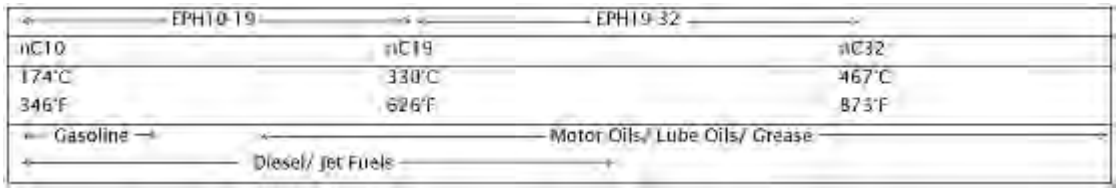
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WG2772859-3#L2091003-6
Client Sample ID: Z105





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

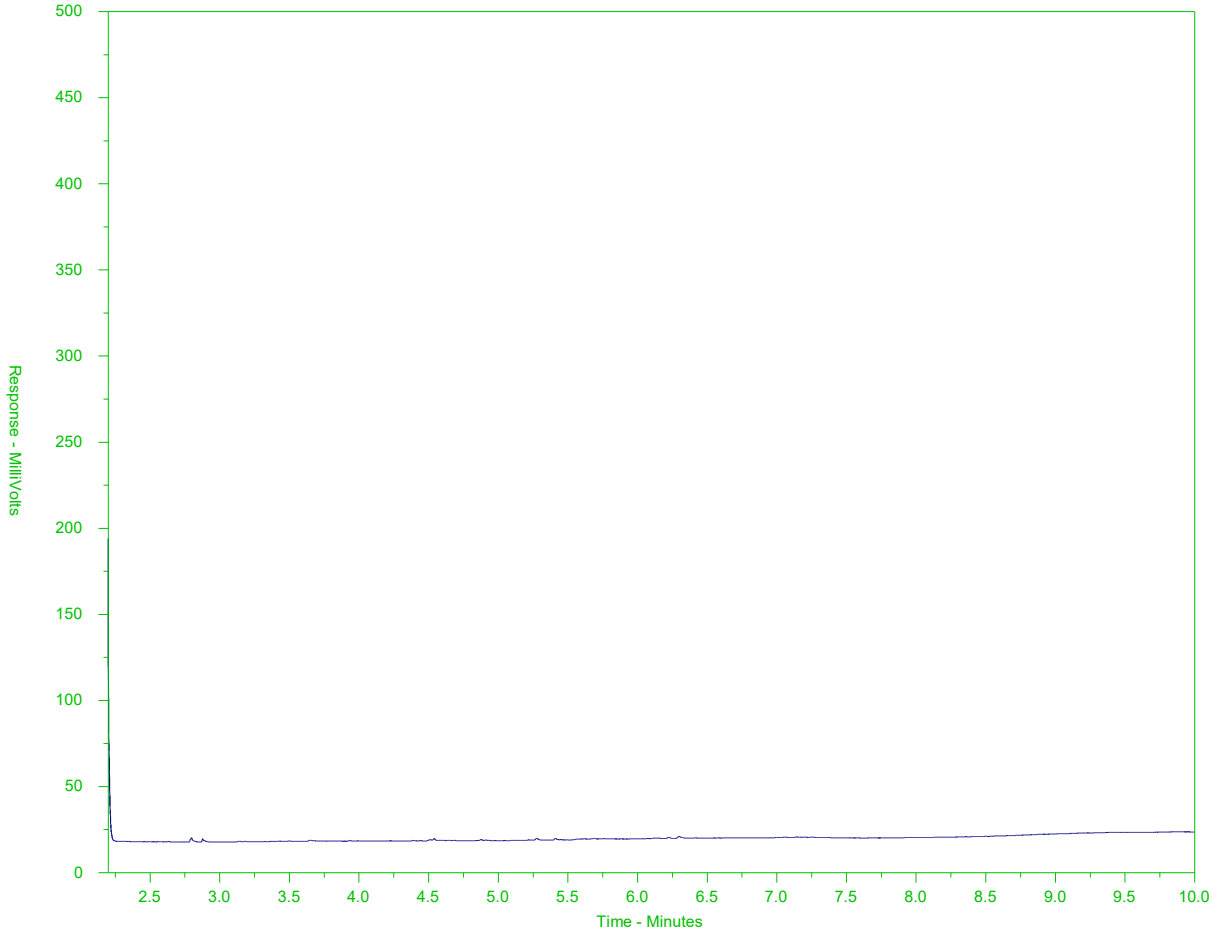
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-7
Client Sample ID: BH107-06



EPH10-19		EPH19-32	
nC10	nC19		nC32
174°C	330°C		467°C
346°F	626°F		873°F
Gasoline		Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels			

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

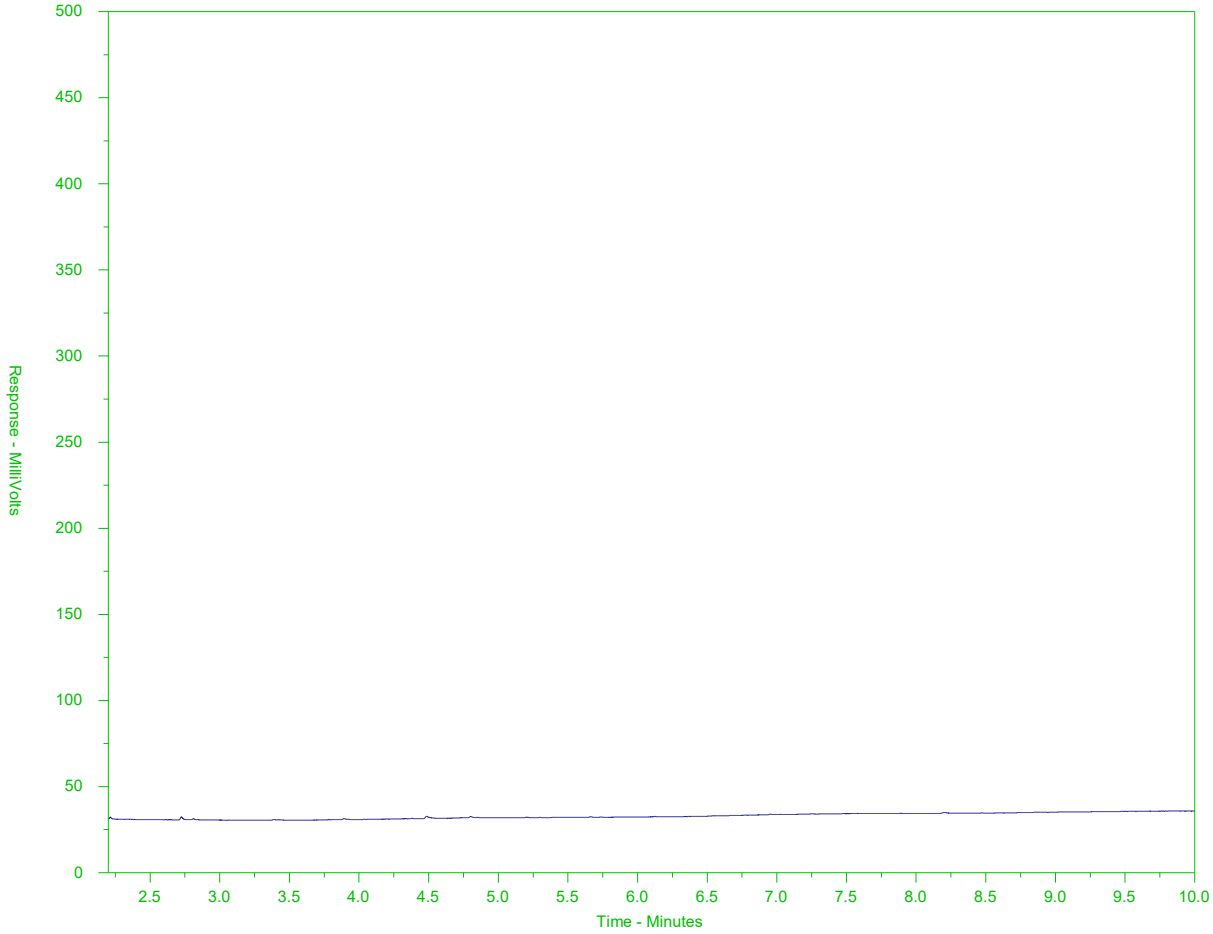
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-9
Client Sample ID: BH107-08



The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

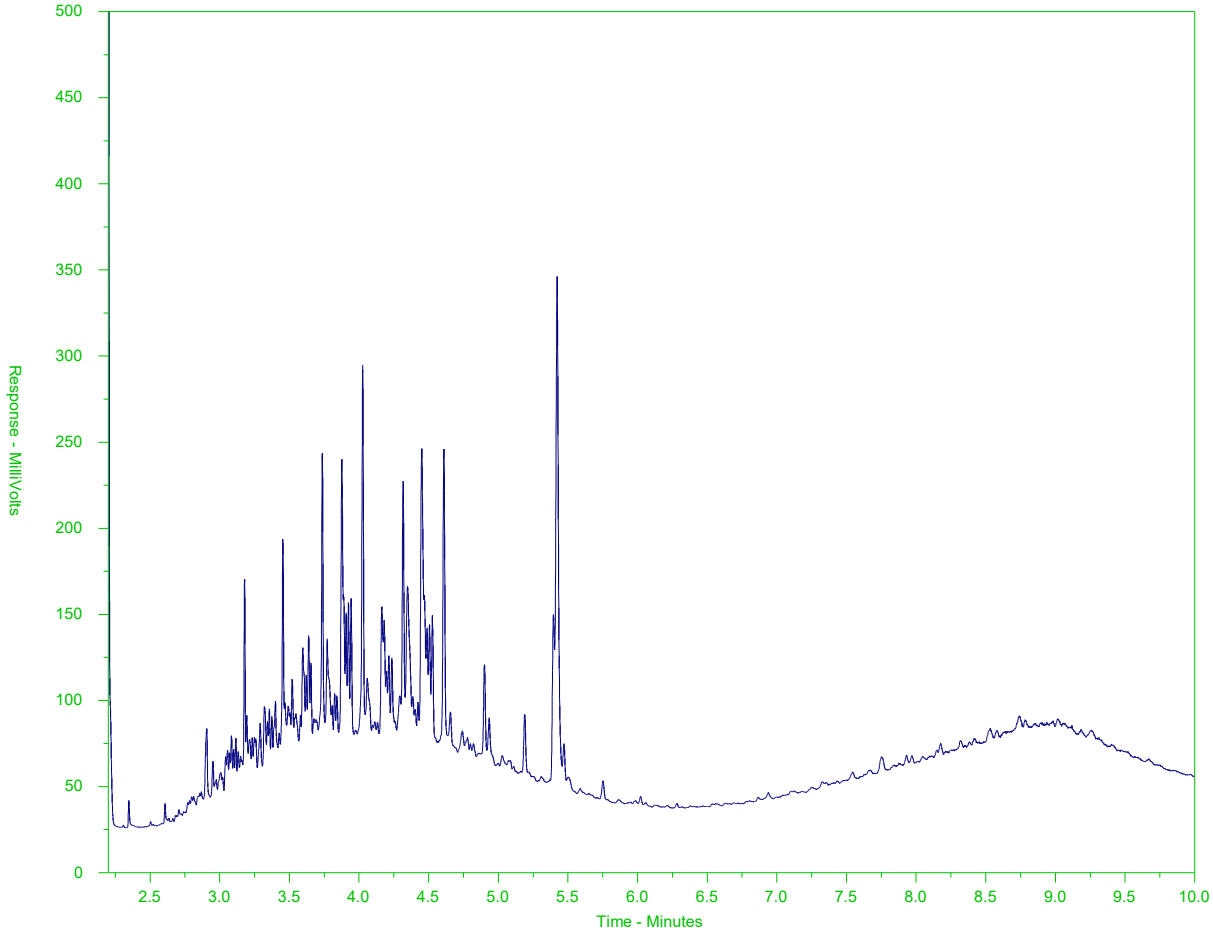
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

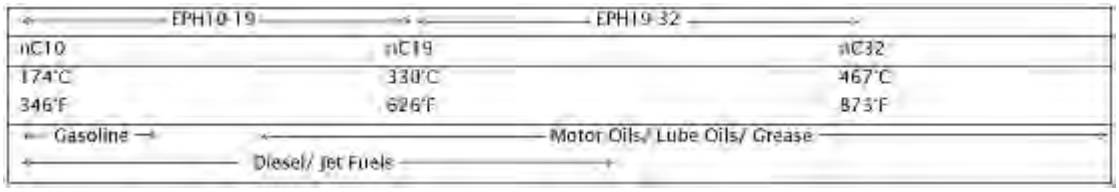
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WG2772859-4#L2091003-9
Client Sample ID: BH107-08





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

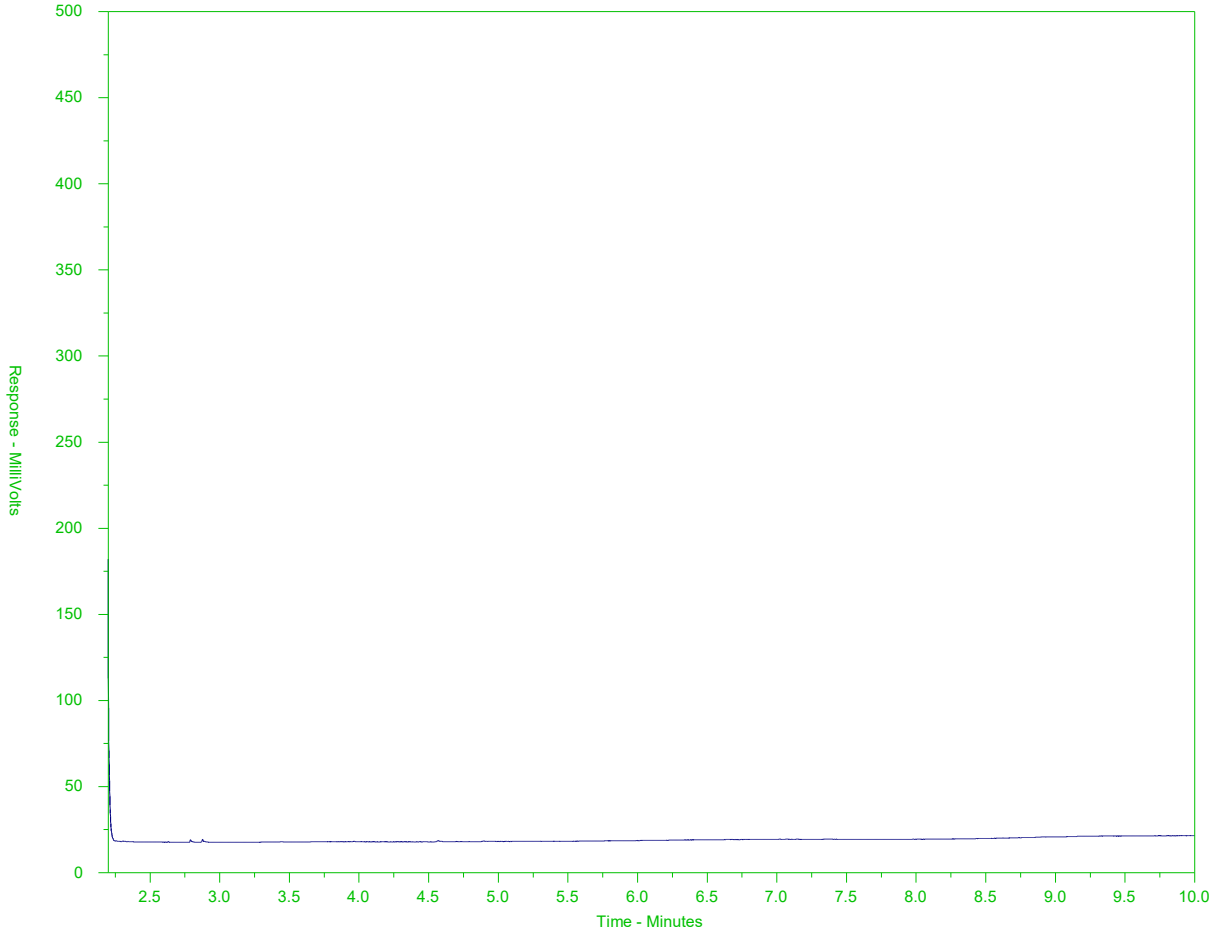
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

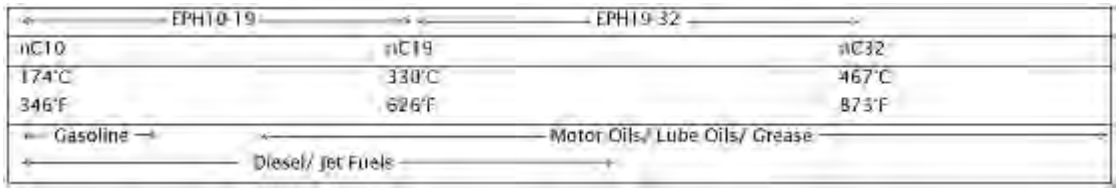
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-10
Client Sample ID: BH108-01





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

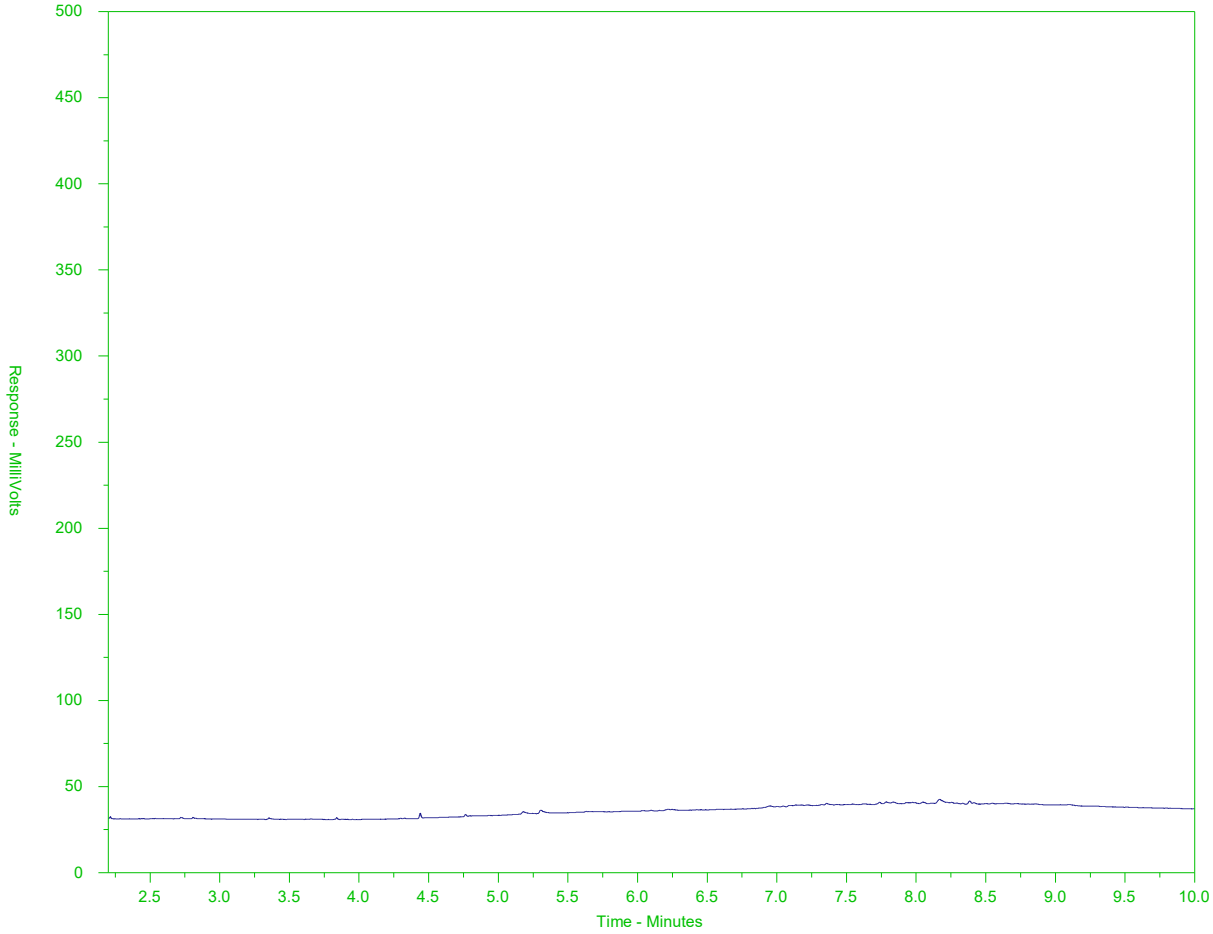
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

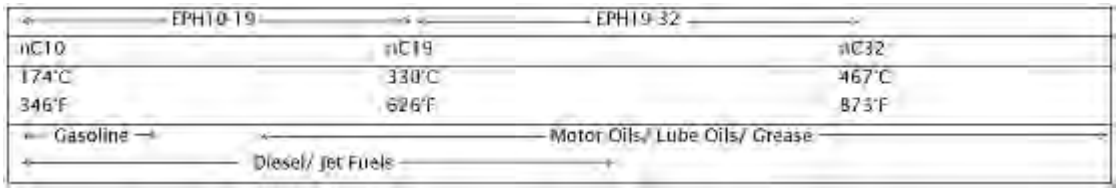
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-11
Client Sample ID: BH108-02





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

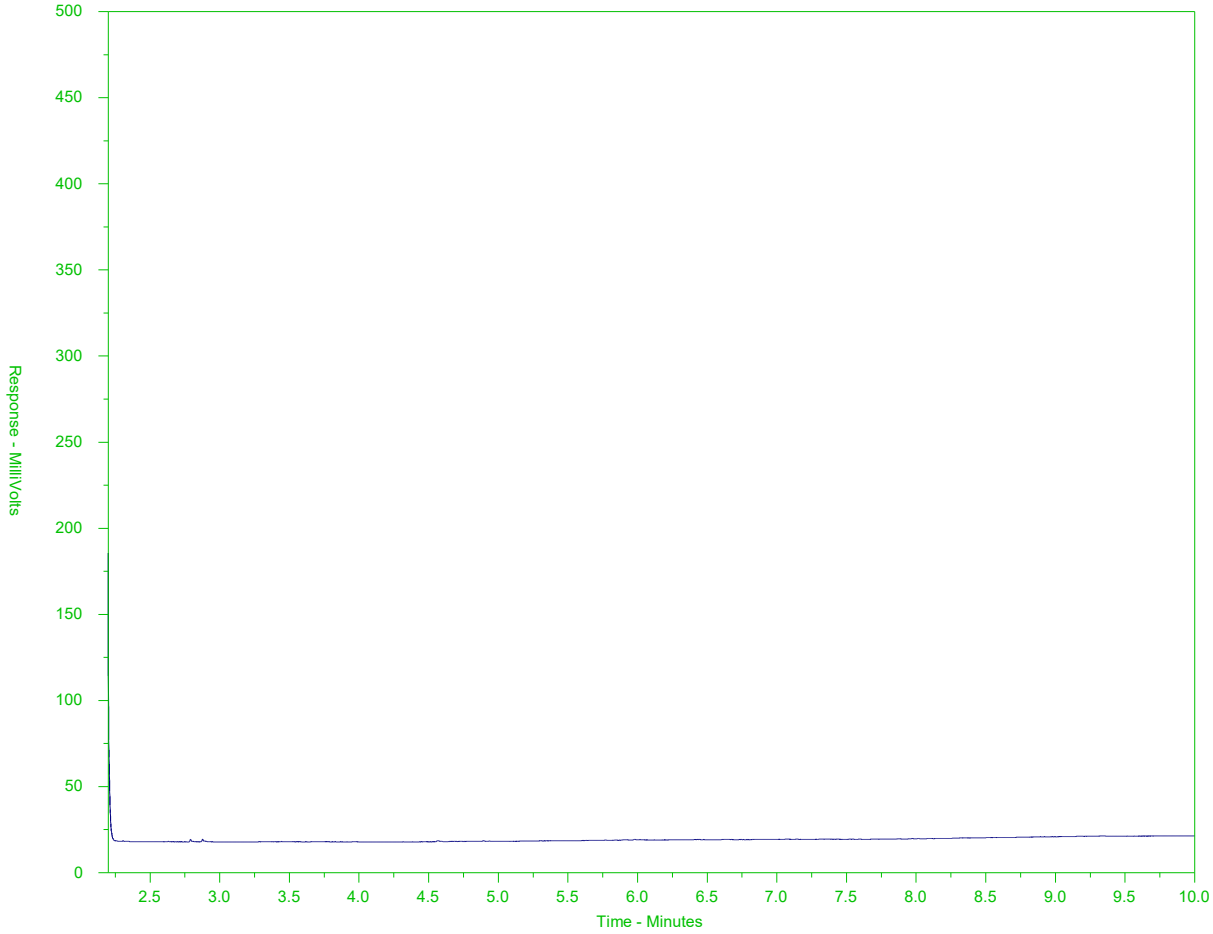
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-13
Client Sample ID: BH109-01



