Appendix 11a

Site Photos

– Pit No. 2

Site Photographs – Pit No. 2

Photo 1 View of Pit No. 2 (looking east from Main Base)

Photo 2 View of Pit No. 2 (looking southeast from Main Base)

Site Photographs – Pit No. 2

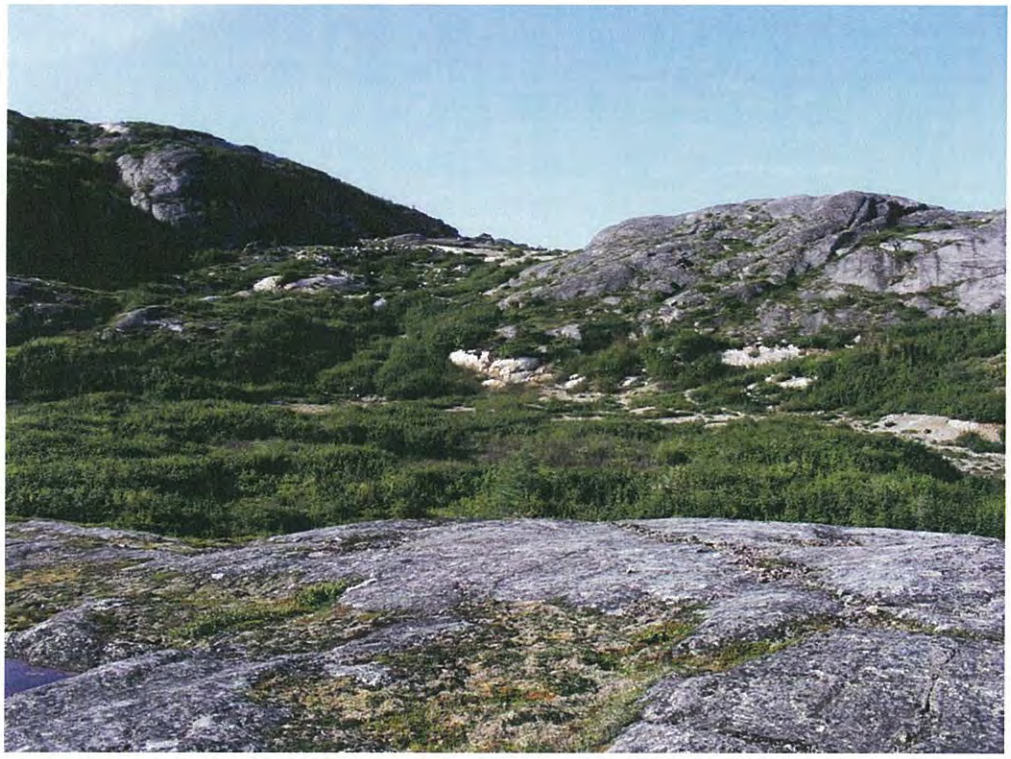

Photo 3 View of Pit No. 2 (looking northwest from Rocky Knoll)

Appendix 11b

Sample Coordinates

– Pit No. 2

Sample Coordinates - Pit No. 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Coordinates	
	Easting	Northing
TEST PITS		
TP-177	0675355	6150112
TP-178	0675345	6150083
TP-179	0675316	6150070
TP-180	0675302	6150059
TP-181	0675314	6150040
TP-182	0675329	6150059
TP-183	0675338	6150073
TP-184	0675357	6150084
TP-185	0675398	6150074
TP-186	0675391	6150066
TP-187	0675397	6150051
TP-188	0675407	6150038
TP-189	0675402	6150024
TP-190	0675423	6150018
TP-191	0675422	6149992
TP-192	0675388	6150096
TP-193	0675420	6150103
TP-194	0675494	6150104
TP-195	0675497	6150064
TP-196	0675532	6150092
TP-197	0675546	6150097
TP-198	0675321	6150217
TP-199	0675316	6150162
TP-200	0675315	6150033
TP-201	0675312	6150010
TP-202	0675275	6149949
TP-203	0675342	6150035
TP-204	0675366	6150006
TP-205	0675391	6150010
TP-206	0675368	6150034
TP-207	0675381	6150035
TP-208	0675370	6150063
TP-209	0675438	6150017
TP-210	0675416	6149978
TP-211	0675433	6149890
TP-212	0675397	6149843
SURFACE SOIL		
BS171	0675447	6149997
BS172	0675424	6149979
BS173	0675427	6149951
BS174	0675374	6150033
BS175	0675311	6149833
BS176	0675306	6149986

Sample ID	Coordinates	
	Easting	Northing
BS177	0675318	6150013
BS178	0675286	6150061
BS179	0675301	6150101
BS180	0675391	6150104
BS181	0675403	6150080
BS182	0675384	6150088
BS183	0675513	6150103
BS184	0675554	6150096
BS185	0675292	6150168
BS186	0675253	6150222
BS187	0675243	6150236
MONITOR WELLS		
MW-15	0675343	6150063
MW-16	0675320	6150016
MW-17	0675428	6150013

Appendix 11c

Test Pit and Monitor Well Records

– Pit No. 2

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044856
TEST PIT NO.: TP177
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.1	Light brown medium silty sand, cobbles and gravel	BS1	0.2 0.3			Dry @ b.r.
			BS2	1.0 1.1			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10449850
TEST PIT NO.: TP178
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	2.6	Light brown medium silty sand and gravel	BS1 BS2	0.2 0.3 2.5 2.6			Wet @ w.r.

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 2.6m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10448516
TEST PIT NO.: TP179
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.2	light brown medium silty sand	BS1	0.2-0.3			clay @ b.r
0.2	1.2	gray fine silty sand	BS2	1.1-1.2			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10414856
TEST PIT NO.: TP180
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.0	Light brown medium silty sand	BS1	0.0-0.2			key @ b.r.
1.0	1.5	grey brown silty sand	BS2	1.4-1.5			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10148526
TEST PIT NO.: TP181
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.4	brown to dark brown	BS1	0.2-0.3			Clay @ 6.0
		lime silty sand					
0.4	1.6	light brown to grey lime silty sand	BS2	1.5-1.6			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10448526
TEST PIT NO.: TP182
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	5.0	Light to dark brown medium silty sandy trace grey silty sand	BS1 BS2	0.2 0.3 4.0 5.0			clay @ b.o.

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 5.0 m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044852c
TEST PIT NO.: TP183
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	3.4	light to dark brown medium silty sand	BS1	0.2-0.3			cy @ b.c
			BS2	3.3-3.4			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 3.4m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10-1485-0
TEST PIT NO.: TP184
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	4.1	Light to dark brown medium silty sand	BS1	0.2 0.3			Lay @ b.s.
			BS2	3.9 4.1			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 4.1m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10441856
TEST PIT NO.: TP185
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.2	Light brown medium silty sand	BS1	0.2-0.3			Clay @ b.c
			BS2	1.1-1.2			
							Two 45 gallon drums on surface of test pit

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 1.2m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10414856
TEST PIT NO.: TP186
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.9	Light brown to brown medium silty sand and gravel	BS1	0.2 0.3			Clay @ b.c.
			BS2	0.8 0.9			Debris: 45 gallon drums

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 0.9 m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10114856
TEST PIT NO.: TP187
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	2.2	Light brown to brown medium silty sand and gravel	BS1	0.2 0.3			ug @ b.c.
			BS2	2.1 2.2			Debris: 10 45 gallon drums, sheet aluminum

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 1.3m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10414857a
TEST PIT NO.: TP188
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.3	light brown to brown medium silty sand and gravel	BS1	0.25 0.3			wet @ b.c.
1.3	1.4	grey fine silty sand	BS2	1.3 1.4			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 1.3m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10111826
TEST PIT NO.: TP189
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	3.3	light brown to brown medium silty sand and gravel	BS1	0.2-0.3			Lay@b.c
3.3	3.8	grey silty sand	BS2	3.7-3.8			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 104142516
TEST PIT NO.: TP198
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.5	brown to dark brown		0.2			Clay @ b.c
		medium silty sand	BS1	0.3			
0.5	3.1	light brown to grey fine		3.0			
		silty sand	BS2	3.1			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044856
TEST PIT NO.: TP191
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.5	dark brown organics	BS1	0.2-0.3			Leg @ 6-8
0.5	2.7	light brown to grey medium silty sand	BS2	2.6-2.7			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 104618510
TEST PIT NO.: TP192
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.8	light brown medium silty sand	BS1	0.2-0.3			cly @ b.c.
0.8	1.0	grey fine silty sand	BS2	0.9-1.0			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10414856
TEST PIT NO.: TP193
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.4	brown to dark brown medium silty sandy gravel and cobbles	BS1	0.3 0.4			[illegible]

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1041182c
TEST PIT NO.: TP194
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.0	dark brown medium silty sand, gravel and boulders	BS1	0.9-1.0			cuy@b.r.

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044856
TEST PIT NO.: TP195
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.7	Light brown to brown fine silty sand, gravel and cobbles	BS1	0.6-0.7			Clay @ b.c.

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10414856
TEST PIT NO.: TP196
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.1	Light brown to brown fine silty sand, gravel and cobbles	BS1	0.0-0.1			clayey b.

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10419856
TEST PIT NO.: TP197
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 30, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.6	Light to dark brown medium silty sand	BS1	0.5-0.6			Organics

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10448526
TEST PIT NO.: TP198
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: Aug 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.8	Light brown to grey medium silty sand	BS1	0.7 0.8			Clay @ 0.7

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 0.8 m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044856
TEST PIT NO.: TP199
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.4	Light brown to grey medium silty sand, gravel and cobbles	BS1	0.3-0.4			Lay over

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044856
TEST PIT NO.: TP200
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.3	Light brown medium silty sand, trace organics	BS1	0.2-0.3			very @ b.c.