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

Gasoline — Motor Oils/ Lube Oils/ Grease

Diesel/ Jet Fuels

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

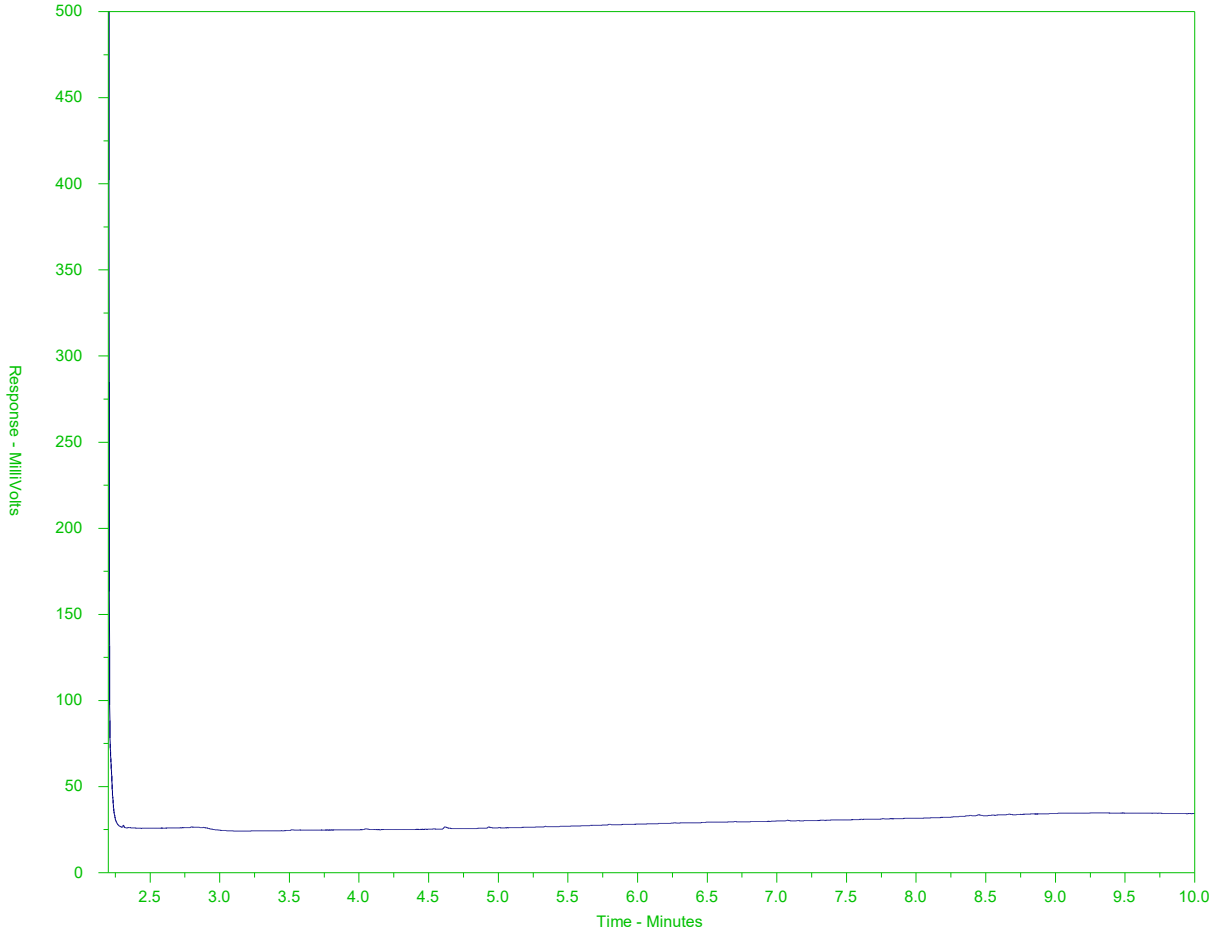
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

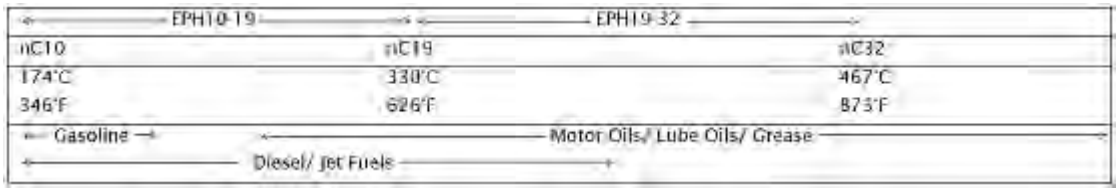
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-14
Client Sample ID: BH109-02





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

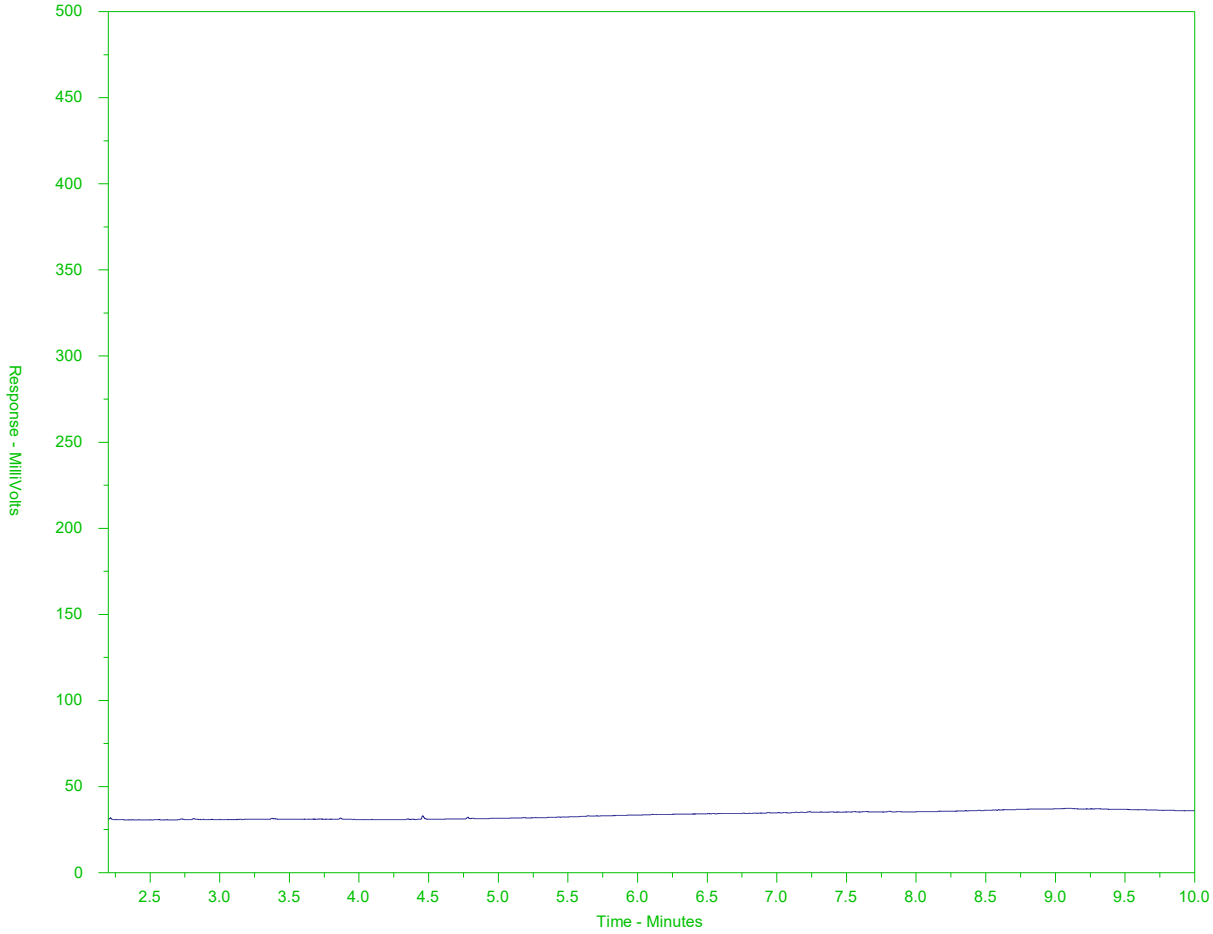
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

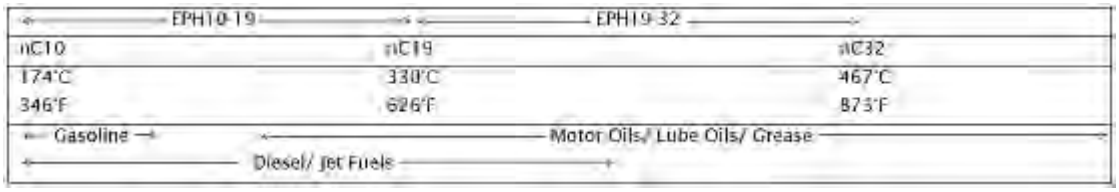
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-18
Client Sample ID: BH110M-02





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

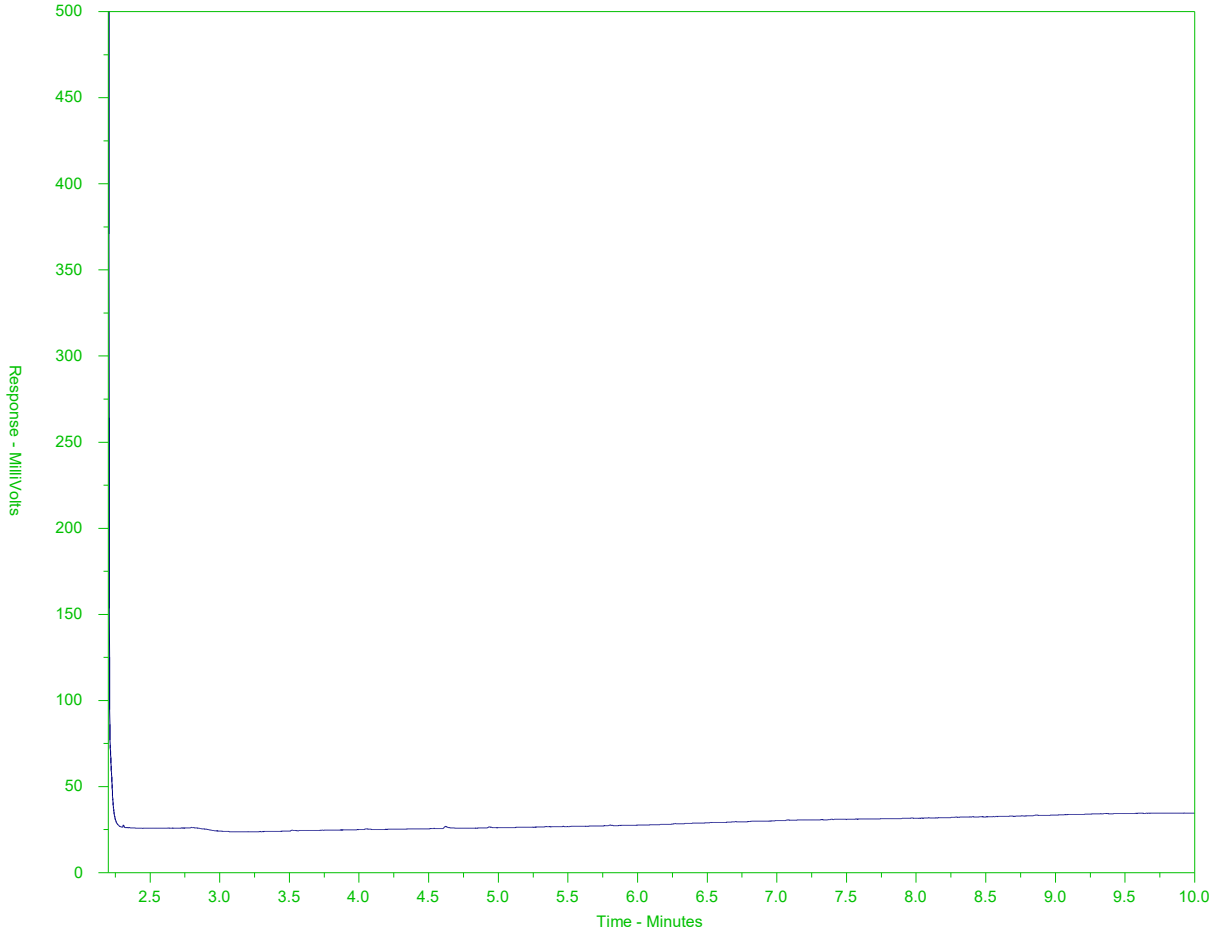
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

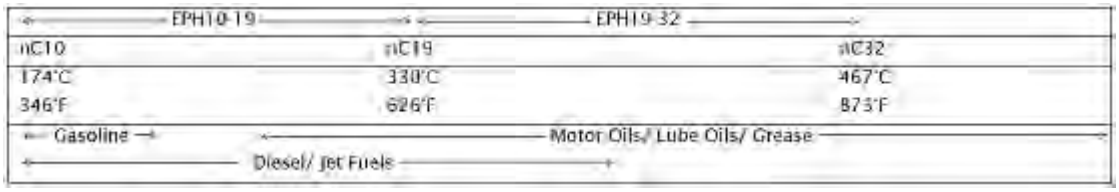
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-22
Client Sample ID: BH111-02





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

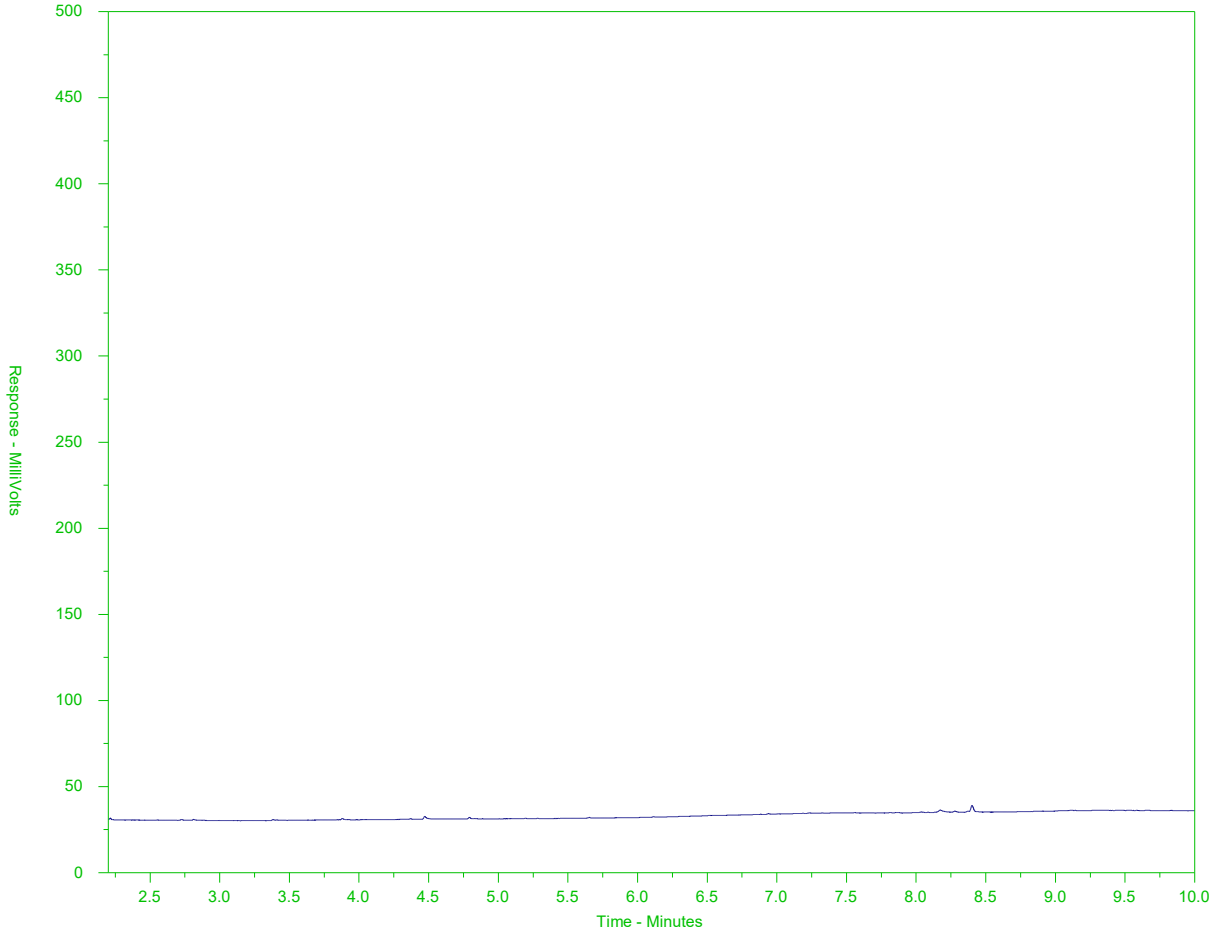
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-23
Client Sample ID: BH112-01



The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

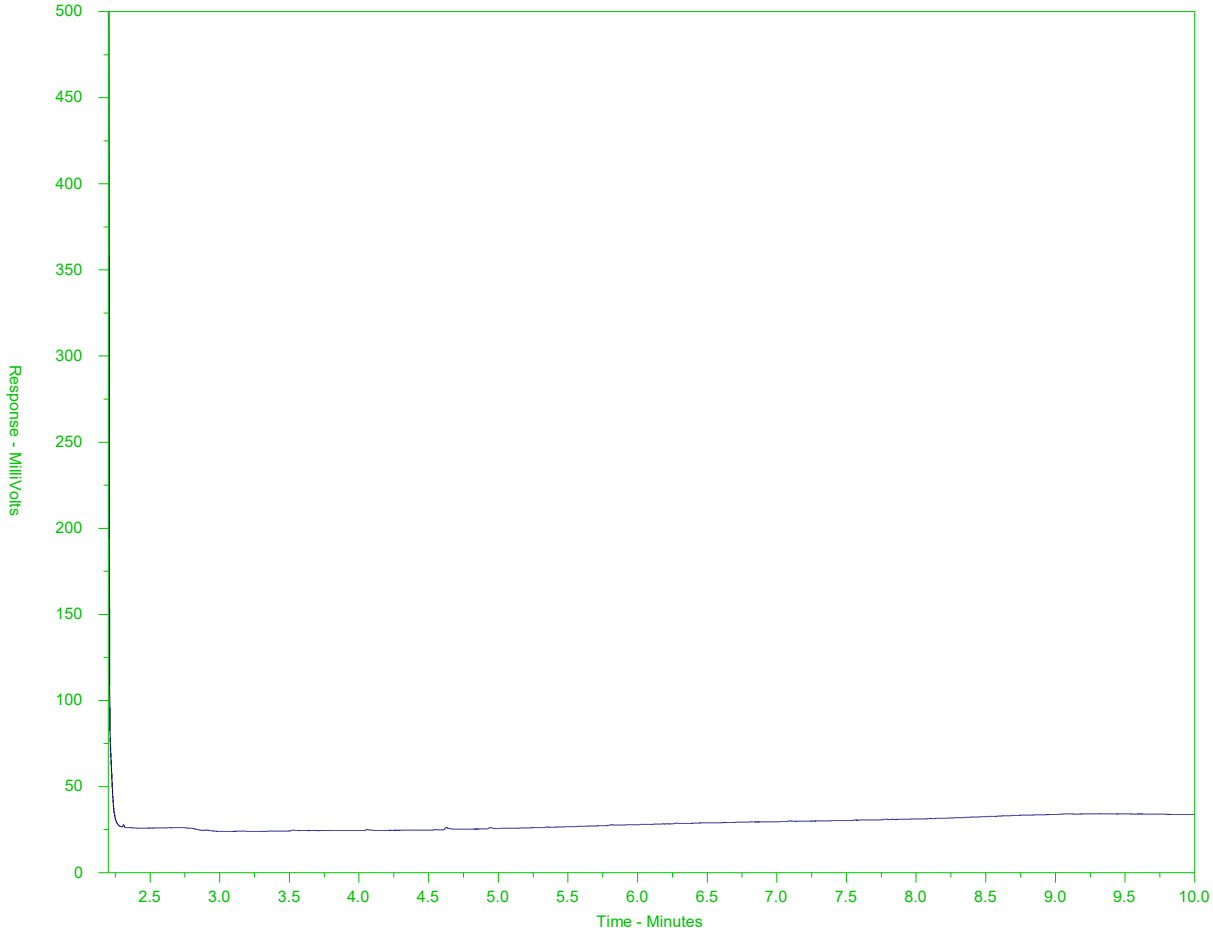
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

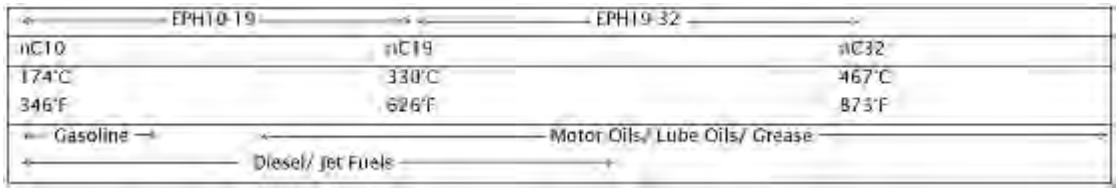
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-27
Client Sample ID: BH113-01





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

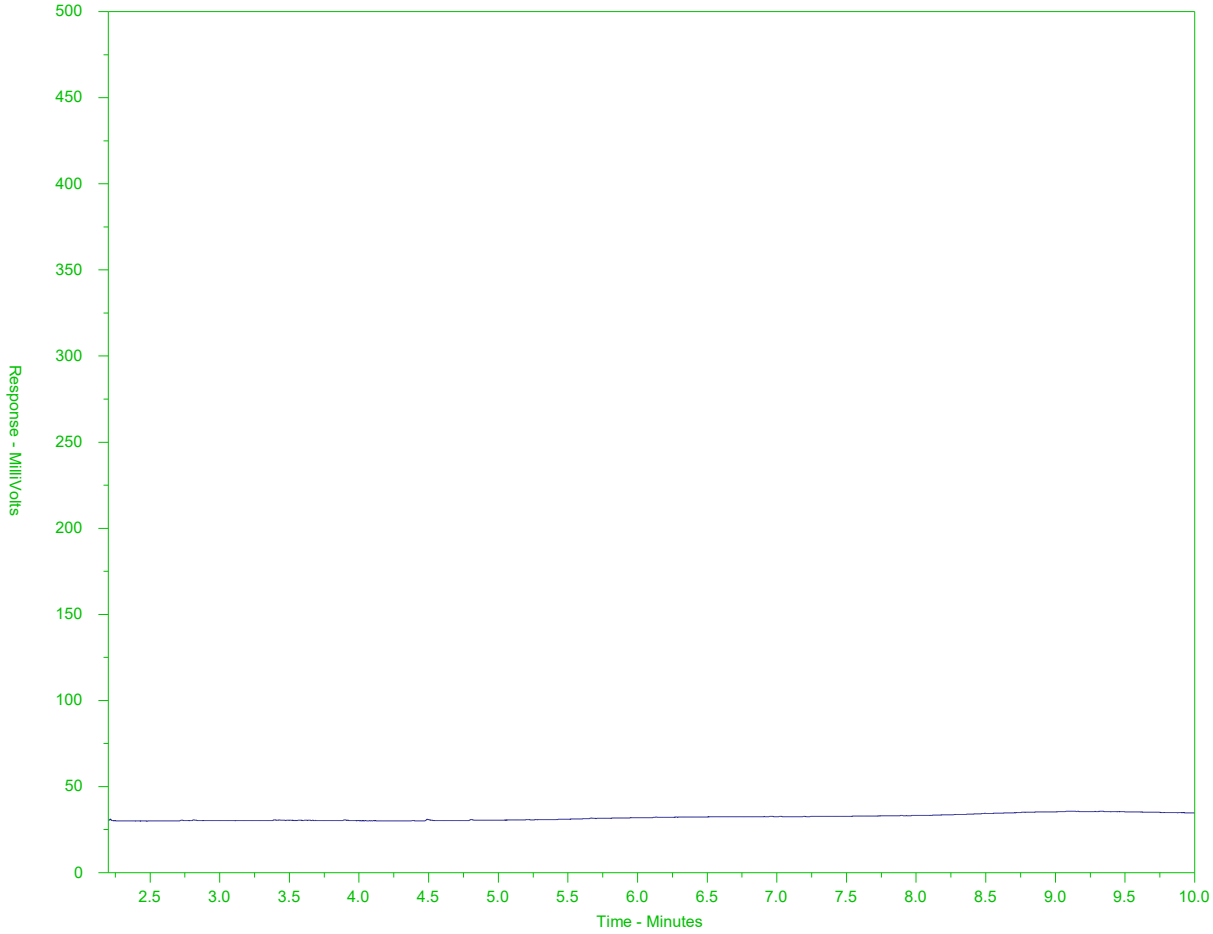
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

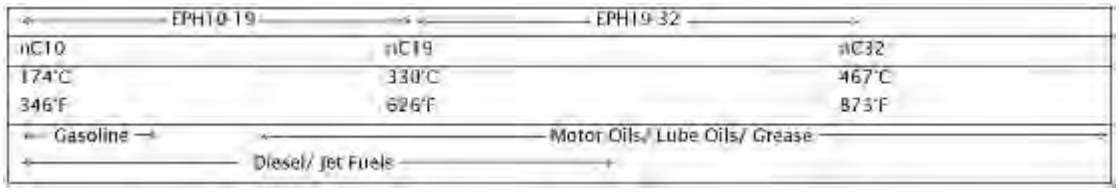
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-30
Client Sample ID: BH114-02





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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