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10448526
TEST PIT NO.: TP201
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.9	Light brown medium silty sand, trace organics	BS1	0.8-0.9			wet @ b.o.

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 0.9m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10448576
TEST PIT NO.: TP207
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.2	dark brown to black organics					dry @ b.o.
0.2	1.2	light brown to grey medium silty sand	SS1	1.1-1.2			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 1.2m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10448526
TEST PIT NO.: TP803
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.3	dark brown to black organics	RS1	0.3 0.3			very @ b.r.
0.3	0.5	dark to light brown medium silty sand					
0.5	1.4	grey fine silty sand	RS2	1.3 1.4			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 104618 S2.0
TEST PIT NO.: TP204
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.3	Light brown to brown medium silty sand	BS1	0.2 0.3			veg @ bot
0.3	2.2	grey fine silty sand	BS2	2.1 2.2			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 2.2 m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10448526
TEST PIT NO.: TP205
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.4	Light to dark brown medium silty sand	BS1	0.2 0.3			Topsoil
0.4	1.7	grey fine silty sand	BS2	1.6 1.7			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044356
TEST PIT NO.: TP06
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.6	dark brown to black organics and medium silty sand	BS1	0.2 0.3			wet @ b.o.
0.6	3.0	light brown and dark to light grey fine silty sand	BS2	3.0			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 3.0

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044855a
TEST PIT NO.: TP207
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.2	brown to dark brown medium silty sand	BS1	0.2 0.3			Leg @ 0.1
1.2	2.5	light brown to grey coarse silty sand	BS2	2.4 2.5			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 2.5 m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1044856
TEST PIT NO.: TP208
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.2	brown to dark brown	BS1	0.2-0.3			Lage @ 0.5
		medium silty sand					
1.2	2.7	light brown to grey	BS2	2.6-2.7			
		coarse silty sand					

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw @ 2.7m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 1644856
TEST PIT NO.: TP209
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.1	Light brown medium silty sand	BS1	0.2 0.3			Cycle w.c.
			BS2	1.0 1.1			

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 104148516
TEST PIT NO.: TP210
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.2	Light brown medium silty sand, trace organics	BS1	0.1-0.2			Up @ 0.2

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 10445556
TEST PIT NO.: TP211
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	1.0	Light brown to grey medium silty sand	BS1	0.9-1.0			Lightly b.r

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

gw@1.0m

☐ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

SHEET: _____ OF _____

FIELD TEST PIT RECORD

JOB NUMBER: 104118556
TEST PIT NO.: TP912
MACHINE TYPE: _____
TEMPERATURE: _____

JOB NAME: _____
TEST PIT SIZE: _____
CONTRACTOR: _____
WEATHER: _____

DATE: July 31, 09
ELEVATION: _____
DATUM: _____

DEPTH FROM	DEPTH TO	SOIL DESCRIPTION	SAMPLES NO.	SAMPLES DEPTH	IN SITU DENSITY TEST NO.	IN SITU DENSITY TEST DEPTH	REMARKS
0	0.2	dark brown to black organics	PS1	0.1 0.2			Log @ 1:20

LOCATION SKETCH

WATER CONDITIONS IN TEST PIT:

☑ Test Pit Dry.

JOB NO.: _____
TEST PIT NO.: _____
ENGINEER: _____

Stantec MONITOR WELL RECORD

BOREHOLE No. MW15
PAGE 1 of 1
PROJECT No. 121410103
DRILLING METHOD
SIZE
DATUM N/A

CLIENT Newfoundland and Labrador Department of Environment and Conservation
PROJECT Phase II/III ESAs, HHERA and RAP/RMP
LOCATION Former U.S. Military Site and Residential Subdivision, Hopedale, NL
DATES (mm-dd-yy): BORING 9-5-09 WATER LEVEL 0.76m 10-15-09

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD %	HYDROCARBON ODOUR	APPARENT MOISTURE CONTENT	PID (ppm)	TPH (ppm)	WELL CONSTRUCTION DETAILS (0.61 m STICK UP)
							mm						CAST IRON WELL HEAD
0		Light to dark brown, coarse, SAND (SP)			SS	1	356	8	0		7.7	-	BACKFILL; BENTONITE
1		Brown, coarse, SAND (SP); some peat		▼	SS	2	330	5	0		2.1	-	50 mm DIAMETER No. 10 SLOT PVC SCREEN IN No. 2 SILICA SAND PACK
					SS	3	381	6	0		3.0	-	
2		Brown, coarse, SAND (SP); some cobbles			SS	4	406	6	0		-	<20	
3													END CAP
4		End of Borehole											
5													
6													
7													
8													
9													
10													

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MONITOR WELL RECORD

Stantec

BOREHOLE No. MW16
PAGE 1 of 1
PROJECT No. 121410103
DRILLING METHOD
SIZE
DATUM N/A

CLIENT Newfoundland and Labrador Department of Environment and Conservation
PROJECT Phase II/III ESAs, HHERA and RAP/RMP
LOCATION Former U.S. Military Site and Residential Subdivision, Hopedale, NL
DATES (mm-dd-yy): BORING 9-5-09 WATER LEVEL 0.58m 10-15-09

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY	SAMPLES N-VALUE OR RQD %	HYDROCARBON ODOUR	APPARENT MOISTURE CONTENT	PID (ppm)	TPH (ppm)	WELL CONSTRUCTION DETAILS (0.61 m STICK UP)
							mm						CAST IRON WELL HEAD
0		Brown, coarse, SAND (SP); some cobbles		▼	SS	1	305	2	0		2.0	-	BACKFILL; BENTONITE
					SS	2	102	35/150	0		12.3	-	
1		Black, white and grey, BEDROCK			RC	3	100%		0		-	-	50 mm DIAMETER No. 10 SLOT PVC SCREEN IN No. 2 SILICA SAND PACK
2		White, pink and grey, BEDROCK			RC	4	95%		0		-	-	
3					RC	5	100%		0		-	-	END CAP
4		End of Borehole											
5													
6													
7													
8													
9													
10													

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Stantec MONITOR WELL RECORD

BOREHOLE No. MW17
PAGE 1 of 1
PROJECT No. 121410103
DRILLING METHOD
SIZE
DATUM N/A

CLIENT Newfoundland and Labrador Department of Environment and Conservation
PROJECT Phase II/III ESAs, HHERA and RAP/RMP
LOCATION Former U.S. Military Site and Residential Subdivision, Hopedale, NL
DATES (mm-dd-yy): BORING 9-5-09 WATER LEVEL 0.25m 10-15-09

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY (mm)	SAMPLES N-VALUE OR RQD %	HYDROCARBON ODOUR	APPARENT MOISTURE CONTENT	PID (ppm)	TPH (ppm)	WELL CONSTRUCTION DETAILS (0.25 m STICK UP)
0		Brown, coarse, SAND (SP); some cobbles		▼	SS	1	229			D	3.0	-	CAST IRON WELL HEAD; BACKFILL; BENTONITE
1					SS	2	508			M	2.5	<20	50 mm DIAMETER No. 10 SLOT PVC SCREEN IN No. 2 SILICA SAND PACK
		Brown and reddish brown, coarse, SAND (SP); some cobbles			SS	3	610				3.4	-	
2		Brown and reddish brown, coarse, SAND (SP)			SS	4	610				2.0	-	
3		End of Borehole											END CAP
4													
5													
6													
7													
8													
9													
10													

DRAFT

Appendix 11d

Soil Vapour Concentrations

– Pit No. 2

Sample Tipping Results - Pit No. 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Sample Depth (mbgs)	Hydrocarbon Odour	Soil Vapour Concentration (ppm)
TEST PITS			
TP177-BS1	0.2-0.3	No	0.0
TP177-BS2	1.0-1.1	No	0.0
TP178-BS1	0.2-0.3	No	0.0
TP178-BS2	2.5-2.6	No	0.0
TP179-BS1	0.2-0.3	No	0.0
TP179-BS2	1.1-1.2	No	0.0
TP180-BS1	0.0-0.2	No	0.0
TP180-BS2	1.4-1.5	No	0.0
TP181-BS1	0.2-0.3	No	0.0
TP181-BS2	1.5-1.6	No	0.0
TP182-BS1	0.2-0.3	No	0.0
TP182-BS2	4.0-5.0	No	0.0
TP183-BS1	0.2-0.3	No	0.0
TP183-BS2	3.3-3.4	No	0.0
TP184-BS1	0.2-0.3	No	0.0
TP184-BS2	3.9-4.1	No	0.0
TP185-BS1	0.2-0.3	No	0.0
TP185-BS2	1.1-1.2	No	0.0
TP186-BS1	0.2-0.3	No	0.0
TP186-BS2	0.8-0.9	No	0.0
TP187-BS1	0.2-0.3	No	0.0
TP187-BS2	2.1-2.2	No	0.0
TP188-BS1	0.2-0.3	No	0.0
TP188-BS2	1.3-1.4	No	0.0
TP189-BS1	0.2-0.3	No	0.0
TP189-BS2	3.7-3.8	No	0.0
TP190-BS1	0.2-0.3	No	0.0
TP190-BS2	3.0-3.1	No	0.0
TP191-BS1	0.2-0.3	No	0.0
TP191-BS2	2.6-2.7	No	0.0
TP192-BS1	0.2-0.3	No	0.0
TP192-BS2	0.9-1.0	No	0.0
TP193-BS1	0.3-0.4	No	0.0
TP194-BS1	0.9-1.0	No	0.0
TP195-BS1	0.6-0.7	No	0.0
TP196-BS1	0.0-0.1	No	0.0
TP197-BS1	0.5-0.6	No	-
TP198-BS1	0.7-0.8	No	0.5
TP199-BS1	0.3-0.4	No	0.3
TP200-BS1	0.2-0.3	No	0.4
TP201-BS1	0.8-0.9	No	0.8
TP202-BS1	1.1-1.2	No	0.7
TP203-BS1	0.2-0.3	No	0.3
TP203-BS2	1.3-1.4	No	0.6
TP204-BS1	0.2-0.3	No	0.4
TP204-BS2	2.1-2.2	No	0.4
TP205-BS1	0.2-0.3	No	0.5
TP205-BS2	1.6-1.7	No	0.8
TP206-BS1	0.2-0.3	No	0.3
TP206-BS2	3	No	0.5