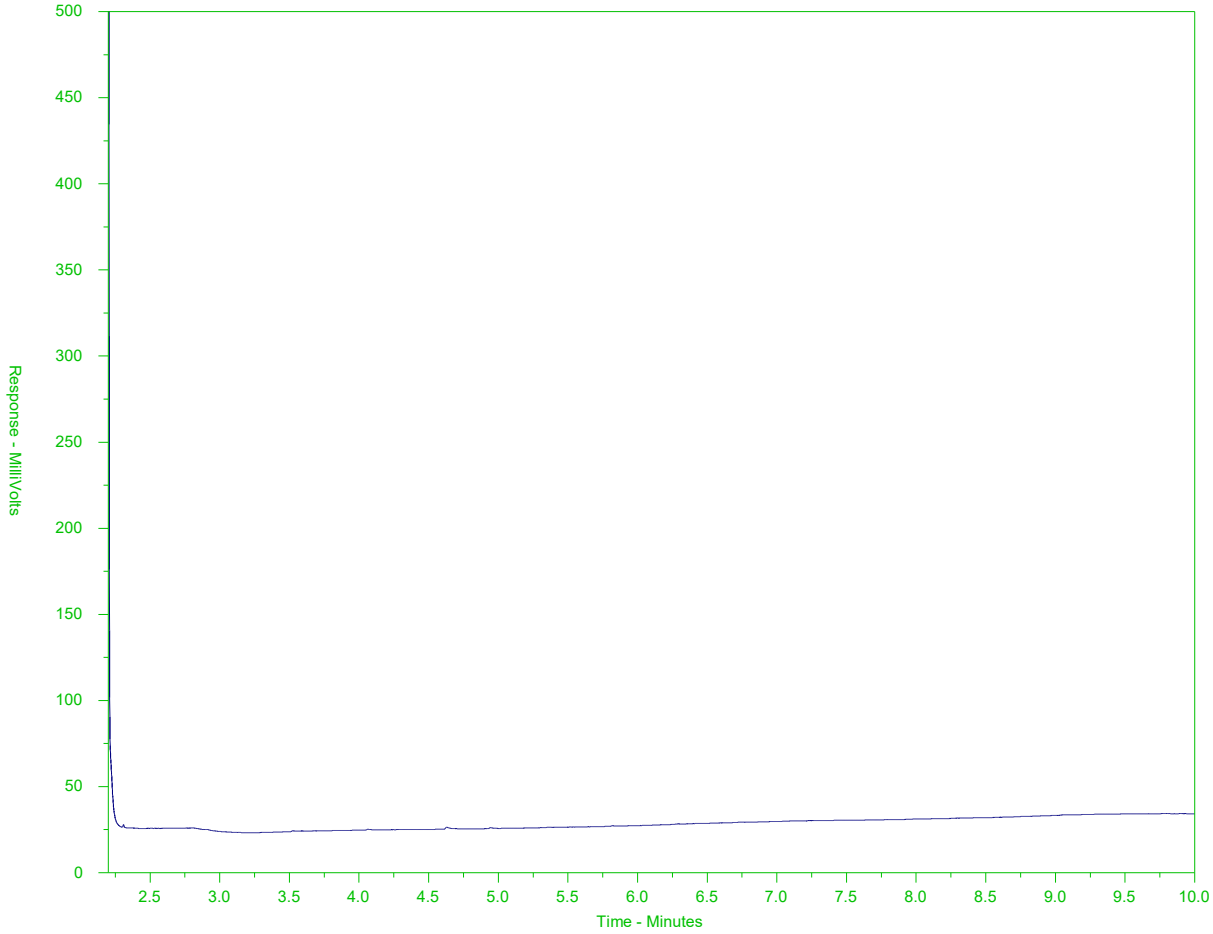
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

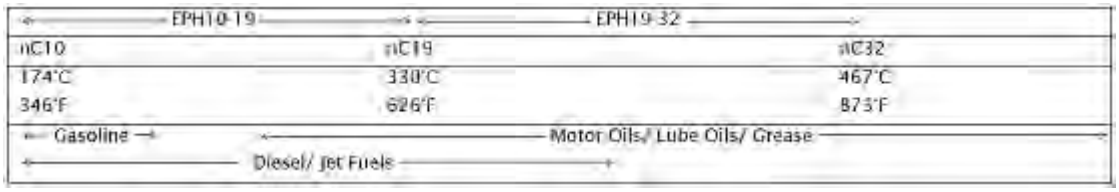
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-32
Client Sample ID: BH115-01





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

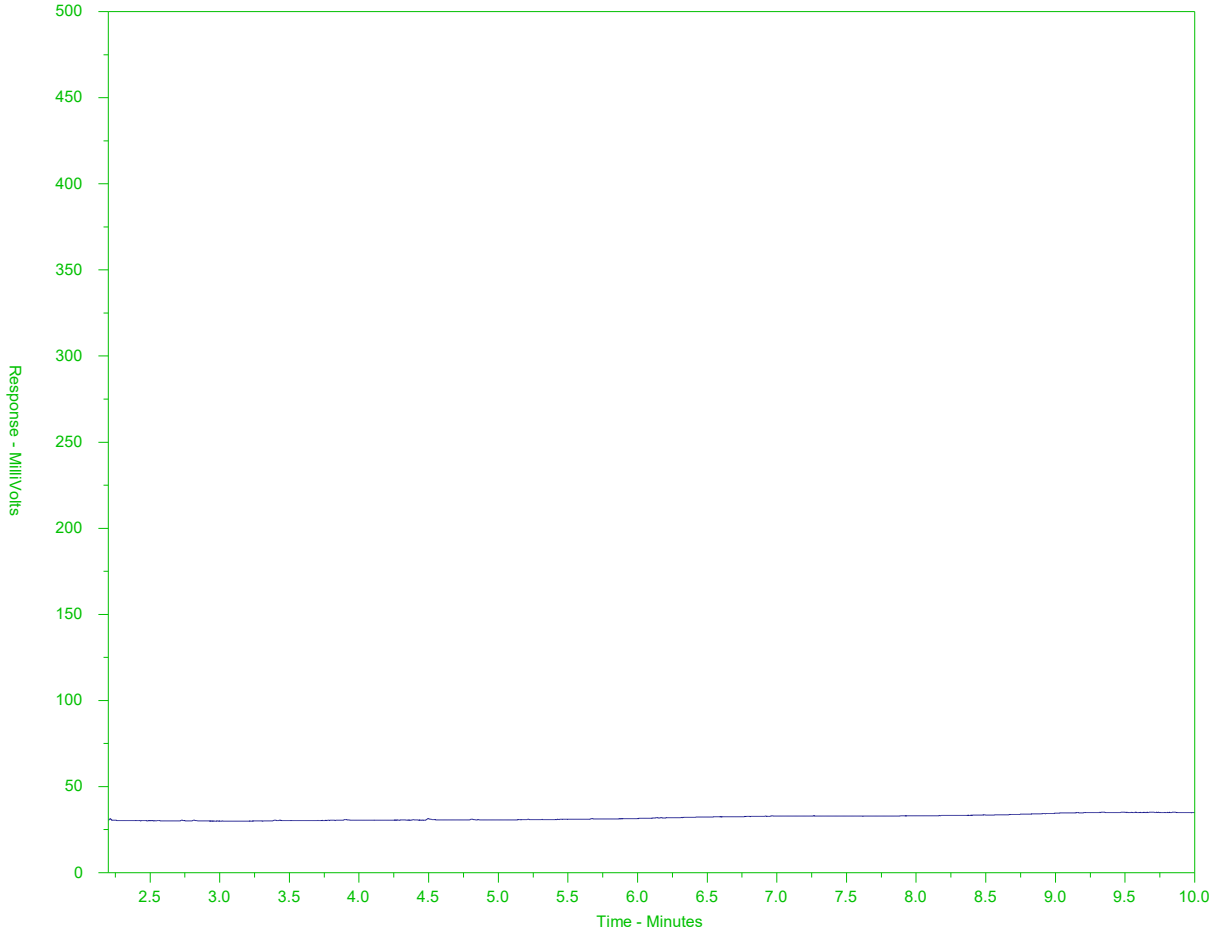
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

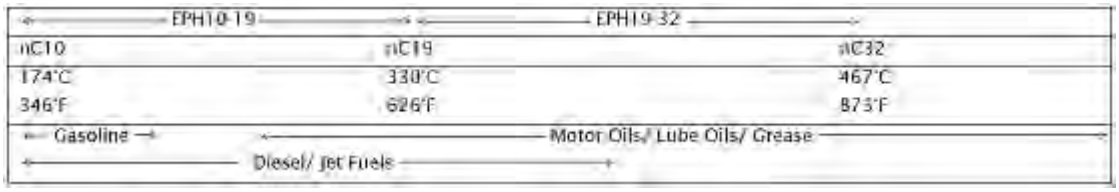
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-33
Client Sample ID: BH115-02





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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

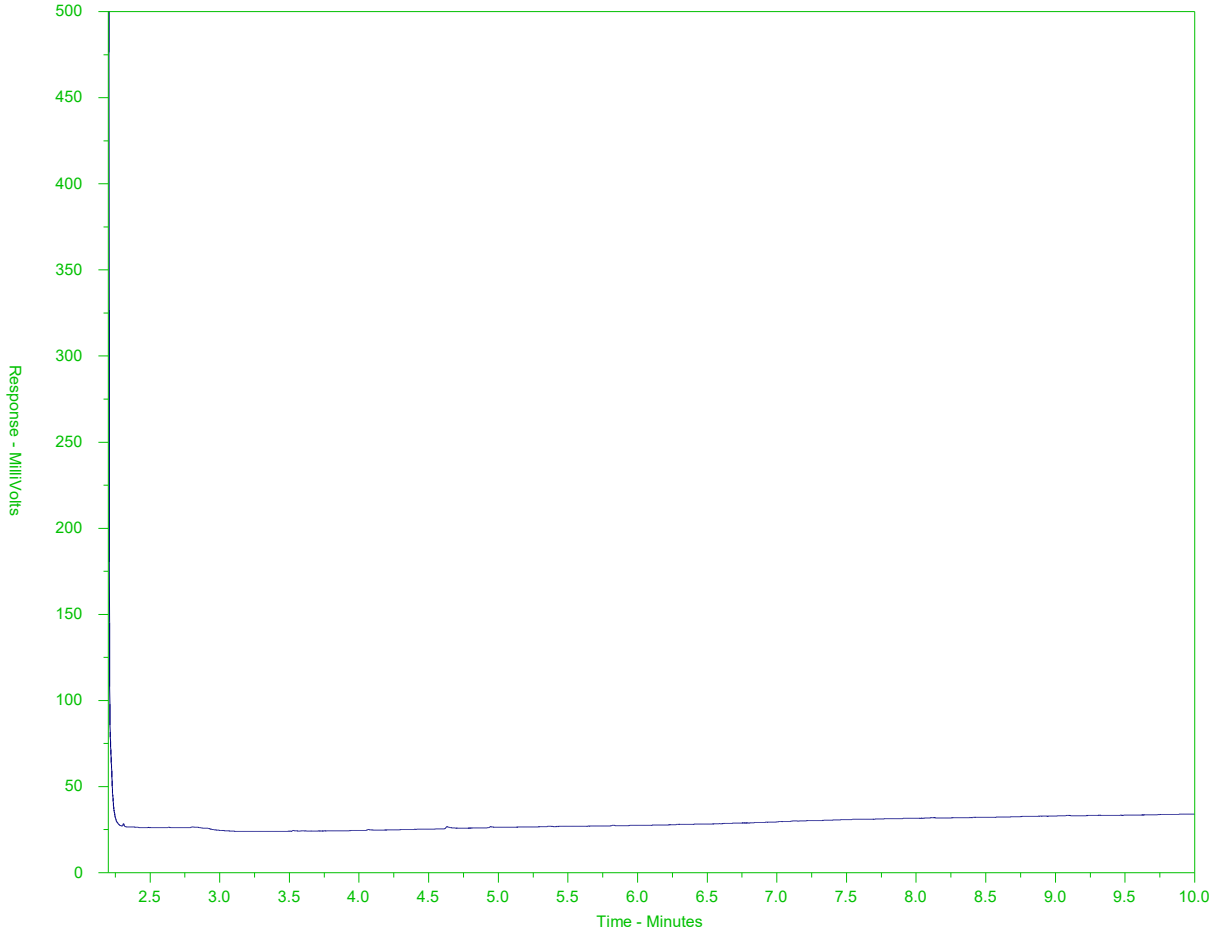
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

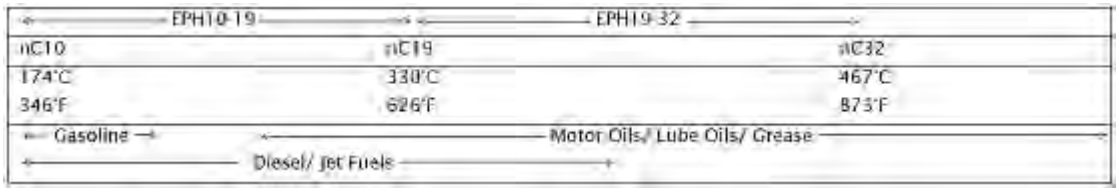
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-34
Client Sample ID: Z106





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

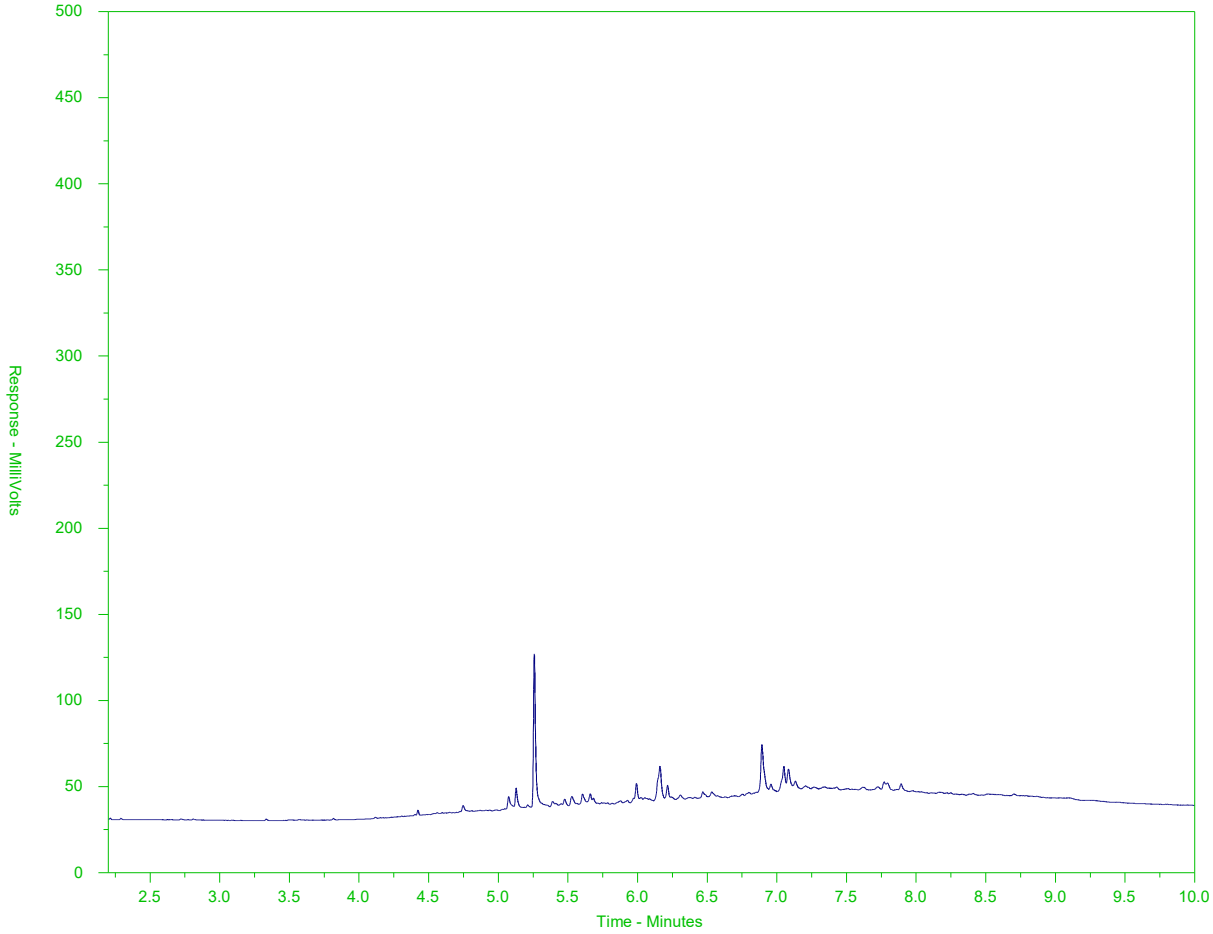
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

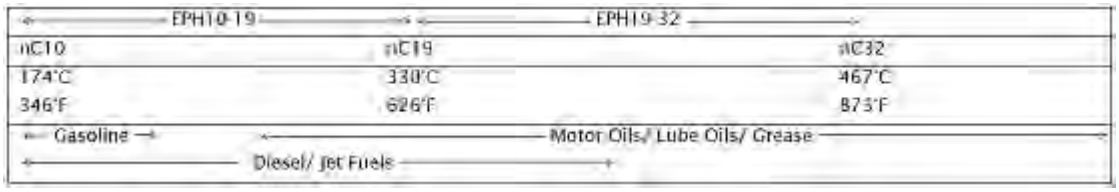
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-38
Client Sample ID: BH116-02





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

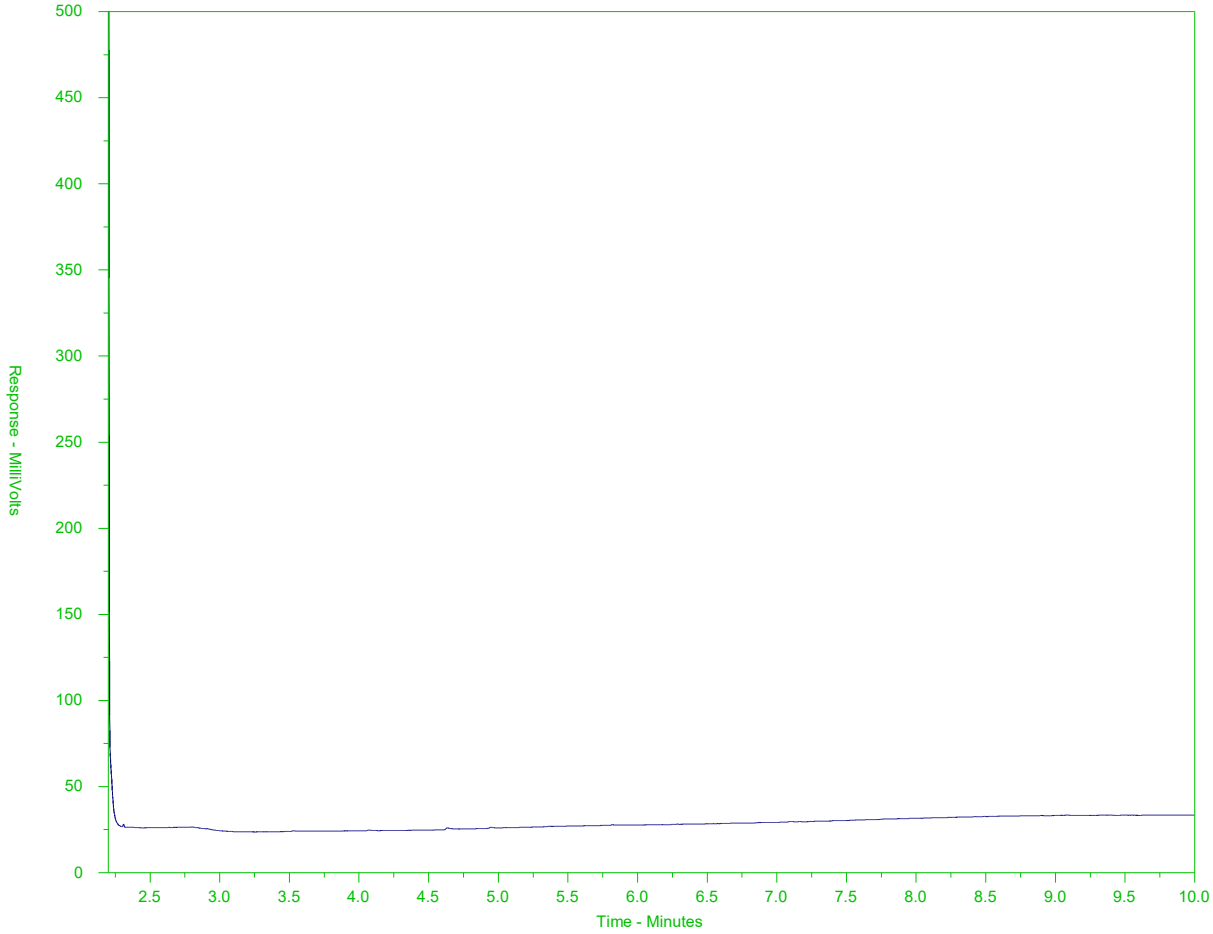
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

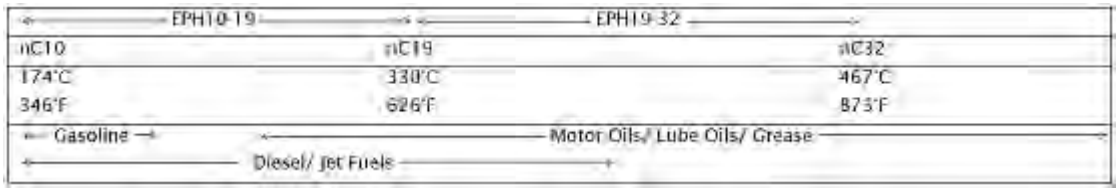
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-41
Client Sample ID: BH117-02





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

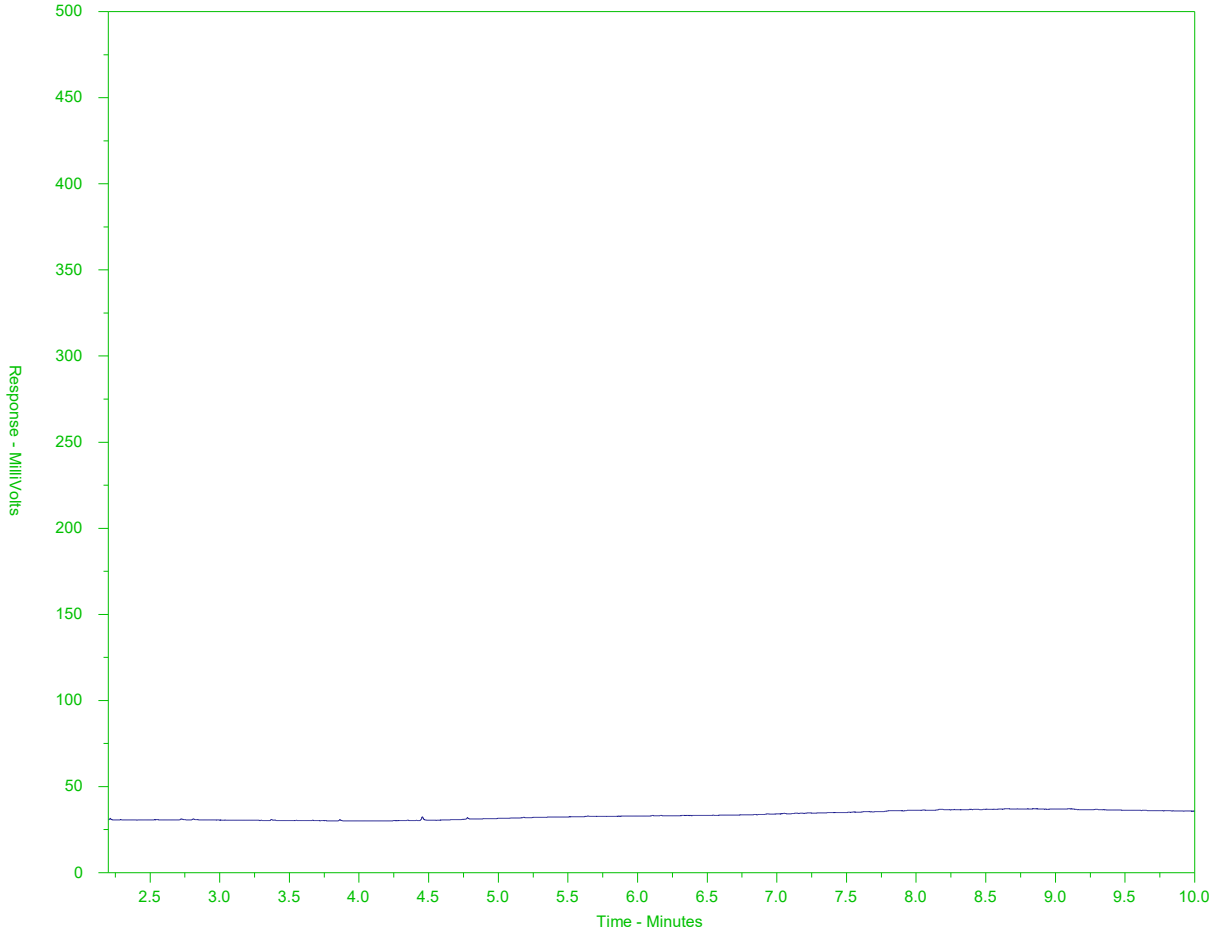
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

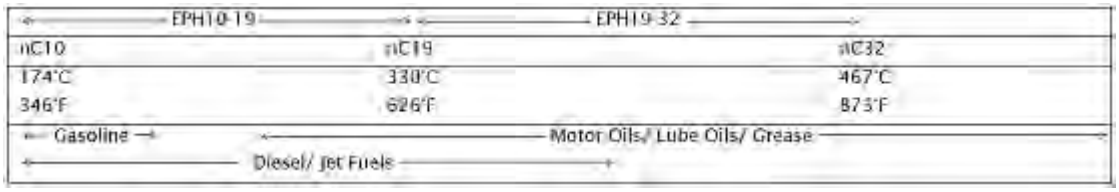
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-44
Client Sample ID: BH118-01





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

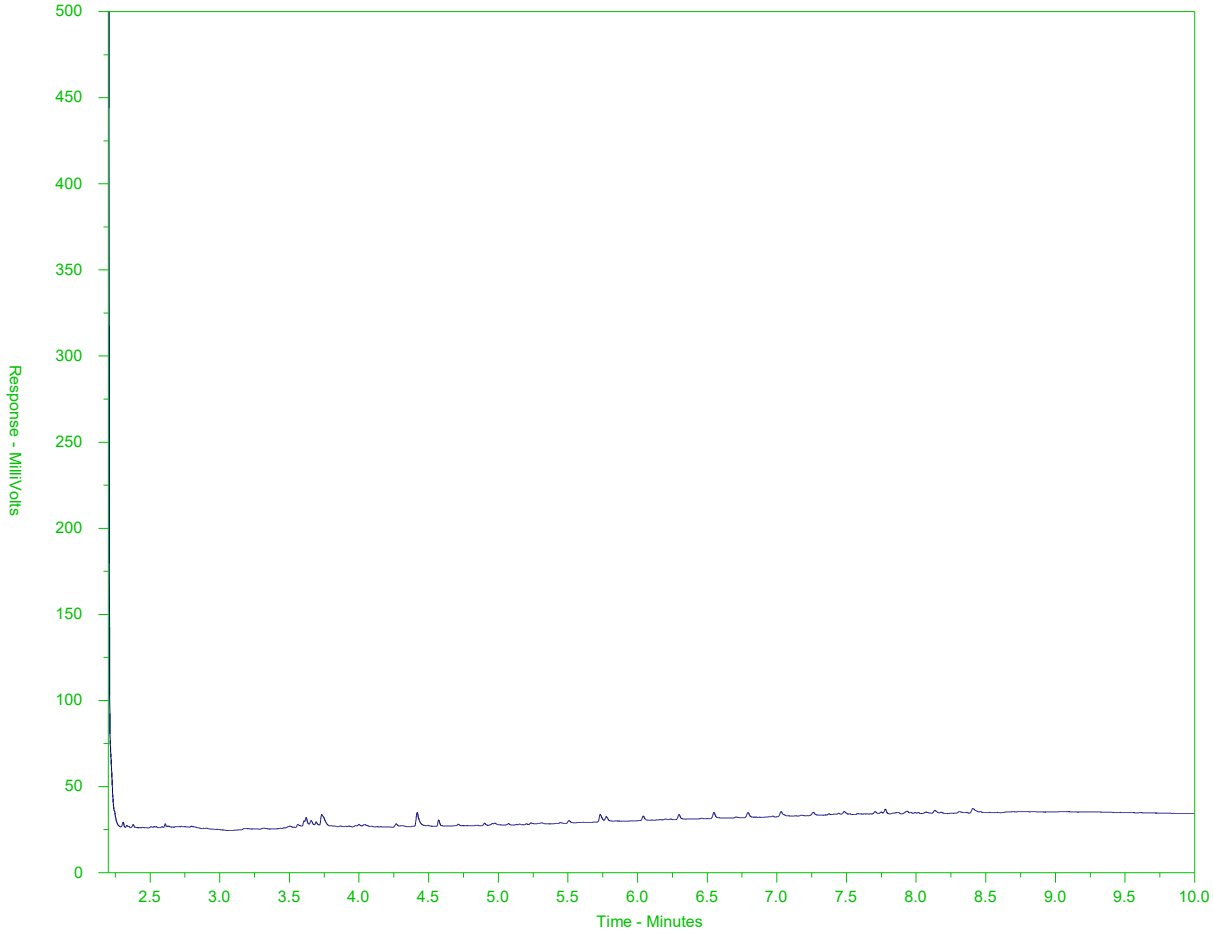
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