Sample Tipping Results - Pit No. 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Sample Depth (mbgs)	Hydrocarbon Odour	Soil Vapour Concentration (ppm)
TP207-BS1	0.2-0.3	No	0.8
TP207-BS2	2.4-2.5	No	0.7
TP208-BS1	0.2-0.3	No	0.6
TP208-BS2	2.6-2.7	No	2.5
TP209-BS1	0.2-0.3	No	2.9
TP209-BS2	1.0-1.1	No	1.9
TP210-BS1	0.1-0.2	No	0.4
TP211-BS1	0.9-1.0	No	0.9
TP212-BS1	0.1-0.2	No	2.8
SURFACE SOIL			
BS171	0.00-0.20	No	1.0
BS172	0.00-0.15	No	1.4
BS173	0.00-0.22	No	0.7
BS174	0.00-0.18	No	0.8
BS175	0.00-0.25	No	0.9
BS176	0.00-0.25	No	1.4
BS177	0.00-0.25	No	2.2
BS178	0.00-0.17	No	1.8
BS179	0.00-0.08	No	1.7
BS180	0.00-0.30	No	2.3
BS181	0.00-0.25	No	1.3
BS182	0.00-0.40	No	2.0
BS183	0.00-0.10	No	-
BS184	0.00-0.14	No	-
BS185	0.00-0.28	No	-
BS186	0.00-0.10	No	-
BS187	0.00-0.18	No	-

Notes:
"-" = Value not recorded

Appendix 11e

Laboratory Analytical Results Summary Tables

– Pit No. 2

Table 11.1 Results of Laboratory Analysis of TPH/BTEX in Soil- Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Sample Depth (m)	Benzene	Toluene	Ethylbenzene	Xylenes	C_6-C_{10} (Gas Range)	C_{10}-C_{21} (Fuel Range)	C_{21}-C_{32} (Lube Range)	Modified TPH - Tier I[2]	Resemblence
	RDL	0.03	0.03	0.03	0.05	3	15	15	20	-
	RDL[3]	0.03	0.03	0.03	0.05	10	15	15	20	-
	Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
	Tier I RBSLs[1]	0.16	14	58	17	-	-	-	140	-
TEST PITS										
TP177-BS2	1.0 - 1.1	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP177-BS2-Lab-Dup	1.0 - 1.1	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	-	-
TP178-BS2	2.5 - 2.6	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP180-BS2	1.4 - 1.5	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP182-BS2	4.0 - 5.0	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP185-BS2	1.1 - 1.2	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP186-BS2	0.8 - 0.9	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	LO
TP187-BS2	2.1 - 2.2	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP188-BS2	1.3 - 1.4	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP190-BS2	3.0 - 3.1	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP195-BS1	0.6 - 0.7	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP195-BS1-Lab-Dup	0.6 - 0.7	-	-	-	-	-	<15	<15	-	-
TP197-BS1	0.5 - 0.6	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP198-BS1	0.7 - 0.8	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP208-BS2	2.6 - 2.7	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
TP209-BS1	0.2 - 03	<0.03	<0.03	<0.03	<0.05	<3	<15	22	22	DNR
TP212-BS1	0.1 - 0.2	<0.03	<0.03	<0.03	<0.05	<3	32	72	100	OP F/L
SURFACE SAMPLES										
BS171	0.00 - 0.20	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
BS172	0.00 - 0.15	<0.03	<0.03	<0.03	<0.05	<3	84	250	330	OP F/L, (1)
BS175	0.00 - 0.25	<0.03	<0.03	<0.03	<0.05	<3	110	410	510	OP F/L, (1)
BS176	0.00 - 0.25	<0.03	<0.03	<0.03	<0.05	<3	1,000	260	1,300	WFO, Possible LO
BS177	0.00 - 0.25	<0.03	<0.03	<0.03	<0.05	<3	100	25	130	WFO, Possible LO
BS178	0.00 - 0.17	<0.03	<0.03	<0.03	<0.05	<3	180	450	630	OP F/L, (1)
BS179[3]	0.00 - 0.08	<0.1	<0.1	<0.1	<0.3	<10	410	1,200	1,600	OP F/L, (1)
BS180	0.00 - 0.30	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
BS181	0.00 - 0.25	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
BS182	0.00 - 0.40	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
BS262	Not recorded	<0.03	<0.03	<0.03	<0.05	<3	<15	120	120	DNR
BS262 Lab-Dup	Not recorded	<0.03	<0.03	<0.03	<0.05	<3	-	-	-	-
BS263	Not recorded	<0.03	<0.03	<0.03	<0.05	<3	<15	23	23	DNR
BS264	Not recorded	<0.03	<0.03	<0.03	<0.05	<3	<15	38	38	DNR

Table 11.1 Results of Laboratory Analysis of TPH/BTEX in Soil- Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Sample Depth (m)	Benzene	Toluene	Ethylbenzene	Xylenes	C_6-C_{10} (Gas Range)	C_{10}-C_{21} (Fuel Range)	C_{21}-C_{32} (Lube Range)	Modified TPH - Tier I[2]	Resemblence
	RDL	0.03	0.03	0.03	0.05	3	15	15	20	-
	RDL[3]	0.03	0.03	0.03	0.05	10	15	15	20	-
	Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
	Tier I RBSLs[1]	0.16	14	58	17	-	-	-	140	-
MONITOR WELLS										
MW15-SS4	1.83 - 2.44	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
MW15-SS4 Lab-Dup	1.83 - 2.44	<0.03	<0.03	<0.03	<0.05	<3	-	-	-	-
MW17-SS2	0.61 - 1.22	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-

Notes:

1 = Partnership in RBCA (Risk-Based Corrective Action) Implementation (PIRI) Tier I Risk Based Screening Levels (RBSLs) for a residential site with non-potable groundwater and coarse grained soil, fuel oil impacts (September, 2003)

2 = Modified TPH - Tier I does not include BTEX

3,4 = Elevated RDL(s) due to sample dilution

RDL = Reportable Detection Limit for routine analysis

Lab-dup = laboratory duplicate sample

< # = Not detected above RDL noted

"-" = indicates value is not available or does not apply

FO = Fuel oil fraction; WFO = Weathered fuel oil; LO = Lube oil fraction; OP F/L= One product in fuel/lube range; DNR = No resemblance to petroleum products

(1)= Unidentified compound(s) in fuel/lube range.

Shaded = Value exceeds generic criteria for a residential site with non-potable groundwater, coarse grained soil and fuel oil impacts

Table 11.2 Results of Laboratory Analysis of PCBs in Soil - Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)
	RDL	0.05
	Units	mg/kg
	Criteria[1]	1.3
TEST PITS		
TP177-BS2	1.0 - 1.1	<0.05
TP177-BS2-Lab-Dup	1.0 - 1.1	<0.05
TP178-BS2	2.5 - 2.6	<0.05
TP180-BS2	1.4 - 1.5	<0.05
TP182-BS2	4.0 - 5.0	<0.05
TP185-BS2	1.1 - 1.2	<0.05
TP186-BS2	0.8 - 0.9	<0.05
TP187-BS2	2.1 - 2.2	<0.05
TP188-BS2	1.3 - 1.4	<0.05
TP192-BS2	0.9 - 1.0	<0.05
TP195-BS1	0.6 - 0.7	<0.05
TP198-BS1	0.7 - 0.8	<0.05
TP204-BS1	0.2 - 0.3	<0.05
TP204-BS1-Lab-Dup	0.2 - 0.3	<0.05
TP209-BS1	1.0 - 1.1	<0.05
TP212-BS1	0.1 - 0.2	<0.05
SURFACE SAMPLES		
BS176	0.00 - 0.25	<0.05
BS179	0.00 - 0.08	<0.05
MONITOR WELLS		
MW15-SS4	1.83 - 2.44	<0.05
MW17-SS2	0.61 - 1.22	<0.05

Notes:
1 = CCME Canadian Soil Quality Guidelines for a Residential/Parkland Site (2007)
RDL = Reportable Detection Limit for routine analysis
Lab-dup = Laboratory duplicate sample
< # = Not detected above RDL noted
Shaded = Value exceeds applicable criteria