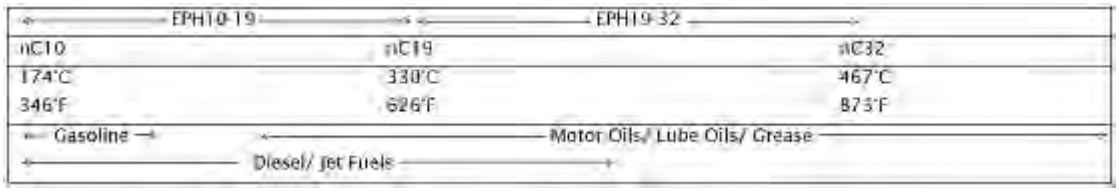
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-51
Client Sample ID: BH119M-03





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

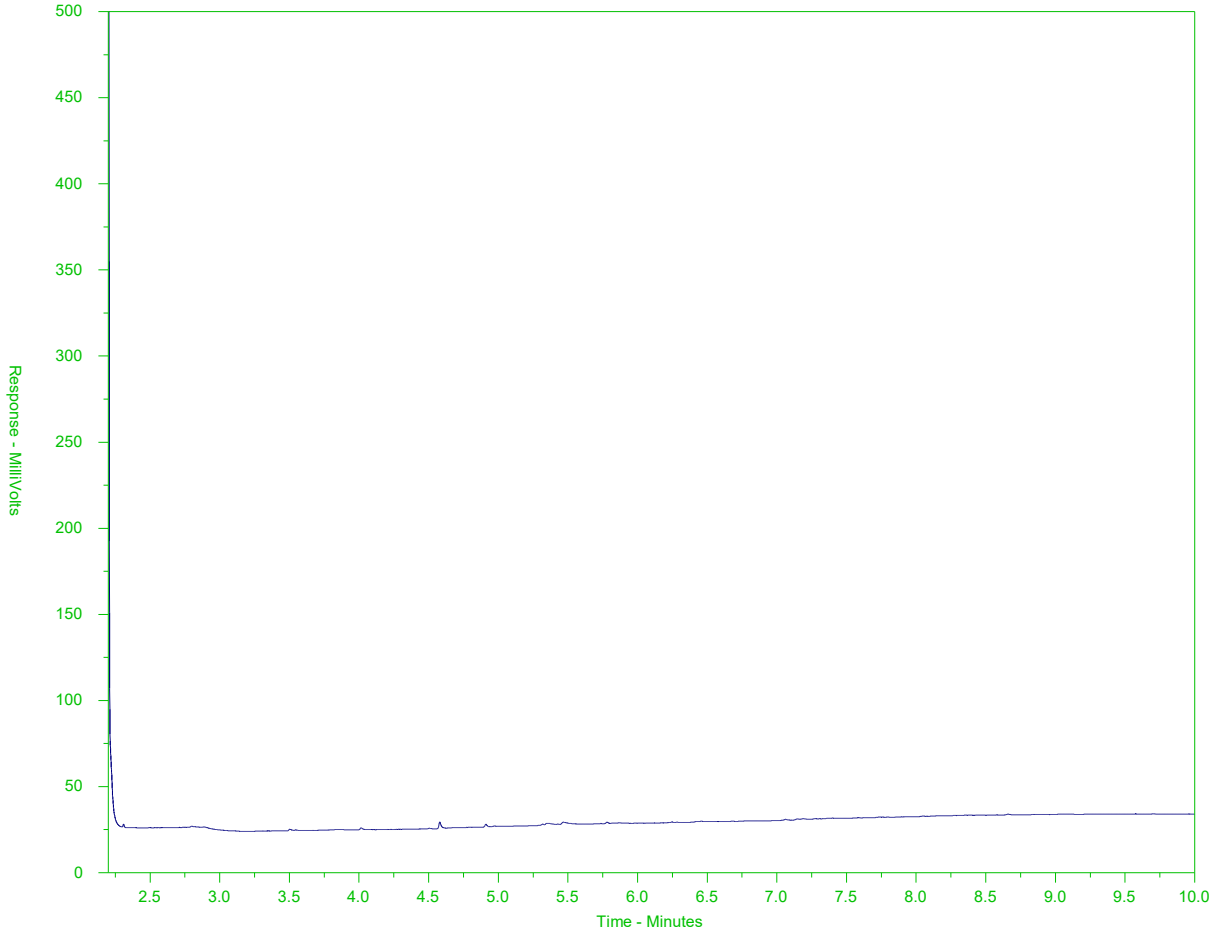
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

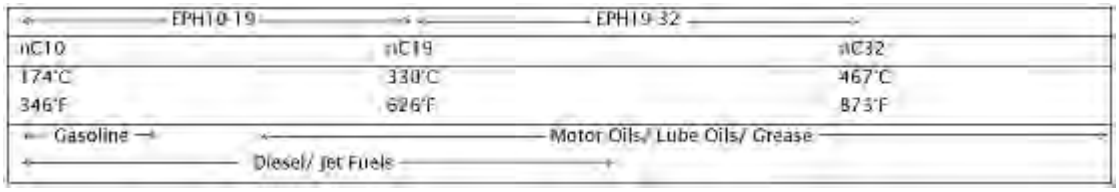
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-53
Client Sample ID: BH119M-05





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

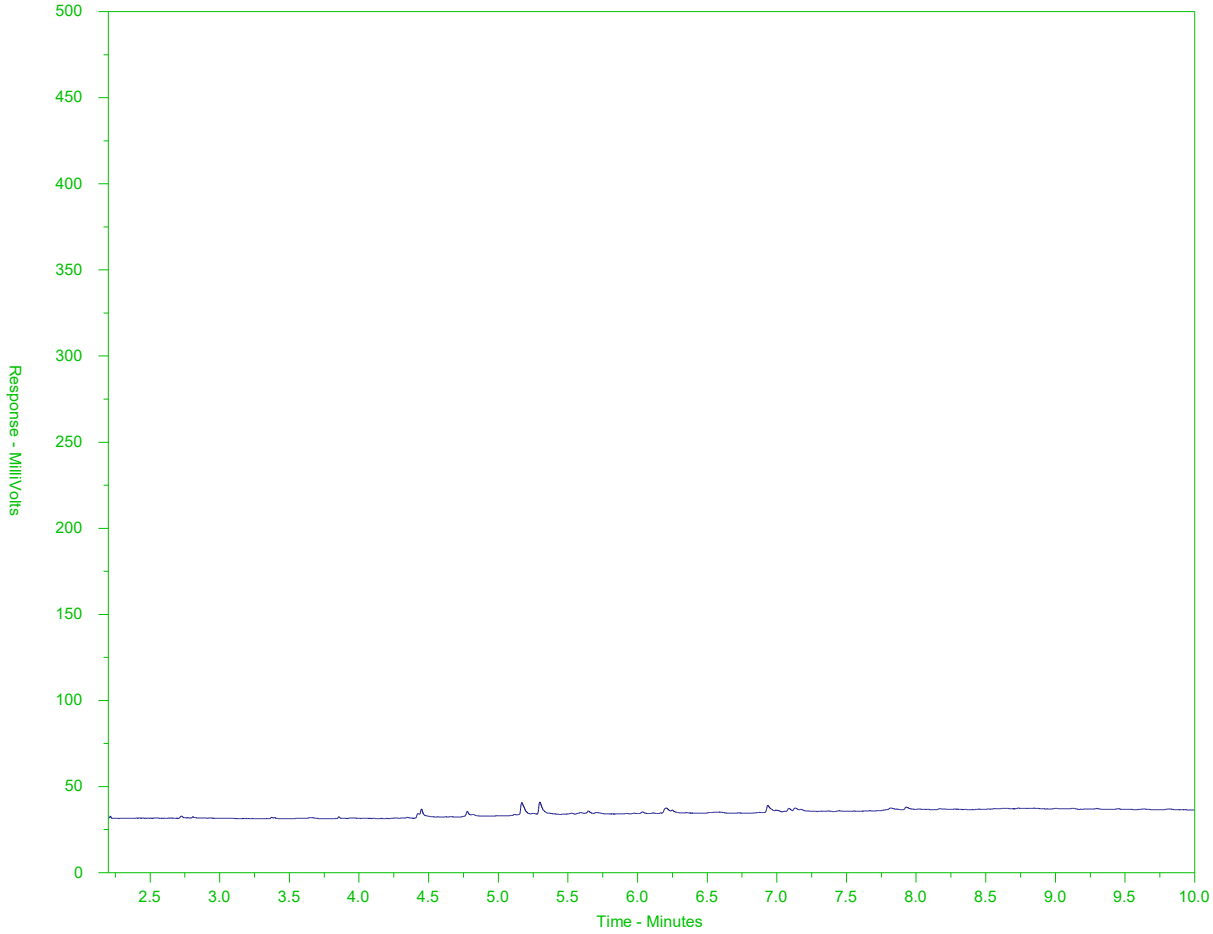
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

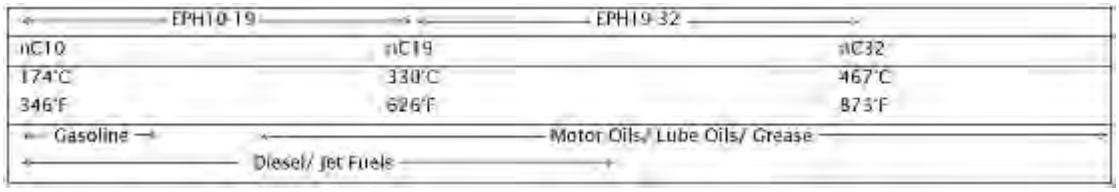
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WG2772963-3#L2091003-53
Client Sample ID: BH119M-05





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

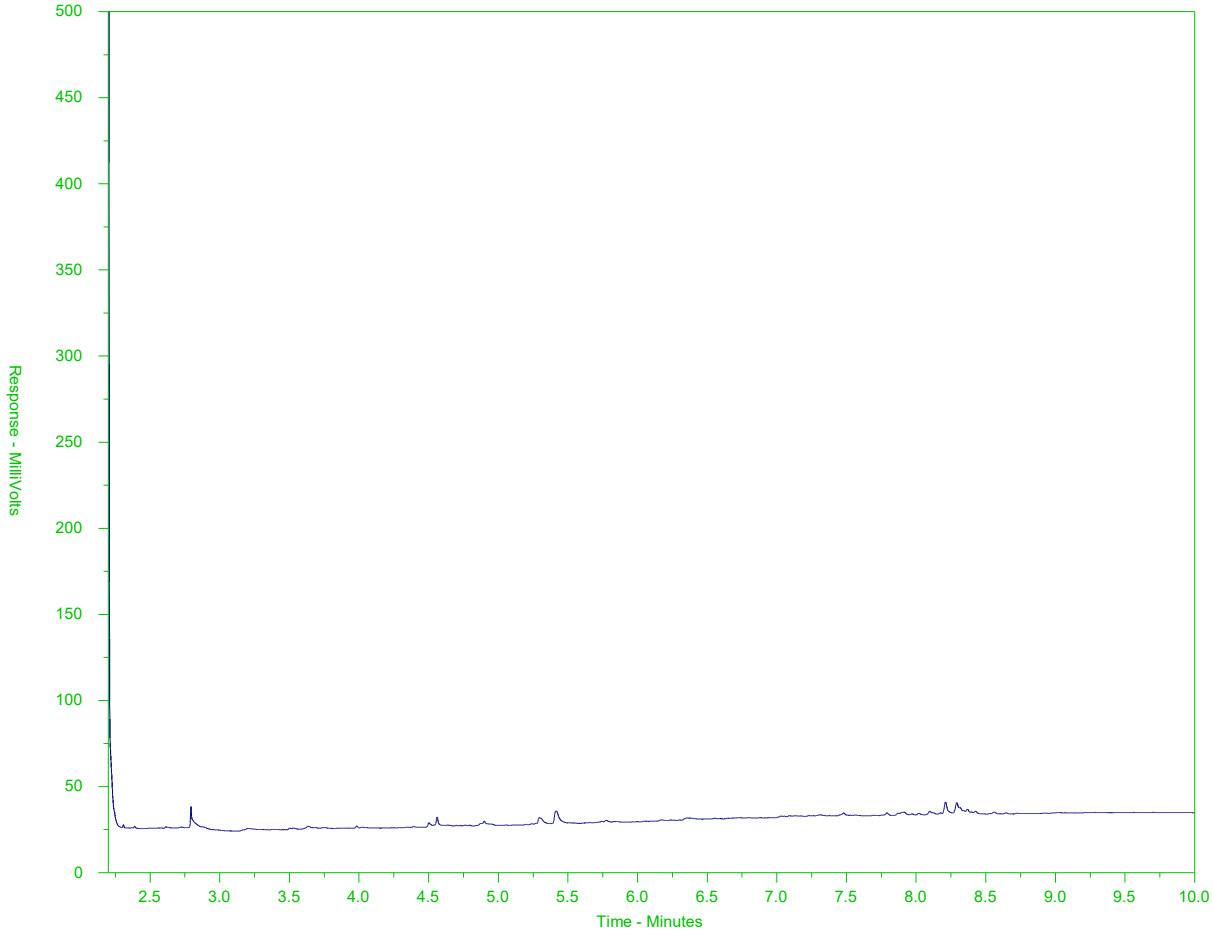
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-60
Client Sample ID: BH120M-06



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

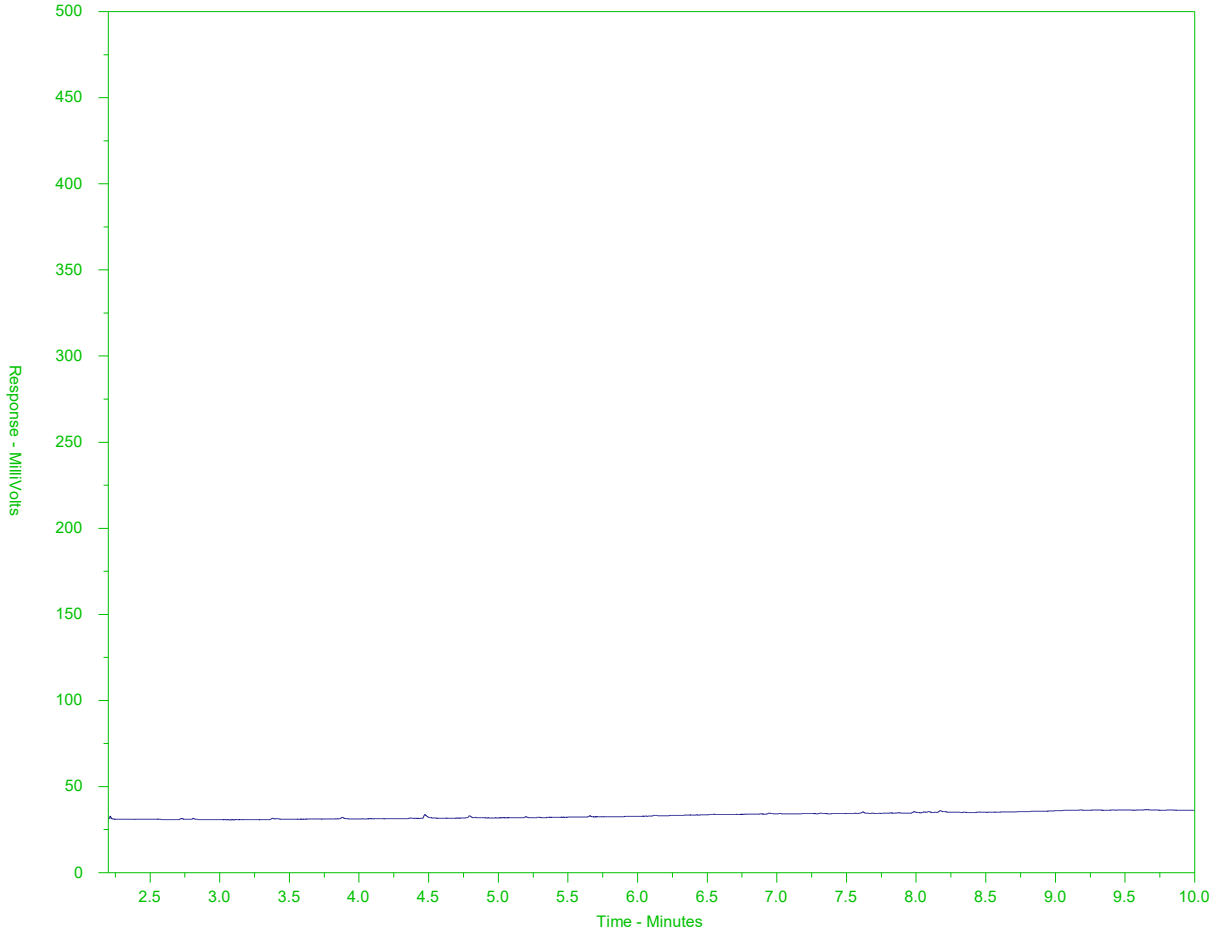
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

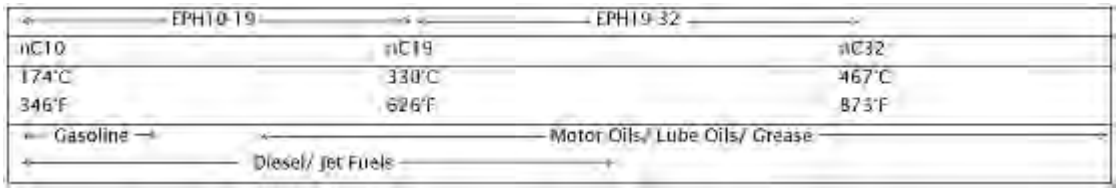
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091003-61
Client Sample ID: BH120M-07





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

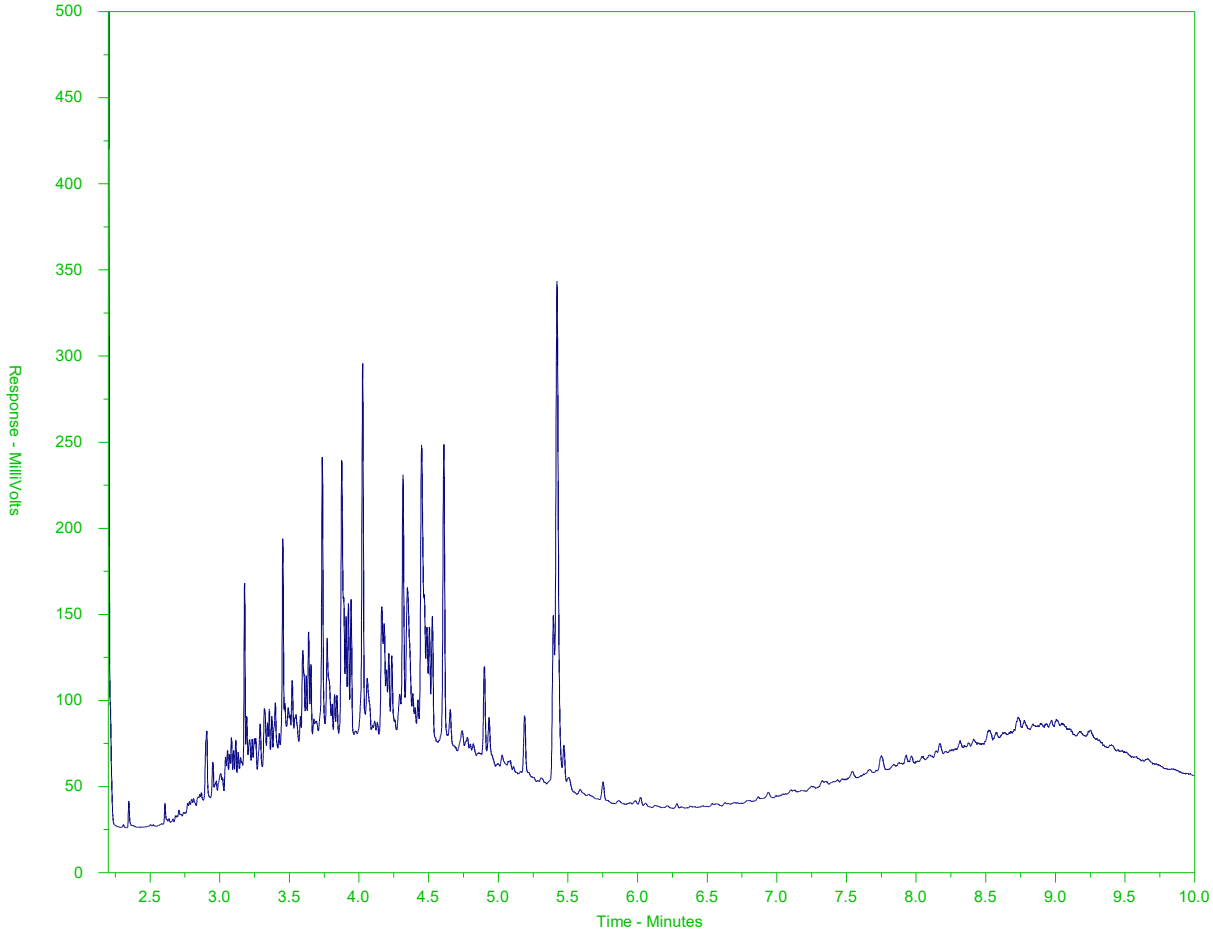
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

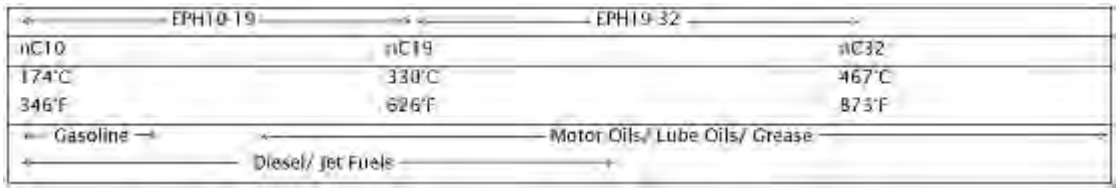
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WG2772963-4#L2091003-61
Client Sample ID: BH120M-07





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091003-COFC

COC Number: 17 - 686605

Report To	Contact and company name below will appear on the final report
Company:	PGL Environmental
Contact:	Zayed Mohamed
Phone:	604 682 3707
	Company address below will appear on the final report
Street:	1500-1185 W Georgia
City/Province:	Vancouver, BC
Postal Code:	

Report Form	
Select Report Format:	[X] PDF [ ] EXCEL [X] EDD (DIGITAL)
Quality Control (QC) Report with Report	[ ] YES [ ] NO
[ ] Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	[X] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	Zmohamed@pggroup.com
Email 2	sbar@pggroup.com
Email 3	arivers@pggroup.com

Invoice To	Same as Report To	[✓] YES [ ] NO
	Copy of Invoice with Report	[ ] YES [ ] NO
Company:		
Contact:		

Invoice Distribution	
Select Invoice Distribution:	[ ] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	
Email 2	

Project Information	
ALS Account # / Quote #:	Q66350
Job #:	5355-01.01
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: B. Mack

Sampler: A. Rivers

[illegible] below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] [X] Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days)		EMERGENCY	
	4 day [P4-20%] [ ]		1 Business day [E-100%] [ ]
	3 day [P3-25%] [ ]		Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] [ ]
	2 day [P2-50%] [ ]		

Date and Time Required for all E&P TATs: [illegible]

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH107-01	04-May-18		Soil			2
	BH107-02						2 4
	BH107-03						4
	BH107-04						2
	BH107-05						2 4
	Z105						4
	BH107-06						4
	BH107-07						2
	BH107-08						2
	BH108-01						4
	BH108-02						4
	BH108-03						4

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? [ ] YES [ ] NO

Are samples for human consumption/ use? [ ] YES [ ] NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Analysis to be sent via email

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen [ ] SIF Observations Yes [ ] No [ ]

Ice Packs [ ] Ice Cubes [ ] Custody seal intact Yes [ ] No [ ]

Cooling Initiated [ ]

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
			15				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: [signature]	Date: May 8/18	Time: 11:30	Received by:	Date:	Time:	Received by: HA	Date: 5/8	Time: 1:30p

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091003-COFC

COC Number: 17 - 686606

Report To	Contact and company name below will appear on the final report
Company:	PGL Environmental
Contact:	Zayed Mohamed
Phone:	
Company address below will appear on the final report	
Street:	
City/Province:	
Postal Code:	

Report Format	
Select Report Format:	☐ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	See P1
Email 3	

...ow - Contact your AM to confirm all E&P TATs (surcharges may apply)			
Regular [R]	☐ Standard TAT if received by 3 pm - business days - no surcharges apply		
PRIORITY (Business Days)	4 day [P4-20%] ☐	EMERGENCY	1 Business day [E-100%] ☐
	3 day [P3-25%] ☐		Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐
	2 day [P2-50%] ☐		
Date and Time Required for all E&P TATs:			
For tests that can not be performed according to the service level selected, you will be contacted.			

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Distribution	
Select Invoice Distribution:	☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	

Project Information	
ALS Account # / Quote #:	
Job #:	5356-01.01
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: B. Mack

Sampler: A. Rivers

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH109-01	04-May-18		Soil			4
	BH109-02	↓		↓			4
	BH109-03						4
	BH109-04						4
	BH110M-01	7 May 18					2
	BH110M-02						2
	BH110M-03						4
	BH110M-04						4
	BH111-01						4
	BH111-02						4
	BH112-01						4
	BH112-02						4

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐	SIF Observations	Yes ☐	No ☐
Ice Packs ☐ Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated ☐			

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
			15				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date: May 8/18	Time: 11:30	Received by:	Date:	Time:	Received by: HA	Date: 5/8	Time: 1:30p

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091003-COFC

COC Number: 17 - 686604

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	...low - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	FOL Environmental	Select Report Format: ☐ PDF ☐ EXCEL ☐ EDD (DIGITAL)	Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Zayed Morameed	Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐
Phone:		☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	
Street:		Email 1 or Fax	Date and Time Required for all E&P TATs:
City/Province:		Email 2 See P. 1	For tests that can not be performed according to the service level selected, you will be contacted.
Postal Code:		Email 3	

Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax
Contact:		Email 2

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #: 5355-01.01		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH112-03	07 May 18		Soil			4
	BH112-04						4
	BH113-01						4
	BH113-02						4
	BH114-01						4
	BH114-02						4
	BH114-03						4
	BH115-01						4
	BH115-02						4
	~~BH115-03~~ Z106						4
	BH115-03						4
	BH115-04						2

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
			15				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	May 8/18	11:30				HA	5/8	1:30P

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091003-COFC

COC Number: 17 - 686602

Report To	Contact and company name below will appear on the final report
Company:	PGL
Contact:	Zayed Mohamed
Phone:	
Company address below will appear on the final report	
Street:	
City/Province:	
Postal Code:	

Report Format / Distribution	
Select Report Format:	☐ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	See P1
Email 3	

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days)		EMERGENCY	
4 day [P4-20%]	☐	1 Business day [E-100%]	☐
3 day [P3-25%]	☐	Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)]	☐
2 day [P2-50%]	☐		

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Distribution	
Select Invoice Distribution:	☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	

Project Information	
ALS Account # / Quote #:	
Job #:	5355-01.01
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): ALS Contact: Sampler:

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH116-01	07-May-18		Soil			4
	BH116-02						4
	BH116-03						4
	BH117-01						4
	BH117-02						4
	BH117-03 > BH117-04						4
	BH118-01						4
	~~BH118-02~~ Z107						4
	BH118-02						4
	BH118-03						4
	~~BH119M-01~~ BH118-04						4
	BH119M-02						2

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
			15				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	May 8/18	11:30				HA	5/8	1:30p

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091003-COFC

COC Number: 17 - 686610

Report To	Contact and company name below will appear on the final report
Company:	PGL Environmental
Contact:	Zayed Mohamed
Phone:	
Company address below will appear on the final report	
Street:	
City/Province:	
Postal Code:	

Report Format

Select Report Format: ☐ PDF ☐ EXCEL | | EDD (DIGITAL)
Quality Control (QC) Report with Report ☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☐ EMAIL | | MAIL ☐ FAX
Email 1 or Fax
Email 2 See p 1
Email 3

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the service level selected, you will be contacted.

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Distribution

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax
Email 2

Project Information

ALS Account # / Quote #:
Job #: 5355-01.01
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#
Major/Minor Code: Routing Code:
Requisitioner:
Location:

ALS Lab Work Order # (lab use only): ALS Contact: Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH119M-02	7 May 18		Soil			2
	BH119M-03						2
	BH119M-04						2
	BH119M-05						4
	BH119M-06						2
	BH120M-01	8 May 18					2
	BH120M-02						2
	BH120M-03						4
	BH120M-04						4
	BH120M-05						4
	BH120M-06						4
	BH120M-07						2

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO
Are samples for human consumption/ use? | | YES | | NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
			15				

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	May 8/18	1130				HA	5/8	1230p

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Pottinger Gaherty Environmental Consultants (PGL)
ATTN: Zayed Mohamed
1500 - 1185 West Georgia Street
Vancouver BC V6E 4E6

Date Received: 09-MAY-18
Report Date: 21-JUN-18 12:04 (MT)
Version: FINAL REV. 2

Client Phone: 604-682-3707

Certificate of Analysis

Lab Work Order #: L2091973

Project P.O. #:	NOT SUBMITTED
Job Reference:	5355-01.01
C of C Numbers:	1, 2, 3, 4
Legal Site Desc:	

Comments:

21-JUN-2018 This report replaces the previous version and contains additional analyses, as requested.

Brent Mack, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-1	L2091973-2	L2091973-3	L2091973-4	L2091973-5
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-01	BH121M-02	BH121M-03	BH121M-04	Z108
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	20.5		9.37		
	pH (1:2 soil:water) (pH)	7.90	8.30		7.48	7.58
Metals	Aluminum (Al) (mg/kg)	31200	10700		13400	13100
	Antimony (Sb) (mg/kg)	1.01	0.41		2.12	2.65
	Arsenic (As) (mg/kg)	22.8	2.17		4.53	3.79
	Barium (Ba) (mg/kg)	429	73.2		90.7	85.8
	Beryllium (Be) (mg/kg)	1.23	0.13		0.25	0.25
	Boron (B) (mg/kg)	57.9	<5.0		9.0	8.7
	Cadmium (Cd) (mg/kg)	0.211	0.071		0.155	0.138
	Chromium (Cr) (mg/kg)	22.5	12.3		18.3	19.1
	Cobalt (Co) (mg/kg)	9.52	5.16		5.45	5.03
	Copper (Cu) (mg/kg)	41.9	16.4		52.9	51.4
	Iron (Fe) (mg/kg)	39200	15700		19100	15500
	Lead (Pb) (mg/kg)	24.0	17.0		250	237
	Lithium (Li) (mg/kg)	15.2	5.0		8.0	7.6
	Manganese (Mn) (mg/kg)	548	212		177	152
	Mercury (Hg) (mg/kg)	0.0481	0.0166		0.149	0.148
	Molybdenum (Mo) (mg/kg)	1.11	0.25		1.23	0.67
	Nickel (Ni) (mg/kg)	28.7	9.56		17.9	17.6
	Selenium (Se) (mg/kg)	0.23	<0.20		0.35	0.47
	Silver (Ag) (mg/kg)	0.13	<0.10		0.35	0.35
	Strontium (Sr) (mg/kg)	249	38.0		91.8	83.3
	Thallium (Tl) (mg/kg)	0.103	<0.050		0.076	0.064
	Tin (Sn) (mg/kg)	<2.0	2.7		28.6	20.8
	Tungsten (W) (mg/kg)	<0.50	<0.50		<0.50	<0.50
	Uranium (U) (mg/kg)	1.21	0.335		0.592	0.624
	Vanadium (V) (mg/kg)	80.9	47.7		47.1	44.7
	Zinc (Zn) (mg/kg)	130	51.5		166	158
TCLP Metals	1st Preliminary pH (pH)				7.98	
	2nd Preliminary pH (pH)				1.61	
	Final pH (pH)				4.99	
	Extraction Solution Initial pH (pH)				4.93	
	Antimony (Sb)-Leachable (mg/L)				<1.0	
	Arsenic (As)-Leachable (mg/L)				<1.0	
	Barium (Ba)-Leachable (mg/L)				<2.5	
	Beryllium (Be)-Leachable (mg/L)				<0.025	
	Boron (B)-Leachable (mg/L)				<0.50	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-6	L2091973-7	L2091973-8	L2091973-11	L2091973-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-05	BH121M-06	BH122M-01	BH122M-04	BH122M-06
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)				11.7	
	pH (1:2 soil:water) (pH)	8.04	8.22	7.95	7.19	7.23
Metals	Aluminum (Al) (mg/kg)	14300	21100	12700	10600	10600
	Antimony (Sb) (mg/kg)	5.59	0.53	0.71	0.16	0.10
	Arsenic (As) (mg/kg)	8.29	9.51	2.90	1.69	1.48
	Barium (Ba) (mg/kg)	185	65.4	82.0	46.5	44.0
	Beryllium (Be) (mg/kg)	0.28	0.51	0.19	0.14	0.12
	Boron (B) (mg/kg)	26.0	20.9	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.148	0.607	0.122	0.043	0.040
	Chromium (Cr) (mg/kg)	18.3	41.4	17.4	11.4	12.8
	Cobalt (Co) (mg/kg)	7.14	13.6	5.92	4.70	4.61
	Copper (Cu) (mg/kg)	100	40.6	29.3	12.4	12.3
	Iron (Fe) (mg/kg)	22700	34000	17500	14900	15300
	Lead (Pb) (mg/kg)	275	11.9	32.3	2.68	1.75
	Lithium (Li) (mg/kg)	8.0	23.4	6.2	4.6	4.3
	Manganese (Mn) (mg/kg)	298	386	266	224	181
	Mercury (Hg) (mg/kg)	0.0582	0.0601	0.0395	0.0097	0.0083
	Molybdenum (Mo) (mg/kg)	1.06	7.38	0.45	0.23	0.16
	Nickel (Ni) (mg/kg)	24.3	43.1	13.3	8.50	8.74
	Selenium (Se) (mg/kg)	<0.20	0.81	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	0.38	0.20	<0.10	<0.10	<0.10
	Strontium (Sr) (mg/kg)	146	54.8	42.3	34.5	27.5
	Thallium (Tl) (mg/kg)	<0.050	0.208	0.052	<0.050	<0.050
	Tin (Sn) (mg/kg)	94.7	<2.0	5.0	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.564	4.20	0.424	0.320	0.287
	Vanadium (V) (mg/kg)	49.5	68.1	50.4	43.5	47.4
	Zinc (Zn) (mg/kg)	172	78.1	58.0	26.0	24.1
TCLP Metals	1st Preliminary pH (pH)					
	2nd Preliminary pH (pH)					
	Final pH (pH)					
	Extraction Solution Initial pH (pH)					
	Antimony (Sb)-Leachable (mg/L)					
	Arsenic (As)-Leachable (mg/L)					
	Barium (Ba)-Leachable (mg/L)					
	Beryllium (Be)-Leachable (mg/L)					
	Boron (B)-Leachable (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-14	L2091973-15	L2091973-17	L2091973-19	L2091973-20
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH123M-01	BH123M-02	BH123M-04	BH124M-01	BH124M-02
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		8.04			8.25
	pH (1:2 soil:water) (pH)	7.27	8.03	8.19	7.89	7.81
Metals	Aluminum (Al) (mg/kg)	16200	9230	14100	11400	12200
	Antimony (Sb) (mg/kg)	0.63	0.47	0.36	0.14	0.17
	Arsenic (As) (mg/kg)	3.61	3.11	6.69	2.07	2.15
	Barium (Ba) (mg/kg)	53.2	49.8	52.4	53.4	54.1
	Beryllium (Be) (mg/kg)	0.22	0.15	0.31	0.15	0.15
	Boron (B) (mg/kg)	<5.0	<5.0	8.8	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.166	0.261	0.273	0.049	0.045
	Chromium (Cr) (mg/kg)	19.0	10.4	26.1	11.9	12.3
	Cobalt (Co) (mg/kg)	7.92	5.33	8.81	5.79	5.44
	Copper (Cu) (mg/kg)	26.6	15.3	27.7	14.2	15.6
	Iron (Fe) (mg/kg)	21500	14100	25200	16800	17000
	Lead (Pb) (mg/kg)	18.8	21.0	12.5	3.34	3.06
	Lithium (Li) (mg/kg)	12.8	7.9	14.4	5.0	5.1
	Manganese (Mn) (mg/kg)	300	275	272	246	253
	Mercury (Hg) (mg/kg)	0.0203	0.0199	0.0954	0.0098	0.0100
	Molybdenum (Mo) (mg/kg)	0.90	0.32	3.87	0.22	0.39
	Nickel (Ni) (mg/kg)	10.2	10.4	24.0	9.05	9.65
	Selenium (Se) (mg/kg)	<0.20	<0.20	0.40	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	0.16	<0.10	<0.10
	Strontium (Sr) (mg/kg)	33.8	43.0	65.9	31.6	34.1
	Thallium (Tl) (mg/kg)	0.070	0.051	0.151	<0.050	<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.821	0.317	2.02	0.304	0.336
	Vanadium (V) (mg/kg)	57.8	36.8	50.6	48.0	46.4
	Zinc (Zn) (mg/kg)	44.3	58.0	60.8	28.2	32.7
TCLP Metals	1st Preliminary pH (pH)					
	2nd Preliminary pH (pH)					
	Final pH (pH)					
	Extraction Solution Initial pH (pH)					
	Antimony (Sb)-Leachable (mg/L)					
	Arsenic (As)-Leachable (mg/L)					
	Barium (Ba)-Leachable (mg/L)					
	Beryllium (Be)-Leachable (mg/L)					
	Boron (B)-Leachable (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-23	L2091973-24	L2091973-25	L2091973-26	L2091973-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH126-01	BH126-02	BH127-01	BH127-02	BH128-01
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	6.90		6.94	7.75	
	pH (1:2 soil:water) (pH)		7.54		6.64	6.57
Metals	Aluminum (Al) (mg/kg)		14200		10200	13000
	Antimony (Sb) (mg/kg)		0.60		0.40	0.65
	Arsenic (As) (mg/kg)		3.30		2.10	2.11
	Barium (Ba) (mg/kg)		84.8		41.6	60.6
	Beryllium (Be) (mg/kg)		0.18		0.13	0.18
	Boron (B) (mg/kg)		<5.0		<5.0	<5.0
	Cadmium (Cd) (mg/kg)		0.208		0.077	0.062
	Chromium (Cr) (mg/kg)		15.0		14.5	16.4
	Cobalt (Co) (mg/kg)		6.88		5.17	5.84
	Copper (Cu) (mg/kg)		23.0		13.7	16.9
	Iron (Fe) (mg/kg)		19500		16200	16500
	Lead (Pb) (mg/kg)		25.0		4.39	11.7
	Lithium (Li) (mg/kg)		7.3		4.5	5.8
	Manganese (Mn) (mg/kg)		312		221	273
	Mercury (Hg) (mg/kg)		0.0318		0.0084	0.0173
	Molybdenum (Mo) (mg/kg)		0.42		0.39	0.41
	Nickel (Ni) (mg/kg)		14.7		7.87	10.1
	Selenium (Se) (mg/kg)		<0.20		<0.20	<0.20
	Silver (Ag) (mg/kg)		<0.10		<0.10	<0.10
	Strontium (Sr) (mg/kg)		83.3		39.6	38.9
	Thallium (Tl) (mg/kg)		0.057		<0.050	0.051
	Tin (Sn) (mg/kg)		<2.0		<2.0	<2.0
	Tungsten (W) (mg/kg)		<0.50		<0.50	<0.50
	Uranium (U) (mg/kg)		0.391		0.300	0.400
	Vanadium (V) (mg/kg)		53.2		45.3	49.8
	Zinc (Zn) (mg/kg)		68.6		27.3	30.3
TCLP Metals	1st Preliminary pH (pH)					
	2nd Preliminary pH (pH)					
	Final pH (pH)					
	Extraction Solution Initial pH (pH)					
	Antimony (Sb)-Leachable (mg/L)					
	Arsenic (As)-Leachable (mg/L)					
	Barium (Ba)-Leachable (mg/L)					
	Beryllium (Be)-Leachable (mg/L)					
	Boron (B)-Leachable (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-28	L2091973-29	L2091973-31	L2091973-32	L2091973-35
	Description	Soil	Soil	Soil	Soil	soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	Z110	BH128-02	BH128-04	BH128-05	BH124M-06
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		7.13			
	pH (1:2 soil:water) (pH)	6.10		7.33	5.88	6.74
Metals	Aluminum (Al) (mg/kg)	12800		15500	14600	14400
	Antimony (Sb) (mg/kg)	0.49		0.34	0.22	0.23
	Arsenic (As) (mg/kg)	2.28		3.26	2.24	1.96
	Barium (Ba) (mg/kg)	61.6		83.8	67.3	67.9
	Beryllium (Be) (mg/kg)	0.18		0.23	0.21	0.20
	Boron (B) (mg/kg)	<5.0		<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.070		0.088	0.058	0.058
	Chromium (Cr) (mg/kg)	33.6		21.5	17.7	17.2
	Cobalt (Co) (mg/kg)	5.88		8.38	6.91	6.11
	Copper (Cu) (mg/kg)	17.3		27.7	19.1	19.6
	Iron (Fe) (mg/kg)	17600		22200	19600	18800
	Lead (Pb) (mg/kg)	11.4		7.66	4.00	4.92
	Lithium (Li) (mg/kg)	5.7		7.4	6.1	5.9
	Manganese (Mn) (mg/kg)	250		301	271	257
	Mercury (Hg) (mg/kg)	0.0195		0.0228	0.0122	0.0157
	Molybdenum (Mo) (mg/kg)	0.45		0.37	0.24	0.21
	Nickel (Ni) (mg/kg)	10.8		17.4	12.3	11.0
	Selenium (Se) (mg/kg)	<0.20		<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10		<0.10	<0.10	<0.10
	Strontium (Sr) (mg/kg)	36.0		50.7	41.0	40.7
	Thallium (Tl) (mg/kg)	<0.050		0.073	<0.050	0.052
	Tin (Sn) (mg/kg)	<2.0		<2.0	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50		<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.402		0.455	0.410	0.402
	Vanadium (V) (mg/kg)	51.3		60.2	53.1	55.9
	Zinc (Zn) (mg/kg)	30.4		46.8	35.2	33.9
TCLP Metals	1st Preliminary pH (pH)					
	2nd Preliminary pH (pH)					
	Final pH (pH)					
	Extraction Solution Initial pH (pH)					
	Antimony (Sb)-Leachable (mg/L)					
	Arsenic (As)-Leachable (mg/L)					
	Barium (Ba)-Leachable (mg/L)					
	Beryllium (Be)-Leachable (mg/L)					
	Boron (B)-Leachable (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-36				
	Description	soil				
	Sampled Date	09-MAY-18				
	Sampled Time					
	Client ID	Z113				
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	7.89				
	pH (1:2 soil:water) (pH)					
Metals	Aluminum (Al) (mg/kg)					
	Antimony (Sb) (mg/kg)					
	Arsenic (As) (mg/kg)					
	Barium (Ba) (mg/kg)					
	Beryllium (Be) (mg/kg)					
	Boron (B) (mg/kg)					
	Cadmium (Cd) (mg/kg)					
	Chromium (Cr) (mg/kg)					
	Cobalt (Co) (mg/kg)					
	Copper (Cu) (mg/kg)					
	Iron (Fe) (mg/kg)					
	Lead (Pb) (mg/kg)					
	Lithium (Li) (mg/kg)					
	Manganese (Mn) (mg/kg)					
	Mercury (Hg) (mg/kg)					
	Molybdenum (Mo) (mg/kg)					
	Nickel (Ni) (mg/kg)					
	Selenium (Se) (mg/kg)					
	Silver (Ag) (mg/kg)					
	Strontium (Sr) (mg/kg)					
	Thallium (Tl) (mg/kg)					
	Tin (Sn) (mg/kg)					
	Tungsten (W) (mg/kg)					
	Uranium (U) (mg/kg)					
	Vanadium (V) (mg/kg)					
	Zinc (Zn) (mg/kg)					
TCLP Metals	1st Preliminary pH (pH)					
	2nd Preliminary pH (pH)					
	Final pH (pH)					
	Extraction Solution Initial pH (pH)					
	Antimony (Sb)-Leachable (mg/L)					
	Arsenic (As)-Leachable (mg/L)					
	Barium (Ba)-Leachable (mg/L)					
	Beryllium (Be)-Leachable (mg/L)					
	Boron (B)-Leachable (mg/L)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-1	L2091973-2	L2091973-3	L2091973-4	L2091973-5
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-01	BH121M-02	BH121M-03	BH121M-04	Z108
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)				<0.050	
	Calcium (Ca)-Leachable (mg/L)				54.7	
	Chromium (Cr)-Leachable (mg/L)				<0.25	
	Cobalt (Co)-Leachable (mg/L)				<0.050	
	Copper (Cu)-Leachable (mg/L)				<0.050	
	Iron (Fe)-Leachable (mg/L)				<5.0	
	Lead (Pb)-Leachable (mg/L)				1.02	
	Magnesium (Mg)-Leachable (mg/L)				4.84	
	Mercury (Hg)-Leachable (mg/L)				<0.0010	
	Nickel (Ni)-Leachable (mg/L)				<0.25	
	Selenium (Se)-Leachable (mg/L)				<1.0	
	Silver (Ag)-Leachable (mg/L)				<0.050	
	Thallium (Tl)-Leachable (mg/L)				<1.0	
	Vanadium (V)-Leachable (mg/L)				<0.15	
	Zinc (Zn)-Leachable (mg/L)				<0.50	
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					
	1,2-Dichloropropane (mg/kg)					
	cis-1,3-Dichloropropylene (mg/kg)					
	trans-1,3-Dichloropropylene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-6	L2091973-7	L2091973-8	L2091973-11	L2091973-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-05	BH121M-06	BH122M-01	BH122M-04	BH122M-06
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)					
	Calcium (Ca)-Leachable (mg/L)					
	Chromium (Cr)-Leachable (mg/L)					
	Cobalt (Co)-Leachable (mg/L)					
	Copper (Cu)-Leachable (mg/L)					
	Iron (Fe)-Leachable (mg/L)					
	Lead (Pb)-Leachable (mg/L)					
	Magnesium (Mg)-Leachable (mg/L)					
	Mercury (Hg)-Leachable (mg/L)					
	Nickel (Ni)-Leachable (mg/L)					
	Selenium (Se)-Leachable (mg/L)					
	Silver (Ag)-Leachable (mg/L)					
	Thallium (Tl)-Leachable (mg/L)					
	Vanadium (V)-Leachable (mg/L)					
	Zinc (Zn)-Leachable (mg/L)					
Volatile Organic Compounds	VOC Sample Container				Field MeOH	
	Benzene (mg/kg)				<0.0050	
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					
	1,2-Dichloropropane (mg/kg)					
	cis-1,3-Dichloropropylene (mg/kg)					
	trans-1,3-Dichloropropylene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-14	L2091973-15	L2091973-17	L2091973-19	L2091973-20
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH123M-01	BH123M-02	BH123M-04	BH124M-01	BH124M-02
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)					
	Calcium (Ca)-Leachable (mg/L)					
	Chromium (Cr)-Leachable (mg/L)					
	Cobalt (Co)-Leachable (mg/L)					
	Copper (Cu)-Leachable (mg/L)					
	Iron (Fe)-Leachable (mg/L)					
	Lead (Pb)-Leachable (mg/L)					
	Magnesium (Mg)-Leachable (mg/L)					
	Mercury (Hg)-Leachable (mg/L)					
	Nickel (Ni)-Leachable (mg/L)					
	Selenium (Se)-Leachable (mg/L)					
	Silver (Ag)-Leachable (mg/L)					
	Thallium (Tl)-Leachable (mg/L)					
	Vanadium (V)-Leachable (mg/L)					
	Zinc (Zn)-Leachable (mg/L)					
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					
	1,2-Dichloropropane (mg/kg)					
	cis-1,3-Dichloropropylene (mg/kg)					
	trans-1,3-Dichloropropylene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-23	L2091973-24	L2091973-25	L2091973-26	L2091973-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH126-01	BH126-02	BH127-01	BH127-02	BH128-01
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)					
	Calcium (Ca)-Leachable (mg/L)					
	Chromium (Cr)-Leachable (mg/L)					
	Cobalt (Co)-Leachable (mg/L)					
	Copper (Cu)-Leachable (mg/L)					
	Iron (Fe)-Leachable (mg/L)					
	Lead (Pb)-Leachable (mg/L)					
	Magnesium (Mg)-Leachable (mg/L)					
	Mercury (Hg)-Leachable (mg/L)					
	Nickel (Ni)-Leachable (mg/L)					
	Selenium (Se)-Leachable (mg/L)					
	Silver (Ag)-Leachable (mg/L)					
	Thallium (Tl)-Leachable (mg/L)					
	Vanadium (V)-Leachable (mg/L)					
	Zinc (Zn)-Leachable (mg/L)					
Volatile Organic Compounds	VOC Sample Container	Field MeOH		Field MeOH	Field MeOH	
	Benzene (mg/kg)	<0.0050		<0.0050	<0.0050	
	Bromodichloromethane (mg/kg)	<0.050		<0.050	<0.050	
	Bromoform (mg/kg)	<0.050		<0.050	<0.050	
	Carbon Tetrachloride (mg/kg)	<0.050		<0.050	<0.050	
	Chlorobenzene (mg/kg)	<0.050		<0.050	<0.050	
	Dibromochloromethane (mg/kg)	<0.050		<0.050	<0.050	
	Chloroethane (mg/kg)	<0.10		<0.10	<0.10	
	Chloroform (mg/kg)	<0.10		<0.10	<0.10	
	Chloromethane (mg/kg)	<0.10		<0.10	<0.10	
	1,2-Dichlorobenzene (mg/kg)	<0.050		<0.050	<0.050	
	1,3-Dichlorobenzene (mg/kg)	<0.050		<0.050	<0.050	
	1,4-Dichlorobenzene (mg/kg)	<0.050		<0.050	<0.050	
	1,1-Dichloroethane (mg/kg)	<0.050		<0.050	<0.050	
	1,2-Dichloroethane (mg/kg)	<0.050		<0.050	<0.050	
	1,1-Dichloroethylene (mg/kg)	<0.050		<0.050	<0.050	
	cis-1,2-Dichloroethylene (mg/kg)	<0.050		<0.050	<0.050	
	trans-1,2-Dichloroethylene (mg/kg)	<0.050		<0.050	<0.050	
	Dichloromethane (mg/kg)	<0.30		<0.30	<0.30	
	1,2-Dichloropropane (mg/kg)	<0.050		<0.050	<0.050	
	cis-1,3-Dichloropropylene (mg/kg)	<0.050		<0.050	<0.050	
	trans-1,3-Dichloropropylene (mg/kg)	<0.050		<0.050	<0.050	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-28	L2091973-29	L2091973-31	L2091973-32	L2091973-35
	Description	Soil	Soil	Soil	Soil	soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	Z110	BH128-02	BH128-04	BH128-05	BH124M-06
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)					
	Calcium (Ca)-Leachable (mg/L)					
	Chromium (Cr)-Leachable (mg/L)					
	Cobalt (Co)-Leachable (mg/L)					
	Copper (Cu)-Leachable (mg/L)					
	Iron (Fe)-Leachable (mg/L)					
	Lead (Pb)-Leachable (mg/L)					
	Magnesium (Mg)-Leachable (mg/L)					
	Mercury (Hg)-Leachable (mg/L)					
	Nickel (Ni)-Leachable (mg/L)					
	Selenium (Se)-Leachable (mg/L)					
	Silver (Ag)-Leachable (mg/L)					
	Thallium (Tl)-Leachable (mg/L)					
	Vanadium (V)-Leachable (mg/L)					
	Zinc (Zn)-Leachable (mg/L)					
Volatile Organic Compounds	VOC Sample Container		Field MeOH			
	Benzene (mg/kg)		<0.0050			
	Bromodichloromethane (mg/kg)		<0.050			
	Bromoform (mg/kg)		<0.050			
	Carbon Tetrachloride (mg/kg)		<0.050			
	Chlorobenzene (mg/kg)		<0.050			
	Dibromochloromethane (mg/kg)		<0.050			
	Chloroethane (mg/kg)		<0.10			
	Chloroform (mg/kg)		<0.10			
	Chloromethane (mg/kg)		<0.10			
	1,2-Dichlorobenzene (mg/kg)		<0.050			
	1,3-Dichlorobenzene (mg/kg)		<0.050			
	1,4-Dichlorobenzene (mg/kg)		<0.050			
	1,1-Dichloroethane (mg/kg)		<0.050			
	1,2-Dichloroethane (mg/kg)		<0.050			
	1,1-Dichloroethylene (mg/kg)		<0.050			
	cis-1,2-Dichloroethylene (mg/kg)		<0.050			
	trans-1,2-Dichloroethylene (mg/kg)		<0.050			
	Dichloromethane (mg/kg)		<0.30			
	1,2-Dichloropropane (mg/kg)		<0.050			
	cis-1,3-Dichloropropylene (mg/kg)		<0.050			
	trans-1,3-Dichloropropylene (mg/kg)		<0.050			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-36				
	Description	soil				
	Sampled Date	09-MAY-18				
	Sampled Time					
	Client ID	Z113				
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)					
	Calcium (Ca)-Leachable (mg/L)					
	Chromium (Cr)-Leachable (mg/L)					
	Cobalt (Co)-Leachable (mg/L)					
	Copper (Cu)-Leachable (mg/L)					
	Iron (Fe)-Leachable (mg/L)					
	Lead (Pb)-Leachable (mg/L)					
	Magnesium (Mg)-Leachable (mg/L)					
	Mercury (Hg)-Leachable (mg/L)					
	Nickel (Ni)-Leachable (mg/L)					
	Selenium (Se)-Leachable (mg/L)					
	Silver (Ag)-Leachable (mg/L)					
	Thallium (Tl)-Leachable (mg/L)					
	Vanadium (V)-Leachable (mg/L)					
	Zinc (Zn)-Leachable (mg/L)					
Volatile Organic Compounds	VOC Sample Container	Field MeOH				
	Benzene (mg/kg)	<0.0050				
	Bromodichloromethane (mg/kg)	<0.050				
	Bromoform (mg/kg)	<0.050				
	Carbon Tetrachloride (mg/kg)	<0.050				
	Chlorobenzene (mg/kg)	<0.050				
	Dibromochloromethane (mg/kg)	<0.050				
	Chloroethane (mg/kg)	<0.10				
	Chloroform (mg/kg)	<0.10				
	Chloromethane (mg/kg)	<0.10				
	1,2-Dichlorobenzene (mg/kg)	<0.050				
	1,3-Dichlorobenzene (mg/kg)	<0.050				
	1,4-Dichlorobenzene (mg/kg)	<0.050				
	1,1-Dichloroethane (mg/kg)	<0.050				
	1,2-Dichloroethane (mg/kg)	<0.050				
	1,1-Dichloroethylene (mg/kg)	<0.050				
	cis-1,2-Dichloroethylene (mg/kg)	<0.050				
	trans-1,2-Dichloroethylene (mg/kg)	<0.050				
	Dichloromethane (mg/kg)	<0.30				
	1,2-Dichloropropane (mg/kg)	<0.050				
	cis-1,3-Dichloropropylene (mg/kg)	<0.050				
	trans-1,3-Dichloropropylene (mg/kg)	<0.050				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-1	L2091973-2	L2091973-3	L2091973-4	L2091973-5
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-01	BH121M-02	BH121M-03	BH121M-04	Z108
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	1,3-Dichloropropene (cis & trans) (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					
	1,1,1,2-Tetrachloroethane (mg/kg)					
	1,1,2,2-Tetrachloroethane (mg/kg)					
	Tetrachloroethylene (mg/kg)					
	Toluene (mg/kg)					
	1,1,1-Trichloroethane (mg/kg)					
	1,1,2-Trichloroethane (mg/kg)					
	Trichloroethylene (mg/kg)					
	Trichlorofluoromethane (mg/kg)					
	Vinyl Chloride (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)	<200		<200		
	EPH19-32 (mg/kg)	<200		<200		
	LEPH (mg/kg)	<200		<200		
	HEPH (mg/kg)	<200		<200		
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)	93.4		86.2		
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.030 DLCI		0.0217		
	Acenaphthylene (mg/kg)	<0.030 DLCI		<0.0050		
	Anthracene (mg/kg)	0.282		0.0129		
	Benz(a)anthracene (mg/kg)	0.179		0.012		
	Benzo(a)pyrene (mg/kg)	0.098		0.011		
	Benzo(b&j)fluoranthene (mg/kg)	0.193		0.020		
	Benzo(b+j+k)fluoranthene (mg/kg)	0.259		0.020		
	Benzo(g,h,i)perylene (mg/kg)	0.069		<0.010		
	Benzo(k)fluoranthene (mg/kg)	0.066		<0.010		
	Chrysene (mg/kg)	0.202		0.025		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-6	L2091973-7	L2091973-8	L2091973-11	L2091973-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-05	BH121M-06	BH122M-01	BH122M-04	BH122M-06
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	1,3-Dichloropropene (cis & trans) (mg/kg)					
	Ethylbenzene (mg/kg)				<0.015	
	Methyl t-butyl ether (MTBE) (mg/kg)				<0.20	
	Styrene (mg/kg)				<0.050	
	1,1,1,2-Tetrachloroethane (mg/kg)					
	1,1,2,2-Tetrachloroethane (mg/kg)					
	Tetrachloroethylene (mg/kg)					
	Toluene (mg/kg)				<0.050	
	1,1,1-Trichloroethane (mg/kg)					
	1,1,2-Trichloroethane (mg/kg)					
	Trichloroethylene (mg/kg)					
	Trichlorofluoromethane (mg/kg)					
	Vinyl Chloride (mg/kg)					
	ortho-Xylene (mg/kg)				<0.050	
	meta- & para-Xylene (mg/kg)				<0.050	
	Xylenes (mg/kg)				<0.075	
	Surrogate: 4-Bromofluorobenzene (SS) (%)				88.1	
	Surrogate: 1,4-Difluorobenzene (SS) (%)				93.9	
Hydrocarbons	EPH10-19 (mg/kg)				<200	
	EPH19-32 (mg/kg)				<200	
	LEPH (mg/kg)				<200	
	HEPH (mg/kg)				<200	
	Volatile Hydrocarbons (VH6-10) (mg/kg)				<100	
	VPH (C6-C10) (mg/kg)				<100	
	Surrogate: 2-Bromobenzotrifluoride (%)				86.4	
	Surrogate: 3,4-Dichlorotoluene (SS) (%)				109.2	
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)				<0.0050	
	Acenaphthylene (mg/kg)				<0.0050	
	Anthracene (mg/kg)				<0.0040	
	Benz(a)anthracene (mg/kg)				<0.010	
	Benzo(a)pyrene (mg/kg)				<0.010	
	Benzo(b&j)fluoranthene (mg/kg)				<0.010	
	Benzo(b+j+k)fluoranthene (mg/kg)				<0.015	
	Benzo(g,h,i)perylene (mg/kg)				<0.010	
	Benzo(k)fluoranthene (mg/kg)				<0.010	
	Chrysene (mg/kg)				<0.010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-14	L2091973-15	L2091973-17	L2091973-19	L2091973-20
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH123M-01	BH123M-02	BH123M-04	BH124M-01	BH124M-02
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	1,3-Dichloropropene (cis & trans) (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					
	1,1,1,2-Tetrachloroethane (mg/kg)					
	1,1,2,2-Tetrachloroethane (mg/kg)					
	Tetrachloroethylene (mg/kg)					
	Toluene (mg/kg)					
	1,1,1-Trichloroethane (mg/kg)					
	1,1,2-Trichloroethane (mg/kg)					
	Trichloroethylene (mg/kg)					
	Trichlorofluoromethane (mg/kg)					
	Vinyl Chloride (mg/kg)					
	ortho-Xylene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 1,4-Difluorobenzene (SS) (%)					
Hydrocarbons	EPH10-19 (mg/kg)		<200			<200
	EPH19-32 (mg/kg)		<200			<200
	LEPH (mg/kg)		<200			<200
	HEPH (mg/kg)		<200			<200
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)		86.9			82.1
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)		<0.0050			<0.0050
	Acenaphthylene (mg/kg)		<0.0050			<0.0050
	Anthracene (mg/kg)		0.0066			<0.0040
	Benz(a)anthracene (mg/kg)		0.022			<0.010
	Benzo(a)pyrene (mg/kg)		0.027			<0.010
	Benzo(b&j)fluoranthene (mg/kg)		0.051			<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)		0.068			<0.015
	Benzo(g,h,i)perylene (mg/kg)		0.023			<0.010
	Benzo(k)fluoranthene (mg/kg)		0.017			<0.010
	Chrysene (mg/kg)		0.031			<0.010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-23	L2091973-24	L2091973-25	L2091973-26	L2091973-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH126-01	BH126-02	BH127-01	BH127-02	BH128-01
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	1,3-Dichloropropene (cis & trans) (mg/kg)	<0.10		<0.10	<0.10	
	Ethylbenzene (mg/kg)	<0.015		<0.015	<0.015	
	Methyl t-butyl ether (MTBE) (mg/kg)	<0.20		<0.20	<0.20	
	Styrene (mg/kg)	<0.050		<0.050	<0.050	
	1,1,1,2-Tetrachloroethane (mg/kg)	<0.050		<0.050	<0.050	
	1,1,2,2-Tetrachloroethane (mg/kg)	<0.050		<0.050	<0.050	
	Tetrachloroethylene (mg/kg)	<0.050		<0.050	<0.050	
	Toluene (mg/kg)	<0.050		<0.050	<0.050	
	1,1,1-Trichloroethane (mg/kg)	<0.050		<0.050	<0.050	
	1,1,2-Trichloroethane (mg/kg)	<0.050		<0.050	<0.050	
	Trichloroethylene (mg/kg)	<0.010		<0.010	<0.010	
	Trichlorofluoromethane (mg/kg)	<0.10		<0.10	<0.10	
	Vinyl Chloride (mg/kg)	<0.10		<0.10	<0.10	
	ortho-Xylene (mg/kg)	<0.050		<0.050	<0.050	
	meta- & para-Xylene (mg/kg)	0.093		<0.050	<0.050	
	Xylenes (mg/kg)	0.093		<0.075	<0.075	
	Surrogate: 4-Bromofluorobenzene (SS) (%)	86.4		87.0	85.8	
	Surrogate: 1,4-Difluorobenzene (SS) (%)	93.3		93.6	94.0	
Hydrocarbons	EPH10-19 (mg/kg)				<200	
	EPH19-32 (mg/kg)				<200	
	LEPH (mg/kg)				<200	
	HEPH (mg/kg)				<200	
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)				83.8	
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)				<0.0050	
	Acenaphthylene (mg/kg)				<0.0050	
	Anthracene (mg/kg)				<0.0040	
	Benz(a)anthracene (mg/kg)				<0.010	
	Benzo(a)pyrene (mg/kg)				<0.010	
	Benzo(b&j)fluoranthene (mg/kg)				<0.010	
	Benzo(b+j+k)fluoranthene (mg/kg)				<0.015	
	Benzo(g,h,i)perylene (mg/kg)				<0.010	
	Benzo(k)fluoranthene (mg/kg)				<0.010	
	Chrysene (mg/kg)				<0.010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-28	L2091973-29	L2091973-31	L2091973-32	L2091973-35
	Description	Soil	Soil	Soil	Soil	soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	Z110	BH128-02	BH128-04	BH128-05	BH124M-06
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	1,3-Dichloropropene (cis & trans) (mg/kg)		<0.10			
	Ethylbenzene (mg/kg)		<0.015			
	Methyl t-butyl ether (MTBE) (mg/kg)		<0.20			
	Styrene (mg/kg)		<0.050			
	1,1,1,2-Tetrachloroethane (mg/kg)		<0.050			
	1,1,2,2-Tetrachloroethane (mg/kg)		<0.050			
	Tetrachloroethylene (mg/kg)		<0.050			
	Toluene (mg/kg)		<0.050			
	1,1,1-Trichloroethane (mg/kg)		<0.050			
	1,1,2-Trichloroethane (mg/kg)		<0.050			
	Trichloroethylene (mg/kg)		<0.010			
	Trichlorofluoromethane (mg/kg)		<0.10			
	Vinyl Chloride (mg/kg)		<0.10			
	ortho-Xylene (mg/kg)		<0.050			
	meta- & para-Xylene (mg/kg)		<0.050			
	Xylenes (mg/kg)		<0.075			
	Surrogate: 4-Bromofluorobenzene (SS) (%)		87.7			
	Surrogate: 1,4-Difluorobenzene (SS) (%)		94.5			
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					
	HEPH (mg/kg)					
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)					
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)					
	Acenaphthylene (mg/kg)					
	Anthracene (mg/kg)					
	Benz(a)anthracene (mg/kg)					
	Benzo(a)pyrene (mg/kg)					
	Benzo(b&j)fluoranthene (mg/kg)					
	Benzo(b+j+k)fluoranthene (mg/kg)					
	Benzo(g,h,i)perylene (mg/kg)					
	Benzo(k)fluoranthene (mg/kg)					
	Chrysene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-36				
	Description	soil				
	Sampled Date	09-MAY-18				
	Sampled Time					
	Client ID	Z113				
Grouping	**Analyte**					
SOIL						
Volatile Organic Compounds	1,3-Dichloropropene (cis & trans) (mg/kg)	<0.10				
	Ethylbenzene (mg/kg)	<0.015				
	Methyl t-butyl ether (MTBE) (mg/kg)	<0.20				
	Styrene (mg/kg)	<0.050				
	1,1,1,2-Tetrachloroethane (mg/kg)	<0.050				
	1,1,2,2-Tetrachloroethane (mg/kg)	<0.050				
	Tetrachloroethylene (mg/kg)	<0.050				
	Toluene (mg/kg)	<0.050				
	1,1,1-Trichloroethane (mg/kg)	<0.050				
	1,1,2-Trichloroethane (mg/kg)	<0.050				
	Trichloroethylene (mg/kg)	<0.010				
	Trichlorofluoromethane (mg/kg)	<0.10				
	Vinyl Chloride (mg/kg)	<0.10				
	ortho-Xylene (mg/kg)	<0.050				
	meta- & para-Xylene (mg/kg)	<0.050				
	Xylenes (mg/kg)	<0.075				
	Surrogate: 4-Bromofluorobenzene (SS) (%)	76.2				
	Surrogate: 1,4-Difluorobenzene (SS) (%)	85.6				
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					
	HEPH (mg/kg)					
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 2-Bromobenzotrifluoride (%)					
	Surrogate: 3,4-Dichlorotoluene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)					
	Acenaphthylene (mg/kg)					
	Anthracene (mg/kg)					
	Benz(a)anthracene (mg/kg)					
	Benzo(a)pyrene (mg/kg)					
	Benzo(b&j)fluoranthene (mg/kg)					
	Benzo(b+j+k)fluoranthene (mg/kg)					
	Benzo(g,h,i)perylene (mg/kg)					
	Benzo(k)fluoranthene (mg/kg)					
	Chrysene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-1	L2091973-2	L2091973-3	L2091973-4	L2091973-5
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-01	BH121M-02	BH121M-03	BH121M-04	Z108
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Dibenz(a,h)anthracene (mg/kg)	<0.030 DLQ		<0.0050		
	Fluoranthene (mg/kg)	0.362		0.027		
	Fluorene (mg/kg)	<0.050 DLQ		0.014		
	Indeno(1,2,3-c,d)pyrene (mg/kg)	0.070		<0.010		
	1-Methylnaphthalene (mg/kg)	0.773		<0.050		
	2-Methylnaphthalene (mg/kg)	0.957		0.021		
	Naphthalene (mg/kg)	0.802		0.018		
	Phenanthrene (mg/kg)	0.449		0.043		
	Pyrene (mg/kg)	0.340		0.022		
	Quinoline (mg/kg)	<0.050		<0.050		
	Surrogate: Acenaphthene d10 (%)	101.1		91.2		
	Surrogate: Chrysene d12 (%)	100.0		110.8		
	Surrogate: Naphthalene d8 (%)	89.0		90.3		
	Surrogate: Phenanthrene d10 (%)	103.9		102.3		
	B(a)P Total Potency Equivalent (mg/kg)	0.167		<0.020		
	IACR (CCME) (mg/kg)	2.62		0.25		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-6	L2091973-7	L2091973-8	L2091973-11	L2091973-13
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18	08-MAY-18
	Sampled Time					
	Client ID	BH121M-05	BH121M-06	BH122M-01	BH122M-04	BH122M-06
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Dibenz(a,h)anthracene (mg/kg)				<0.0050	
	Fluoranthene (mg/kg)				<0.010	
	Fluorene (mg/kg)				<0.010	
	Indeno(1,2,3-c,d)pyrene (mg/kg)				<0.010	
	1-Methylnaphthalene (mg/kg)				<0.050	
	2-Methylnaphthalene (mg/kg)				<0.010	
	Naphthalene (mg/kg)				<0.010	
	Phenanthrene (mg/kg)				<0.010	
	Pyrene (mg/kg)				<0.010	
	Quinoline (mg/kg)				<0.050	
	Surrogate: Acenaphthene d10 (%)				101.6	
	Surrogate: Chrysene d12 (%)				108.3	
	Surrogate: Naphthalene d8 (%)				102.4	
	Surrogate: Phenanthrene d10 (%)				104.0	
	B(a)P Total Potency Equivalent (mg/kg)				<0.020	
	IACR (CCME) (mg/kg)				<0.15	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-14	L2091973-15	L2091973-17	L2091973-19	L2091973-20
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	08-MAY-18	08-MAY-18	08-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH123M-01	BH123M-02	BH123M-04	BH124M-01	BH124M-02
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Dibenz(a,h)anthracene (mg/kg)		<0.0050			<0.0050
	Fluoranthene (mg/kg)		0.053			<0.010
	Fluorene (mg/kg)		<0.010			<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)		0.023			<0.010
	1-Methylnaphthalene (mg/kg)		<0.050			<0.050
	2-Methylnaphthalene (mg/kg)		0.010			<0.010
	Naphthalene (mg/kg)		0.011			<0.010
	Phenanthrene (mg/kg)		0.036			<0.010
	Pyrene (mg/kg)		0.053			<0.010
	Quinoline (mg/kg)		<0.050			<0.050
	Surrogate: Acenaphthene d10 (%)		108.0			100.5
	Surrogate: Chrysene d12 (%)		117.6			112.1
	Surrogate: Naphthalene d8 (%)		106.5			100.4
	Surrogate: Phenanthrene d10 (%)		119.0			104.8
	B(a)P Total Potency Equivalent (mg/kg)		0.042			<0.020
	IACR (CCME) (mg/kg)		0.61			<0.15