Table 11.3 Results of Laboratory Analysis of Available Metals in Soil - Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Parameters	RDL	Units	Criteria[1]	TEST PITS								
				TP180-BS2	TP185-BS2	TP186-BS2	TP187-BS2	TP190-BS2	TP191-BS2	TP192-BS2	TP194-BS1	TP197-BS1
Aluminum	10	mg/kg	-	3,700	8,100	6,700	4,600	7,700	7,400	3,800	5,200	4,200
Antimony	2	mg/kg	20	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	2	mg/kg	12	<2	<2	<2	<2	<2	<2	<2	<2	<2
Barium	5	mg/kg	500	6	20	22	11	26	19	7	13	6
Beryllium	2	mg/kg	4	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	2	mg/kg	-	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	5	mg/kg	-	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cadmium	0.3	mg/kg	10	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	2	mg/kg	64	9	14	12	11	15	14	9	16	9
Cobalt	1	mg/kg	50	4	5	5	4	5	4	4	5	3
Copper	2	mg/kg	63	10	18	21	10	12	10	18	6	11
Iron	50	mg/kg	-	5,500	7,800	8,900	6,400	9,700	8,500	5,700	11,000	5,800
Lead	0.5	mg/kg	140	1.6	3.0	3.4	2.1	2.3	1.7	1.3	3.8	1.3
Lithium	2	mg/kg	-	3	5	11	6	6	5	3	7	3
Manganese	2	mg/kg	-	61	100	110	73	130	91	72	120	71
Mercury	0.1/0.2[2]	mg/kg	6.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	2	mg/kg	10	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	2	mg/kg	50	9	14	15	12	13	11	8	11	9
Rubidium	2	mg/kg	-	<2	4	6	4	6	5	<2	4	<2
Selenium	2	mg/kg	1	<2	<2	<2	<2	<2	<2	<2	<2	<2
Silver	0.5	mg/kg	20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	5	mg/kg	-	10	15	8	8	18	20	12	6	8
Thallium	0.1	mg/kg	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	2	mg/kg	50	<2	<2	<2	<2	<2	<2	<2	<2	<2
Uranium	0.1	mg/kg	23	0.3	0.5	1.4	0.7	1.0	0.7	0.6	0.1	0.1
Vanadium	2	mg/kg	130	14	17	17	12	19	20	14	20	13
Zinc	5	mg/kg	200	10	21	35	20	22	17	11	21	13

Notes:

1 = CCME Canadian Soil Quality Guidelines for a Residential/Parkland Site (2007)

2 = Elevated RDL due to matrix interfaces

RDL = Reportable Detection Limit for routine analysis

< # = Not detected above RDL noted

"-" = indicates value is not available or does not apply

Shaded = Value exceeds applicable criteria

Table 11.3 Results of Laboratory Analysis of Available Metals in Soil
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Parameters	RDL	Units	Criteria[1]	TEST PITS					SURFACE SAMPLES	MONITOR WELLS	
				TP198-BS1	TP202-BS1	TP204-BS1	TP205-BS2	TP210-BS1	BS174	MW16-SS2	MW17-SS4
Aluminum	10	mg/kg	-	11,000	4,700	6,000	5,800	7,200	6,400	5,800	5,100
Antimony	2	mg/kg	20	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	2	mg/kg	12	<2	<2	<2	<2	<2	<2	<2	<2
Barium	5	mg/kg	500	41	6	9	16	18	10	16	14
Beryllium	2	mg/kg	4	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	2	mg/kg	-	<2	<2	<2	<2	<2	<2	<2	<2
Boron	5	mg/kg	-	<5	<5	<5	<5	<5	<5	<5	<5
Cadmium	0.3	mg/kg	10	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	2	mg/kg	64	21	9	11	15	18	13	17	11
Cobalt	1	mg/kg	50	7	2	3	4	5	4	4	4
Copper	2	mg/kg	63	23	9	8	14	15	7	14	9
Iron	50	mg/kg	-	11,000	3,200	4,400	7,300	7,900	8,300	7,000	6,900
Lead	0.5	mg/kg	140	2.2	1.3	1.5	1.4	2.8	2.4	2.5	1.5
Lithium	2	mg/kg	-	9	3	4	5	6	6	5	4
Manganese	2	mg/kg	-	150	39	44	84	75	88	69	93
Mercury	0.1/0.2[2]	mg/kg	6.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	2	mg/kg	10	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	2	mg/kg	50	22	6	7	13	13	9	11	10
Rubidium	2	mg/kg	-	8	<2	<2	3	5	3	4	4
Selenium	2	mg/kg	1	<2	<2	<2	<2	<2	<2	<2	<2
Silver	0.5	mg/kg	20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	5	mg/kg	-	16	10	10	19	11	8	9	12
Thallium	0.1	mg/kg	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	2	mg/kg	50	<2	<2	<2	<2	<2	<2	<2	<2
Uranium	0.1	mg/kg	23	0.5	0.3	0.3	0.2	1.0	0.4	0.2	0.5
Vanadium	2	mg/kg	130	20	10	14	20	22	17	18	13
Zinc	5	mg/kg	200	25	10	11	14	20	17	18	16

Notes:

1 = CCME Canadian Soil Quality Guidelines for a Residential/Parkland Site (2007)