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-23	L2091973-24	L2091973-25	L2091973-26	L2091973-27
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH126-01	BH126-02	BH127-01	BH127-02	BH128-01
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Dibenz(a,h)anthracene (mg/kg)				<0.0050	
	Fluoranthene (mg/kg)				<0.010	
	Fluorene (mg/kg)				<0.010	
	Indeno(1,2,3-c,d)pyrene (mg/kg)				<0.010	
	1-Methylnaphthalene (mg/kg)				<0.050	
	2-Methylnaphthalene (mg/kg)				<0.010	
	Naphthalene (mg/kg)				<0.010	
	Phenanthrene (mg/kg)				<0.010	
	Pyrene (mg/kg)				<0.010	
	Quinoline (mg/kg)				<0.050	
	Surrogate: Acenaphthene d10 (%)				122.0	
	Surrogate: Chrysene d12 (%)				128.8	
	Surrogate: Naphthalene d8 (%)				122.5	
	Surrogate: Phenanthrene d10 (%)				129.4	
	B(a)P Total Potency Equivalent (mg/kg)				<0.020	
	IACR (CCME) (mg/kg)				<0.15	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-28	L2091973-29	L2091973-31	L2091973-32	L2091973-35
	Description	Soil	Soil	Soil	Soil	soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	Z110	BH128-02	BH128-04	BH128-05	BH124M-06
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Dibenz(a,h)anthracene (mg/kg)					
	Fluoranthene (mg/kg)					
	Fluorene (mg/kg)					
	Indeno(1,2,3-c,d)pyrene (mg/kg)					
	1-Methylnaphthalene (mg/kg)					
	2-Methylnaphthalene (mg/kg)					
	Naphthalene (mg/kg)					
	Phenanthrene (mg/kg)					
	Pyrene (mg/kg)					
	Quinoline (mg/kg)					
	Surrogate: Acenaphthene d10 (%)					
	Surrogate: Chrysene d12 (%)					
	Surrogate: Naphthalene d8 (%)					
	Surrogate: Phenanthrene d10 (%)					
	B(a)P Total Potency Equivalent (mg/kg)					
	IACR (CCME) (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2091973-36				
	Description	soil				
	Sampled Date	09-MAY-18				
	Sampled Time					
	Client ID	Z113				
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Dibenz(a,h)anthracene (mg/kg)					
	Fluoranthene (mg/kg)					
	Fluorene (mg/kg)					
	Indeno(1,2,3-c,d)pyrene (mg/kg)					
	1-Methylnaphthalene (mg/kg)					
	2-Methylnaphthalene (mg/kg)					
	Naphthalene (mg/kg)					
	Phenanthrene (mg/kg)					
	Pyrene (mg/kg)					
	Quinoline (mg/kg)					
	Surrogate: Acenaphthene d10 (%)					
	Surrogate: Chrysene d12 (%)					
	Surrogate: Naphthalene d8 (%)					
	Surrogate: Phenanthrene d10 (%)					
	B(a)P Total Potency Equivalent (mg/kg)					
	IACR (CCME) (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Copper (Cu)	B	L2091973-31, -32, -35
Duplicate	Copper (Cu)	DUP-H	L2091973-31, -32, -35
Duplicate	Molybdenum (Mo)	DUP-H	L2091973-31, -32, -35
Duplicate	Nickel (Ni)	DUP-H	L2091973-31, -32, -35
Duplicate	Uranium (U)	DUP-H	L2091973-13
Laboratory Control Sample	Iron (Fe)	MES	L2091973-1, -11, -14, -15, -17, -19, -2, -20, -24, -26, -27, -28, -4, -5, -6, -7, -8
Matrix Spike	Calcium (Ca)-Leachable	MS-B	L2091973-4

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID

Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).

HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)

Soil samples are digested with hot nitric and hydrochloric acids, followed by CVAAS analysis. This method is fully compliant with the BC SALM strong acid leachable metals digestion method.

HG-TCLP-CVAFS-VA	Soil	Mercury by CVAAS (TCLP)	EPA 1311/245.7

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter and analysed using atomic absorption spectrophotometry (EPA 245.7).

LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LEPH/HEPH

LEPHs and HEPHs are measures of Light and Heavy Extractable Petroleum Hydrocarbons in soil. Results are calculated by subtraction of applicable PAH concentrations from EPH10-19 and EPH19-32, as per the BC Lab Manual LEPH/HEPH calculation procedure.
LEPHs = EPH10-19 minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene.
HEPHs = EPH19-32 minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.

MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

This method uses a heated strong acid digestion with HNO3 and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Analysis is by Collision/Reaction Cell ICPMS.

MET-TCLP-ICP-VA	Soil	Metals by ICPOES (TCLP)	EPA 1311/6010B

This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter and analysed using inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MOISTURE-VA	Soil	Moisture content	CWS for PHC in Soil - Tier 1

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the

Reference Information

sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

Benzo(a)pyrene Total Potency Equivalents [B(a)P TPE] represents the sum of estimated cancer potency relative to B(a)P for all potentially carcinogenic unsubstituted PAHs, and is calculated as per the CCME PAH Soil Quality Guidelines reference document (2010).

PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

VH-HSFID-VA	Soil	VH in soil by Headspace GCFID	BC Env. Lab Manual (VH in Solids)

This analysis involves the extraction of a subsample of the sediment/soil with methanol. Aliquots of the methanol extract are then added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is analyzed for Volatile Hydrocarbons (VH) by capillary column gas chromatography with flame-ionization detection (GC/FID). The methanol extraction and VH analysis are carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999).

VH-SURR-FID-VA	Soil	VH Surrogates for Soils	BC Env. Lab Manual (VH in Solids)
VOC-HSMS-VA	Soil	VOCs in soil by Headspace GCMS	EPA 5035A/5021A/8260C

The soil methanol extract is added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.

VOC7-L-HSMS-VA	Soil	VOCs in soil by Headspace GCMS	EPA 5035A/5021A/8260C

The soil methanol extract is added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.

VOC7/VOC-SURR-MS-VA	Soil	VOC7 and/or VOC Surrogates for Soils	EPA 5035A/5021A/8260C
VPH-CALC-VA	Soil	VPH is VH minus select aromatics	BC MOE VPH

VPHs measures Volatile Petroleum Hydrocarbons in soil. Results are calculated by subtraction of specific Monocyclic Aromatic Hydrocarbons from VH6-10, as per the BC Lab Manual VPH calculation procedure.
VPHs = VH6-10 minus Benzene, Toluene, Ethylbenzene, Xylenes, and Styrene

XYLENES-CALC-VA	Soil	Sum of Xylene Isomer Concentrations	EPA 8260B & 524.2

Calculation of Total Xylenes

Total Xylenes is the sum of the concentrations of the ortho, meta, and para Xylene isomers. Results below detection limit (DL) are treated as zero. The DL for Total Xylenes is set to a value no less than the square root of the sum of the squares of the DLs of the individual Xylenes.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

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

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

1 2 3 4

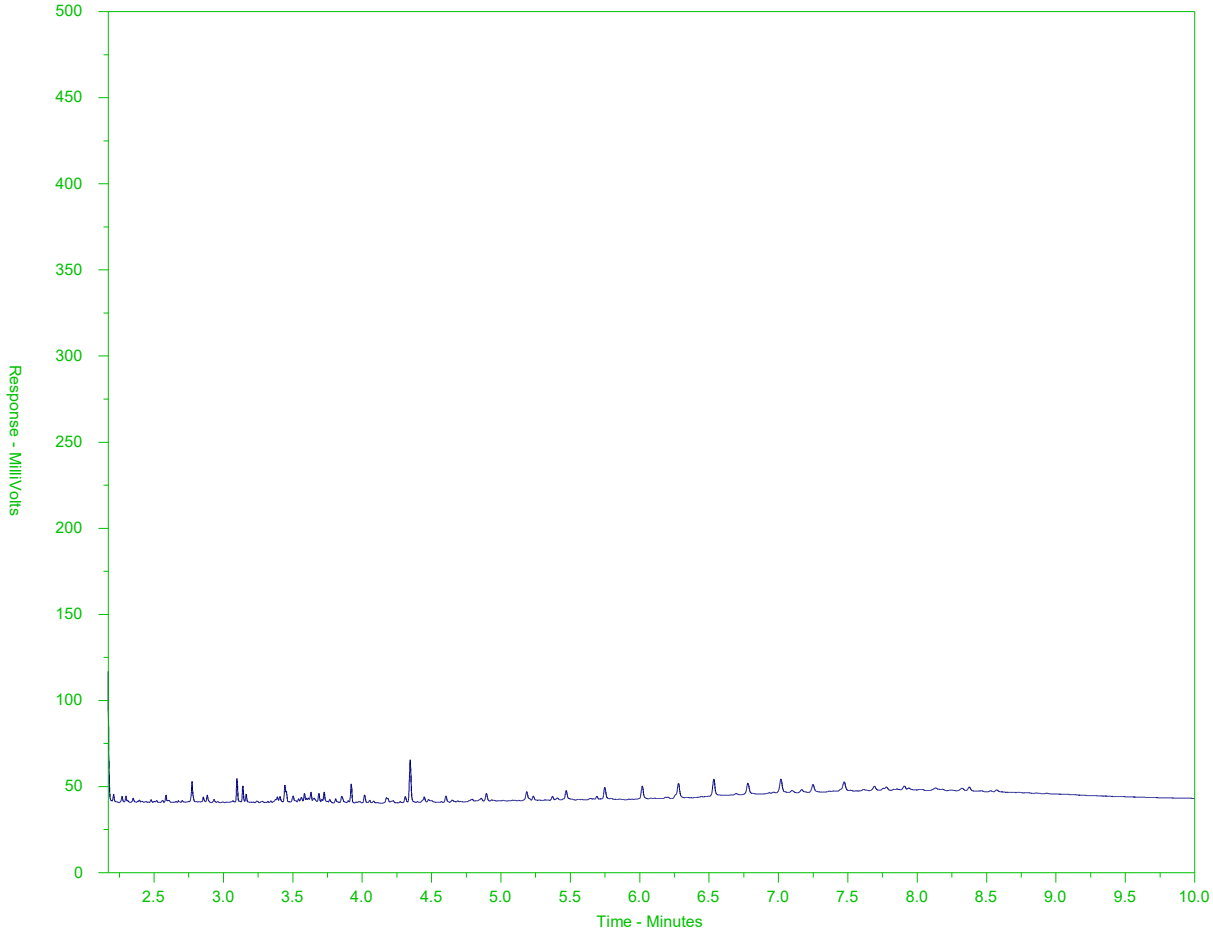
GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091973-1
Client Sample ID: BH121M-01



The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

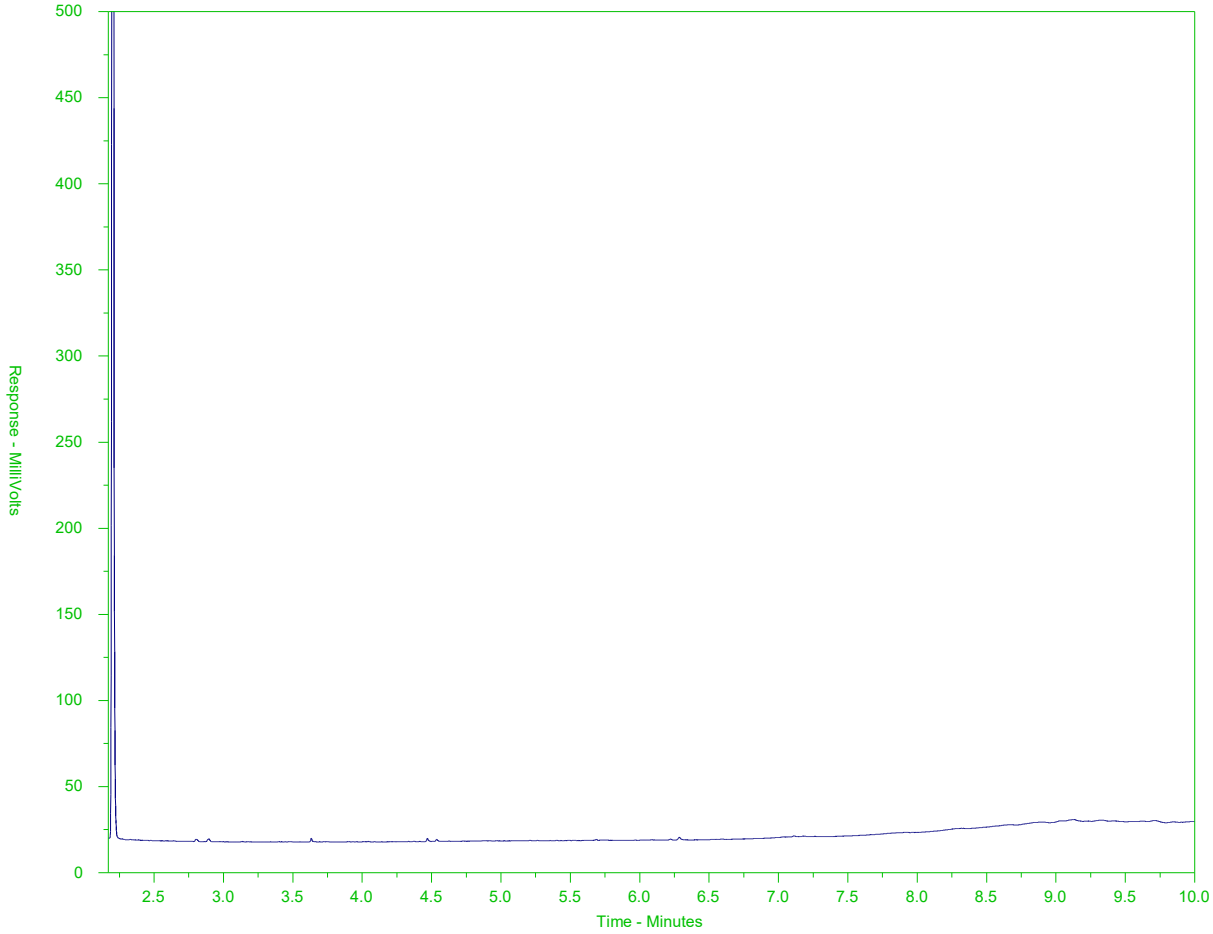
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091973-3
Client Sample ID: BH121M-03



EPH10-19		EPH19-32	
nC10	nC19		nC32
174°C	330°C		467°C
346°F	626°F		873°F
Gasoline		Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels			

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

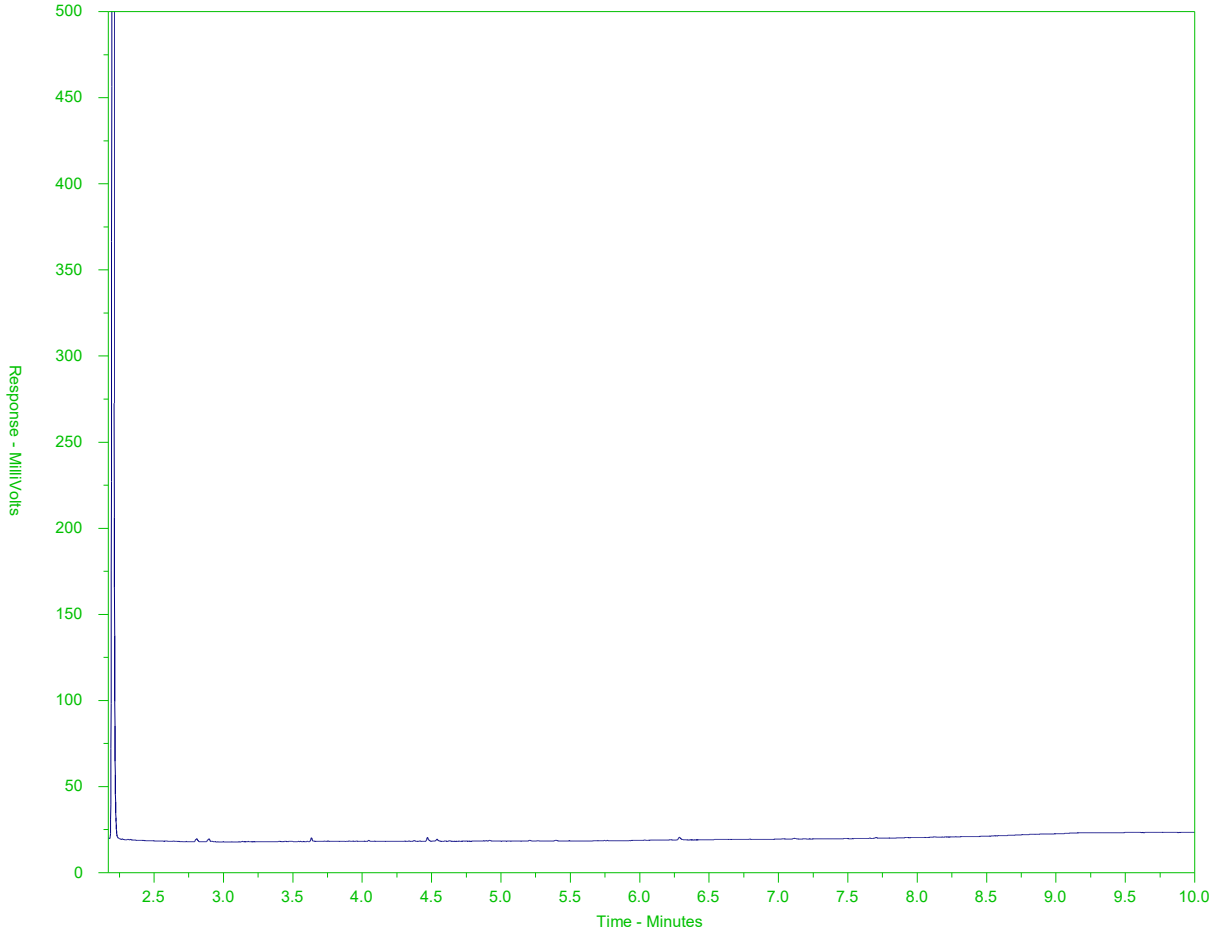
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

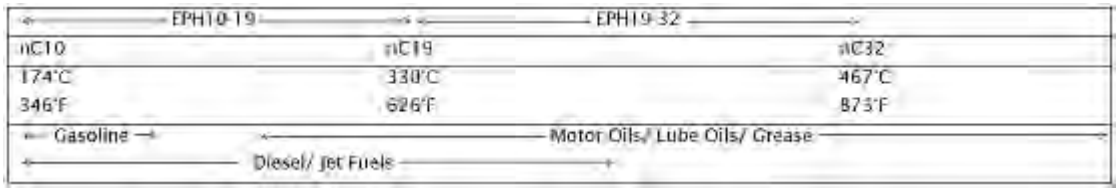
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WG2773185-3#L2091973-3
Client Sample ID: BH121M-03





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

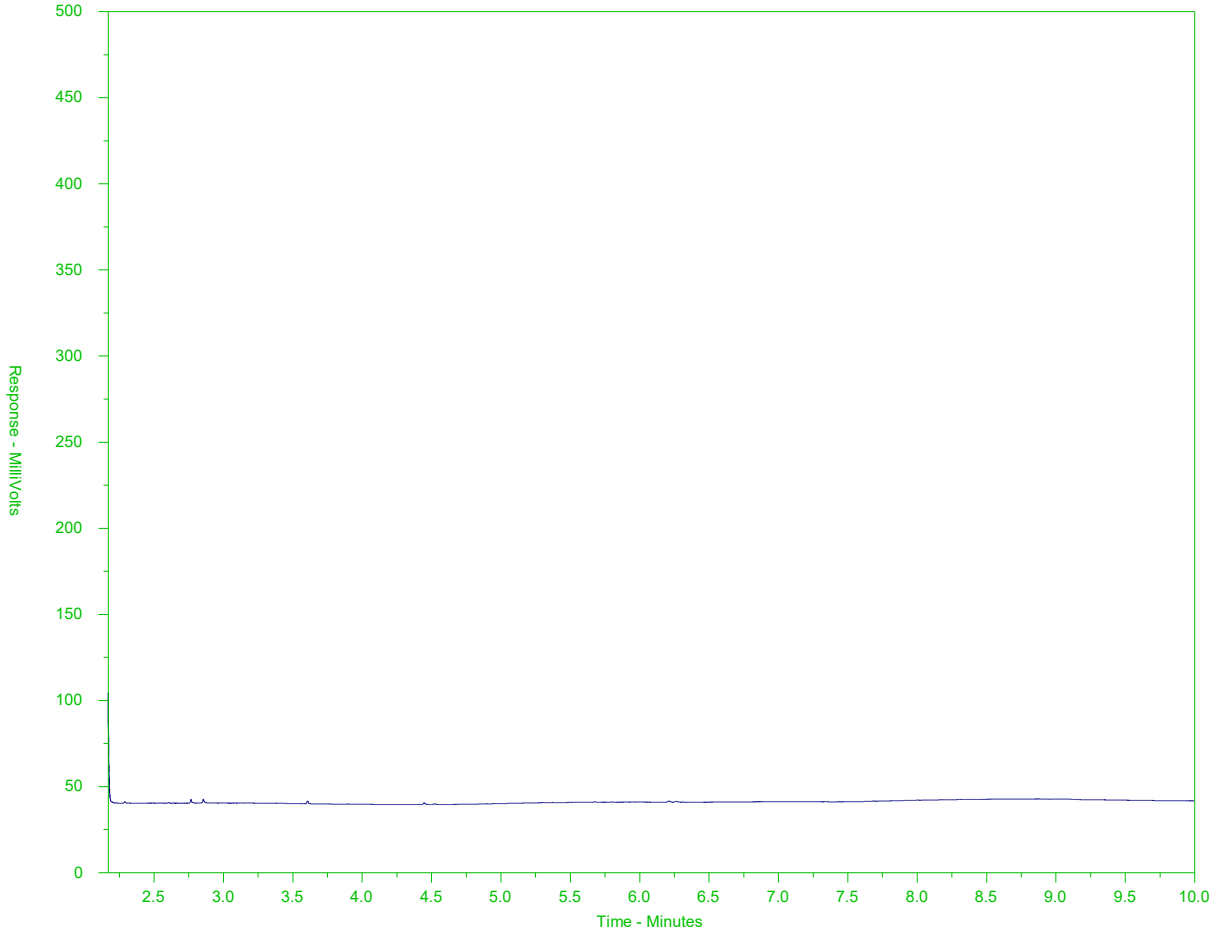
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

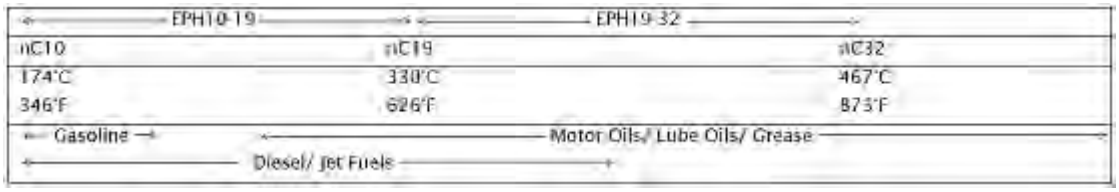
A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091973-11
Client Sample ID: BH122M-04





The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

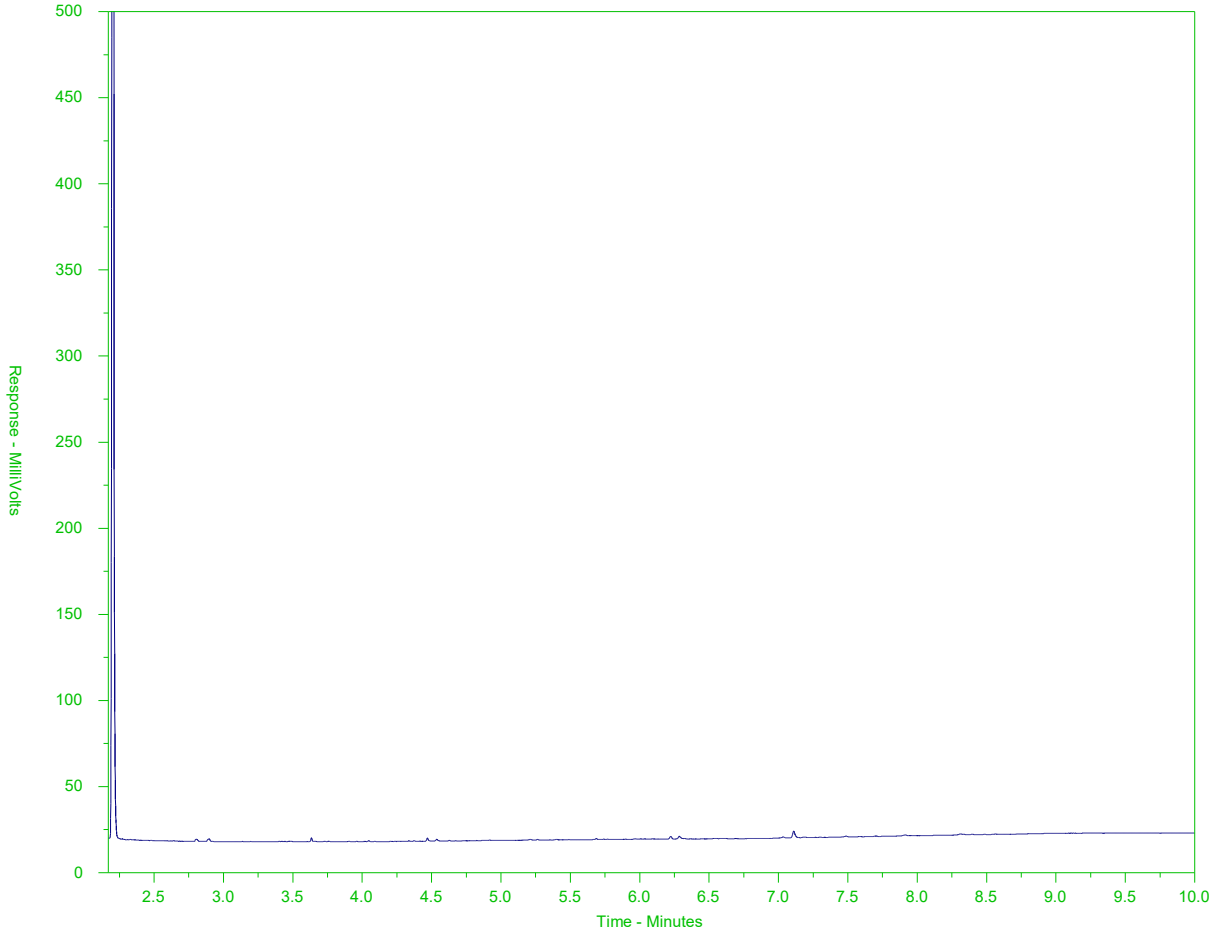
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091973-15
Client Sample ID: BH123M-02



EPH10-19		EPH19-32	
nC10	nC19		nC32
174°C	330°C		467°C
346°F	626°F		873°F
Gasoline		Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels			

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

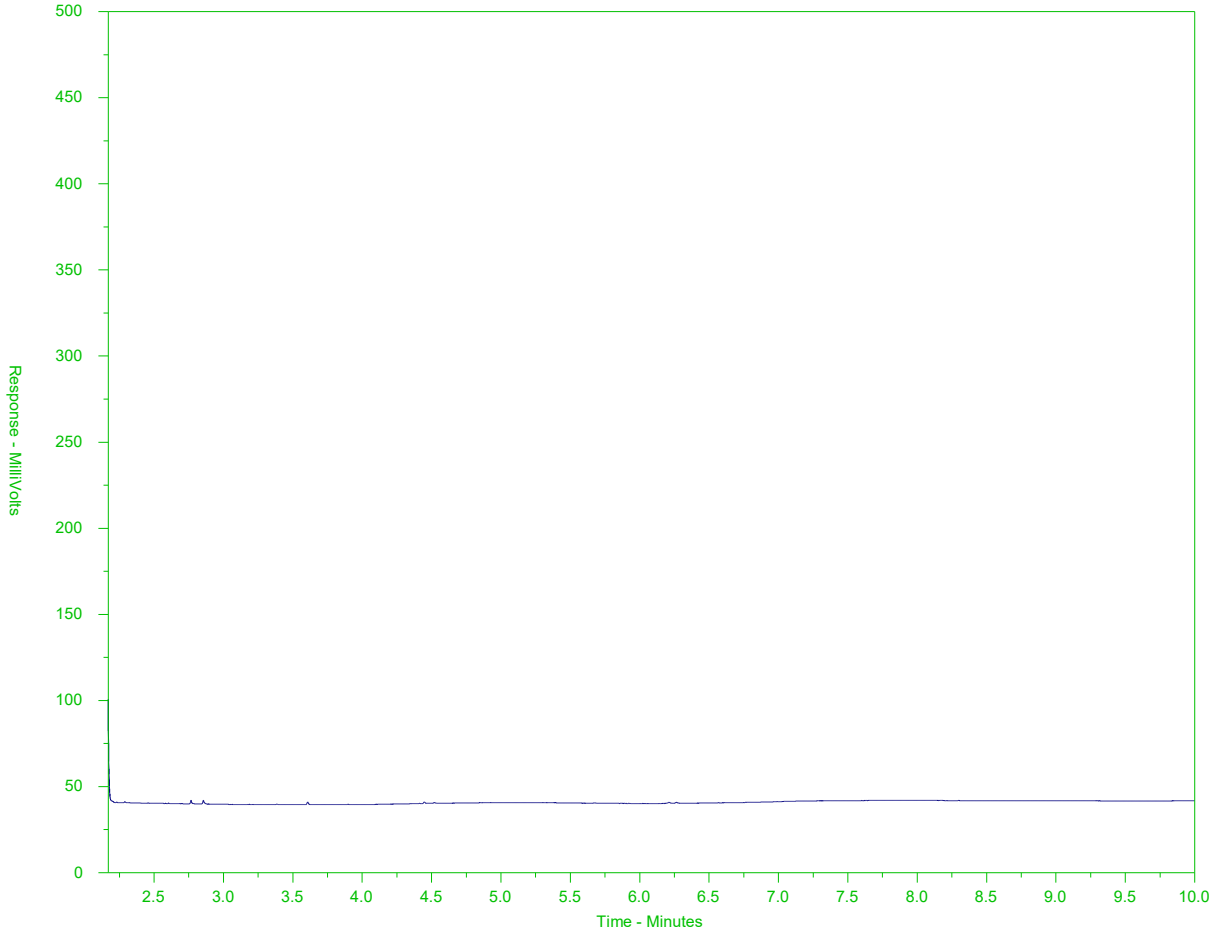
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091973-20
Client Sample ID: BH124M-02



EPH10-19		EPH19-32
nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
Gasoline	Motor Oils/ Lube Oils/ Grease	
Diesel/ Jet Fuels		

The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

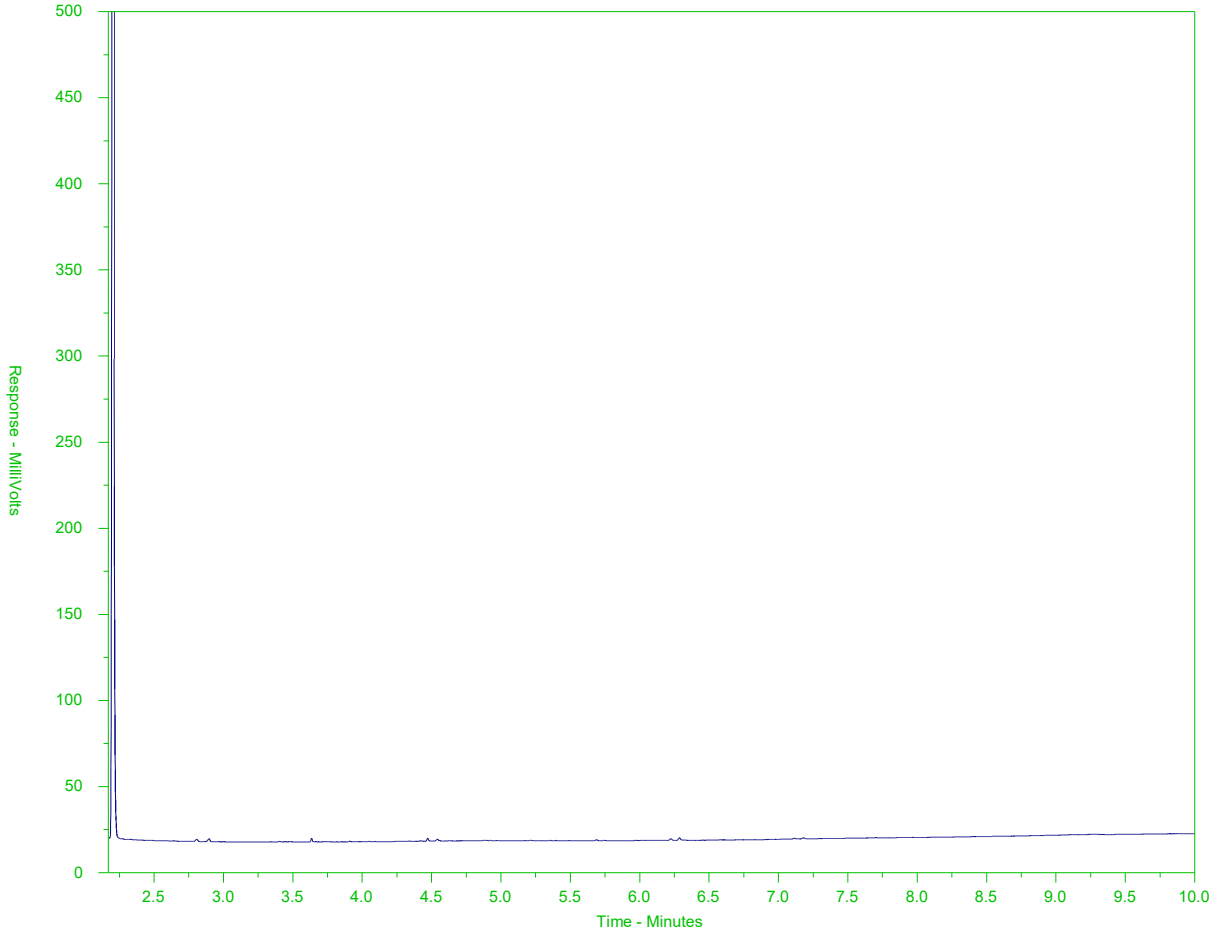
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

BC EPH HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2091973-26
Client Sample ID: BH127-02



The BC EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Note: This chromatogram was produced using GC conditions that are specific to the ALS Canada EPH method. Refer to the ALS Canada EPH Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091973-COFC

COC Number: 17 - 686609

Report To	Contact and company name below will appear on the final report
Company:	PGL Environmental
Contact:	Zayed Mohamed
Phone:	604-682-3707
	Company address below will appear on the final report
Street:	1500-1185 W Georgia St.
City/Province:	Vancouver
Postal Code:	
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☐ PDF ☐ EXCEL | | EDD (DIGITAL)
Quality Control (QC) Report with Report ☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☐ EMAIL | | MAIL ☐ FAX
Email 1 or Fax zmohamed@pggroup.com
Email 2 sbarr@pggroup.com
Email 3 arivers@pggroup.com

Invoice Distribution

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax
Email 2

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐
EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs:
For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #: Q66350
Job #: 5355-01.01
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#
Major/Minor Code: Routing Code:
Requisitioner:
Location:

ALS Lab Work Order # (lab use only):
ALS Contact: B. Mack
Sampler: A. Rivers

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	~~BH120M-01~~	~~8 May 18~~		~~Soil~~			~~2~~
	~~BH120M-02~~						~~2~~
	~~BH120M-03~~						~~4~~
	~~BH120M-04~~						~~4~~
	~~BH120M-05~~						~~4~~
	~~BH120M-06~~						~~4~~
	~~BH120M-07~~						~~2~~
	BH121M-01						2
	BH121M-02						2
	BH121M-03						4
	BH121M-04						4
	~~[illegible]~~ ~~Z108~~ Z108						4

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO
Are samples for human consumption/ use? | | YES | | NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Analysis to be sent via email
may contain glass fragments

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				10	11		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
[illegible]	9 May 18	1400				CW	May 9	1635

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091973-COFC

COC Number: 17 - 686608

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	PeL Environmental	Select Report Format: ☐ PDF ☐ EXCEL ☐ EDD (DIGITAL)	Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Zayed Mohamed	Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐
Phone:	604 682 3707	☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	
Street:		Email 1 or Fax	Date and Time Required for all E&P TATs:
City/Province:		Email 2 Lee P	For tests that can not be performed according to the service level selected, you will be contacted.
Postal Code:		Email 3	
Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution	Analysis Request
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	Q66380	AFE/Cost Center:	PO#
Job #:	5355-01.01	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH121M-05	8 May 18		Soil			4
	BH121M-06						2
	BH122M-01						2
	BH122M-02						4
	BH122M-03						4
	BH122M-04						4
	BH122M-05						2
	BH122M-06						2
	BH123M-01						2
	BH123M-02						2
	BH123M-03						4
	BH123M-04						2

Z-109

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				10	11		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date: 9 May 18	Time: 14:00	Received by:	Date:	Time:	Received by: CW	Date: May 9	Time: 16:35

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091973-COFC

COC Number: 17 - 686607

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	PGL Environmental	Select Report Format: ☐ PDF ☐ EXCEL | | EDD (DIGITAL)	Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Zayd Hirani	Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐
Phone:		☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐
Company address below will appear on the final report		Select Distribution: ☐ EMAIL | | MAIL ☐ FAX	Date and Time Required for all E&P TATs:
Street:		Email 1 or Fax	For tests that can not be performed according to the service level selected, you will be contacted.
City/Province:		Email 2	
Postal Code:		Email 3	Analysis Request
Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	5355-01.01	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	BH124M-01	9 May 18		Soil			2
	BH124M-02						2
	BH124M-03						4
	BH124M-04						4
	BH126-01						4
	BH126-02						4
	BH127-01						4
	BH127-02						4
	BH128-01						4
	Z110						4
	BH128-02						4
	BH128-03						4

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? | | YES | | NO	

SAMPLE CONDITION AS RECEIVED (lab use only)					
Frozen ☐	SIF Observations	Yes ☐	No ☐		
Ice Packs ☐	Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐	
Cooling Initiated ☐					
INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C	
				10	11

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date: 9 May	Time: 14:00	Received by:	Date:	Time:	Received by: CW	Date: May 9	Time: 16:35

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2091973-COFC

COC Number: 17 - 691771

Report To	Contact and company name below will appear on the final report
Company:	PGL Environmental
Contact:	Zayed Mohamed
Phone:	
Company address below will appear on the final report	
Street:	
City/Province:	
Postal Code:	

Report Format / Distribution

Select Report Format: ☐ PDF ☐ EXCEL | | EDD (DIGITAL)
Quality Control (QC) Report with Report ☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☐ EMAIL | | MAIL ☐ FAX
Email 1 or Fax
Email 2
Email 3

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☐ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E-100%] ☐; Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: [illegible]

For tests that can not be performed according to the service level selected, you will be contacted.

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Distribution

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax
Email 2

Project Information

ALS Account # / Quote #:	
Job #:	5355 - 01.01
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): | ALS Contact: | Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD	Sample is hazardous (please provide further details	NUMBER OF CONTAINERS
	BH128-04	9 May 18		Soil			2
	BH128-05	9 May 18		"			2

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? | | YES | | NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				10	11		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Andrew	Date: 9 May	Time: 14:00	Received by:	Date:	Time:	Received by: CW	Date: May 9	Time: 16:35

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1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Pottinger Gaherty Environmental Consultants (PGL)
ATTN: Zayed Mohamed
1500 - 1185 West Georgia Street
Vancouver BC V6E 4E6

Date Received: 10-MAY-18
Report Date: 20-JUN-18 14:30 (MT)
Version: FINAL REV. 2

Client Phone: 604-682-3707

Certificate of Analysis

Lab Work Order #: L2092410

Project P.O. #:	NOT SUBMITTED
Job Reference:	5355-01.01
C of C Numbers:	17-691770, 17-691990
Legal Site Desc:	

Comments:

20-JUN-2018 This report replaces the previous version and contains additional analyses, as requested.

Brent Mack, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2092410-1	L2092410-2	L2092410-4	L2092410-5	L2092410-6
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH125M-01	BH125M-02	BH125M-04	BH125M-05	BH129M-01
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	13.6	7.83	12.2	12.0	
	pH (1:2 soil:water) (pH)	7.84	7.45	7.64	7.57	8.15
Metals	Aluminum (Al) (mg/kg)	22000	11500	11400	10500	17700
	Antimony (Sb) (mg/kg)	0.21	1.09	0.27	0.22	1.32
	Arsenic (As) (mg/kg)	3.38	7.65	2.40	1.92	4.63
	Barium (Ba) (mg/kg)	97.6	80.6	61.1	55.0	100
	Beryllium (Be) (mg/kg)	0.29	0.15	0.15	0.13	0.25
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.059	0.168	0.061	0.055	0.201
	Chromium (Cr) (mg/kg)	21.5	16.4	11.8	13.2	18.5
	Cobalt (Co) (mg/kg)	10.0	5.33	5.33	4.36	9.58
	Copper (Cu) (mg/kg)	33.5	40.2	18.2	17.3	33.1
	Iron (Fe) (mg/kg)	26500	17000	14700	15300	21100
	Lead (Pb) (mg/kg)	5.48	59.2	10.6	7.24	57.4
	Lithium (Li) (mg/kg)	8.6	5.5	4.9	4.3	9.6
	Manganese (Mn) (mg/kg)	536	235	192	181	354
	Mercury (Hg) (mg/kg)	0.0149	0.0335	0.0128	0.0104	0.0300
	Molybdenum (Mo) (mg/kg)	0.47	0.48	0.36	0.29	0.70
	Nickel (Ni) (mg/kg)	15.6	11.1	8.97	8.57	12.8
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	0.16	<0.10	<0.10	<0.10
	Strontium (Sr) (mg/kg)	54.8	39.2	30.5	29.1	50.3
	Thallium (Tl) (mg/kg)	0.083	<0.050	<0.050	<0.050	0.081
	Tin (Sn) (mg/kg)	<2.0	4.5	<2.0	<2.0	<2.0
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.561	0.371	0.428	0.312	0.392
	Vanadium (V) (mg/kg)	70.6	48.6	42.9	47.7	55.9
	Zinc (Zn) (mg/kg)	54.0	63.9	30.4	28.6	90.4
TCLP Metals	1st Preliminary pH (pH)	8.40	7.97		7.95	8.89
	2nd Preliminary pH (pH)	1.58	1.48		1.41	1.57
	Final pH (pH)	4.98	4.92		4.92	4.98
	Extraction Solution Initial pH (pH)	4.93	4.90		4.90	4.93
	Antimony (Sb)-Leachable (mg/L)	<1.0	<1.0		<1.0	<1.0
	Arsenic (As)-Leachable (mg/L)	<1.0	<1.0		<1.0	<1.0
	Barium (Ba)-Leachable (mg/L)	<2.5	<2.5		<2.5	<2.5
	Beryllium (Be)-Leachable (mg/L)	<0.025	<0.025		<0.025	<0.025
	Boron (B)-Leachable (mg/L)	<0.50	<0.50		<0.50	<0.50

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2092410-7	L2092410-8	L2092410-10	L2092410-12	L2092410-14
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	10-MAY-18
	Sampled Time					
	Client ID	Z111	BH129M-02	BH129M-04	BH129M-06	BH130M-02
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)		12.1	24.0		9.77
	pH (1:2 soil:water) (pH)	8.00	7.76	7.99	8.34	8.29
Metals	Aluminum (Al) (mg/kg)	15800	14600	12700	22400	10800
	Antimony (Sb) (mg/kg)	1.49	0.28	0.41	0.57	0.46
	Arsenic (As) (mg/kg)	3.67	3.89	3.20	5.05	3.92
	Barium (Ba) (mg/kg)	69.4	69.4	91.4	61.9	90.5
	Beryllium (Be) (mg/kg)	0.27	0.23	0.19	0.37	0.16
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	6.6	<5.0
	Cadmium (Cd) (mg/kg)	0.145	0.083	0.100	0.123	0.227
	Chromium (Cr) (mg/kg)	17.9	15.0	13.0	42.0	17.7
	Cobalt (Co) (mg/kg)	8.12	7.98	6.17	14.8	5.87
	Copper (Cu) (mg/kg)	28.0	20.8	20.7	47.0	33.1
	Iron (Fe) (mg/kg)	18500	18900	18500	30200	16200
	Lead (Pb) (mg/kg)	66.9	6.97	20.9	11.5	74.4
	Lithium (Li) (mg/kg)	7.8	7.5	5.6	12.4	7.8
	Manganese (Mn) (mg/kg)	308	307	283	333	278
	Mercury (Hg) (mg/kg)	0.0252	0.0159	0.0850	0.0385	0.269
	Molybdenum (Mo) (mg/kg)	0.77	0.46	0.68	2.98	0.39
	Nickel (Ni) (mg/kg)	11.8	10.8	9.71	30.2	14.9
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Strontium (Sr) (mg/kg)	37.0	37.3	43.9	46.5	78.0
	Thallium (Tl) (mg/kg)	0.068	0.072	0.058	0.096	0.056
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	2.3
	Tungsten (W) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Uranium (U) (mg/kg)	0.448	0.402	0.459	1.29	0.315
	Vanadium (V) (mg/kg)	47.3	48.9	42.9	93.8	41.0
	Zinc (Zn) (mg/kg)	69.1	48.4	58.1	65.1	89.2
TCLP Metals	1st Preliminary pH (pH)		8.24	9.03		
	2nd Preliminary pH (pH)		1.46	1.49		
	Final pH (pH)		4.92	5.03		
	Extraction Solution Initial pH (pH)		4.90	4.90		
	Antimony (Sb)-Leachable (mg/L)		<1.0	<1.0		
	Arsenic (As)-Leachable (mg/L)		<1.0	<1.0		
	Barium (Ba)-Leachable (mg/L)		<2.5	<2.5		
	Beryllium (Be)-Leachable (mg/L)		<0.025	<0.025		
	Boron (B)-Leachable (mg/L)		<0.50	<0.50		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2092410-17	L2092410-18			
	Description	Soil	Soil			
	Sampled Date	10-MAY-18	10-MAY-18			
	Sampled Time					
	Client ID	BH130M-05	BH125M-06			
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	25.3				
	pH (1:2 soil:water) (pH)		8.13			
Metals	Aluminum (Al) (mg/kg)		25500			
	Antimony (Sb) (mg/kg)		0.29			
	Arsenic (As) (mg/kg)		2.44			
	Barium (Ba) (mg/kg)		106			
	Beryllium (Be) (mg/kg)		0.37			
	Boron (B) (mg/kg)		7.8			
	Cadmium (Cd) (mg/kg)		0.052			
	Chromium (Cr) (mg/kg)		23.7			
	Cobalt (Co) (mg/kg)		8.80			
	Copper (Cu) (mg/kg)		45.7			
	Iron (Fe) (mg/kg)		27900			
	Lead (Pb) (mg/kg)		8.72			
	Lithium (Li) (mg/kg)		13.4			
	Manganese (Mn) (mg/kg)		424			
	Mercury (Hg) (mg/kg)		0.0248			
	Molybdenum (Mo) (mg/kg)		0.40			
	Nickel (Ni) (mg/kg)		16.7			
	Selenium (Se) (mg/kg)		<0.20			
	Silver (Ag) (mg/kg)		<0.10			
	Strontium (Sr) (mg/kg)		40.6			
	Thallium (Tl) (mg/kg)		0.066			
	Tin (Sn) (mg/kg)		<2.0			
	Tungsten (W) (mg/kg)		<0.50			
	Uranium (U) (mg/kg)		0.740			
	Vanadium (V) (mg/kg)		83.8			
	Zinc (Zn) (mg/kg)		77.0			
TCLP Metals	1st Preliminary pH (pH)		9.20			
	2nd Preliminary pH (pH)		1.57			
	Final pH (pH)		4.93			
	Extraction Solution Initial pH (pH)		4.93			
	Antimony (Sb)-Leachable (mg/L)		<1.0			
	Arsenic (As)-Leachable (mg/L)		<1.0			
	Barium (Ba)-Leachable (mg/L)		<2.5			
	Beryllium (Be)-Leachable (mg/L)		<0.025			
	Boron (B)-Leachable (mg/L)		<0.50			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2092410-1	L2092410-2	L2092410-4	L2092410-5	L2092410-6
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
	Sampled Time					
	Client ID	BH125M-01	BH125M-02	BH125M-04	BH125M-05	BH129M-01
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)	<0.050	<0.050		<0.050	<0.050
	Calcium (Ca)-Leachable (mg/L)	71.1	22.5		20.3	85.4
	Chromium (Cr)-Leachable (mg/L)	<0.25	<0.25		<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)	<0.050	<0.050		<0.050	<0.050
	Copper (Cu)-Leachable (mg/L)	<0.050	0.148		0.054	<0.050
	Iron (Fe)-Leachable (mg/L)	<5.0	<5.0		<5.0	<5.0
	Lead (Pb)-Leachable (mg/L)	<0.25	1.24		<0.25	<0.25
	Magnesium (Mg)-Leachable (mg/L)	7.62	2.37		1.19	3.09
	Mercury (Hg)-Leachable (mg/L)	<0.0010	<0.0010		<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)	<0.25	<0.25		<0.25	<0.25
	Selenium (Se)-Leachable (mg/L)	<1.0	<1.0		<1.0	<1.0
	Silver (Ag)-Leachable (mg/L)	<0.050	<0.050		<0.050	<0.050
	Thallium (Tl)-Leachable (mg/L)	<1.0	<1.0		<1.0	<1.0
	Vanadium (V)-Leachable (mg/L)	<0.15	<0.15		<0.15	<0.15
	Zinc (Zn)-Leachable (mg/L)	<0.50	<0.50		<0.50	<0.50
Volatile Organic Compounds	VOC Sample Container		Field MeOH	Field MeOH		
	Benzene (mg/kg)		0.0088	<0.0050		
	Bromodichloromethane (mg/kg)		<0.050	<0.050		
	Bromoform (mg/kg)		<0.050	<0.050		
	Carbon Tetrachloride (mg/kg)		<0.050	<0.050		
	Chlorobenzene (mg/kg)		<0.050	<0.050		
	Dibromochloromethane (mg/kg)		<0.050	<0.050		
	Chloroethane (mg/kg)		<0.10	<0.10		
	Chloroform (mg/kg)		<0.10	<0.10		
	Chloromethane (mg/kg)		<0.10	<0.10		
	1,2-Dichlorobenzene (mg/kg)		<0.050	<0.050		
	1,3-Dichlorobenzene (mg/kg)		<0.050	<0.050		
	1,4-Dichlorobenzene (mg/kg)		<0.050	<0.050		
	1,1-Dichloroethane (mg/kg)		<0.050	<0.050		
	1,2-Dichloroethane (mg/kg)		<0.050	<0.050		
	1,1-Dichloroethylene (mg/kg)		<0.050	<0.050		
	cis-1,2-Dichloroethylene (mg/kg)		<0.050	<0.050		
	trans-1,2-Dichloroethylene (mg/kg)		<0.050	<0.050		
	Dichloromethane (mg/kg)		<0.30	<0.30		
	1,2-Dichloropropane (mg/kg)		<0.050	<0.050		
	cis-1,3-Dichloropropylene (mg/kg)		<0.050	<0.050		
	trans-1,3-Dichloropropylene (mg/kg)		<0.050	<0.050		

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2092410-7	L2092410-8	L2092410-10	L2092410-12	L2092410-14
	Description	Soil	Soil	Soil	Soil	Soil
	Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	10-MAY-18
	Sampled Time					
	Client ID	Z111	BH129M-02	BH129M-04	BH129M-06	BH130M-02
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)		<0.050	<0.050		
	Calcium (Ca)-Leachable (mg/L)		37.7	111		
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25		
	Cobalt (Co)-Leachable (mg/L)		<0.050	<0.050		
	Copper (Cu)-Leachable (mg/L)		0.077	<0.050		
	Iron (Fe)-Leachable (mg/L)		<5.0	24.0		
	Lead (Pb)-Leachable (mg/L)		<0.25	<0.25		
	Magnesium (Mg)-Leachable (mg/L)		4.52	3.83		
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010		
	Nickel (Ni)-Leachable (mg/L)		<0.25	<0.25		
	Selenium (Se)-Leachable (mg/L)		<1.0	<1.0		
	Silver (Ag)-Leachable (mg/L)		<0.050	<0.050		
	Thallium (Tl)-Leachable (mg/L)		<1.0	<1.0		
	Vanadium (V)-Leachable (mg/L)		<0.15	<0.15		
	Zinc (Zn)-Leachable (mg/L)		<0.50	<0.50		
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					
	1,2-Dichloropropane (mg/kg)					
	cis-1,3-Dichloropropylene (mg/kg)					
	trans-1,3-Dichloropropylene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2092410-17	L2092410-18			
	Description	Soil	Soil			
	Sampled Date	10-MAY-18	10-MAY-18			
	Sampled Time					
	Client ID	BH130M-05	BH125M-06			
Grouping	**Analyte**					
SOIL						
TCLP Metals	Cadmium (Cd)-Leachable (mg/L)		<0.050			
	Calcium (Ca)-Leachable (mg/L)		10.3			
	Chromium (Cr)-Leachable (mg/L)		<0.25			
	Cobalt (Co)-Leachable (mg/L)		<0.050			
	Copper (Cu)-Leachable (mg/L)		<0.050			
	Iron (Fe)-Leachable (mg/L)		<5.0			
	Lead (Pb)-Leachable (mg/L)		<0.25			
	Magnesium (Mg)-Leachable (mg/L)		18.4			
	Mercury (Hg)-Leachable (mg/L)		<0.0010			
	Nickel (Ni)-Leachable (mg/L)		<0.25			
	Selenium (Se)-Leachable (mg/L)		<1.0			
	Silver (Ag)-Leachable (mg/L)		<0.050			
	Thallium (Tl)-Leachable (mg/L)		<1.0			
	Vanadium (V)-Leachable (mg/L)		<0.15			
	Zinc (Zn)-Leachable (mg/L)		<0.50			
Volatile Organic Compounds	VOC Sample Container					
	Benzene (mg/kg)					
	Bromodichloromethane (mg/kg)					
	Bromoform (mg/kg)					
	Carbon Tetrachloride (mg/kg)					
	Chlorobenzene (mg/kg)					
	Dibromochloromethane (mg/kg)					
	Chloroethane (mg/kg)					
	Chloroform (mg/kg)					
	Chloromethane (mg/kg)					
	1,2-Dichlorobenzene (mg/kg)					
	1,3-Dichlorobenzene (mg/kg)					
	1,4-Dichlorobenzene (mg/kg)					
	1,1-Dichloroethane (mg/kg)					
	1,2-Dichloroethane (mg/kg)					
	1,1-Dichloroethylene (mg/kg)					
	cis-1,2-Dichloroethylene (mg/kg)					
	trans-1,2-Dichloroethylene (mg/kg)					
	Dichloromethane (mg/kg)					
	1,2-Dichloropropane (mg/kg)					
	cis-1,3-Dichloropropylene (mg/kg)					
	trans-1,3-Dichloropropylene (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2092410-1	L2092410-2	L2092410-4	L2092410-5	L2092410-6
Description	Soil	Soil	Soil	Soil	Soil
Sampled Date	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18	09-MAY-18
Sampled Time					
Client ID	BH125M-01	BH125M-02	BH125M-04	BH125M-05	BH129M-01
Grouping / **Analyte**					
SOIL					
Volatile Organic Compounds					
1,3-Dichloropropene (cis & trans) (mg/kg)		<0.10	<0.10		
Ethylbenzene (mg/kg)		0.024	<0.015		
Methyl t-butyl ether (MTBE) (mg/kg)		<0.20	<0.20		
Styrene (mg/kg)		<0.050	<0.050		
1,1,1,2-Tetrachloroethane (mg/kg)		<0.050	<0.050		
1,1,2,2-Tetrachloroethane (mg/kg)		<0.050	<0.050		
Tetrachloroethylene (mg/kg)		<0.050	<0.050		
Toluene (mg/kg)		<0.050	<0.050		
1,1,1-Trichloroethane (mg/kg)		<0.050	<0.050		
1,1,2-Trichloroethane (mg/kg)		<0.050	<0.050		
Trichloroethylene (mg/kg)		<0.010	<0.010		
Trichlorofluoromethane (mg/kg)		<0.10	<0.10		
Vinyl Chloride (mg/kg)		<0.10	<0.10		
ortho-Xylene (mg/kg)		<0.050	<0.050		
meta- & para-Xylene (mg/kg)		0.100	<0.050		
Xylenes (mg/kg)		0.100	<0.075		
Surrogate: 4-Bromofluorobenzene (SS) (%)		90.3	93.4		
Surrogate: 1,4-Difluorobenzene (SS) (%)		89.1	92.3		
Hydrocarbons					
EPH10-19 (mg/kg)	<200	<200		<200	
EPH19-32 (mg/kg)	<200	<200		<200	
LEPH (mg/kg)		<200		<200	
HEPH (mg/kg)		<200		<200	
Volatile Hydrocarbons (VH6-10) (mg/kg)		<100	<100		
VPH (C6-C10) (mg/kg)		<100	<100		
Surrogate: 2-Bromobenzotrifluoride (%)	81.7	87.8		90.1	
Surrogate: 3,4-Dichlorotoluene (SS) (%)		103.3	106.1		
Polycyclic Aromatic Hydrocarbons					
Acenaphthene (mg/kg)		<0.014 DLCI		<0.0050	
Acenaphthylene (mg/kg)		<0.014 DLCI		<0.0050	
Anthracene (mg/kg)		0.015		<0.0040	
Benz(a)anthracene (mg/kg)		<0.028		<0.010	
Benzo(a)pyrene (mg/kg)		<0.028		<0.010	
Benzo(b&j)fluoranthene (mg/kg)		0.034		<0.010	
Benzo(b+j+k)fluoranthene (mg/kg)		<0.040		<0.015	
Benzo(g,h,i)perylene (mg/kg)		0.037		<0.010	
Benzo(k)fluoranthene (mg/kg)		<0.028 DLCI		<0.010	
Chrysene (mg/kg)		<0.050 DLCI		<0.010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.