2 = Elevated RDL due to matrix interfaces

RDL = Reportable Detection Limit for routine analysis

< # = Not detected above RDL noted

"-" = indicates value is not available or does not apply

Shaded = Value exceeds applicable criteria

Table 11.4 Results of Laboratory Analysis of TPH/BTEX in Groundwater - Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	C_6-C_{10} (Gas Range)	C_{11}-C_{20} (Fuel Range)	C_{21}-C_{32} (Lube Range)	Modified TPH - Tier I[2]	Resemblence
RDL	0.001	0.001	0.001	0.002	0.01	0.05	0.1	0.1	-
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	-
Criteria[1]	1	20	20	20	-	-	-	20	-
MONITOR WELLS									
MW15	<0.001	0.017	<0.001	<0.002	<0.01	<0.05	<0.1	<0.1	-
MW16	<0.001	0.005	<0.001	0.004	<0.01	0.07	0.2	0.3	WFO, LO
MW17	<0.001	0.002	<0.001	<0.002	<0.01	<0.05	<0.1	<0.1	-
MW17 Field-Dup	<0.001	0.004	<0.001	0.003	<0.01	<0.05	<0.1	<0.1	-

1 = Partnership in RBCA (Risk-Based Corrective Action) Implementation (PIRI) Tier I Risk Based Screening Levels (RBSLs) for a residential site with non-potable groundwater and coarse grained soil, fuel oil impacts (September, 2003)
2 = Modified TPH - Tier I does not include BTEX
Field-Dup = Field duplicate sample
RDL = Reportable Detection Limit for routine analysis
< # = Not detected above RDL noted
"-" = indicates value is not available or does not apply
WFO= Weathered fuel oil fraction; LO= Lube oil fraction

Table 11.5 Results of Laboratory Analysis of PCBs in Groundwater - Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Sample ID	Polychlorinated Biphenyls (PCBs)
RDL	0.05
Units	ug/L
Criteria[1]	0.2
MONITOR WELLS	
MW15	<0.05

Notes:
1 = OMOE Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*, Non-Potable Groundwater (2004)
RDL = Reportable Detection Limit
na = No applicable guideline
< # = Not detected above RDL noted

Table 11.6 Results of Laboratory Analysis of PAHs in Groundwater - Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Parameter	RDL	Units	Criteria[1]	MONITOR WELLS
				MW15
1-Methylnaphthalene	0.05	ug/L	13,000	<0.05
2-Methylnaphthalene	0.05	ug/L	13,000	<0.05
Acenaphthene	0.01	ug/L	1,700	<0.01
Acenaphthylene	0.01	ug/L	2,000	<0.01
Acridine	0.05	ug/L	-	<0.05
Anthracene	0.01	ug/L	12	<0.01
Benz[a]anthracene	0.01	ug/L	5.0	<0.01
Benzo[a]pyrene	0.01	ug/L	1.9	<0.01
Benzo[b]fluoranthene	0.01	ug/L	7.0	<0.01
Benzo[ghi]perylene	0.01	ug/L	0.2	<0.01
Benzo[k]fluoranthene	0.01	ug/L	0.4	<0.01
Chrysene	0.01	ug/L	3.0	<0.01
Dibenzo[a,h]anthracene	0.01	ug/L	0.25	<0.01
Fluoranthene	0.01	ug/L	130	<0.01
Fluorene	0.01	ug/L	290	<0.01
Indeno[1,2,3-cd]pyrene	0.01	ug/L	0.27	<0.01
Naphthalene	0.2	ug/L	5,900	<0.2
Perylene	0.01	ug/L	-	<0.01
Phenanthrene	0.01	ug/L	63	<0.01
Pyrene	0.01	ug/L	40	<0.01
Quinoline	0.05	ug/L	-	<0.05

Notes:
1 = OMOE Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*, Non-Potable Groundwater (2004)
RDL = Reportable Detection Limit for routine analysis
Lab-dup = Laboratory duplicate sample
< # = Not detected above RDL noted
"-" = indicates value is not available or does not apply
Shaded = Value exceeds applicable criteria

Table 11.7 Results of Laboratory Analysis of Available Metals in Groundwater - Pit 2
Phase II/III ESA, HHERA and RAP/RMP
Former US Military Site and Residential Subdivision, Hopedale, NL
Project No. 121410103

Parameters	RDL	Units	Criteria[1]	MONITOR WELLS		
				MW15	MW17	MW17 Field-Dup
Aluminum	5	ug/L	-	381	46.6	41.5
Antimony	2	ug/L	16,000	<2.0	<2.0	<2.0
Arsenic	2	ug/L	480	<2.0	<2.0	<2.0
Barium	5	ug/L	23,000	21.9	<5.0	<5.0
Beryllium	2	ug/L	53	<2.0	<2.0	<2.0
Bismuth	2	ug/L	-	<2.0	<2.0	<2.0
Boron	5	ug/L	50,000	21.7	<5.0	<5.0
Cadmium	0.017	ug/L	11	0.065	0.032	0.036
Chromium	1	ug/L	2,000	2.0	<1.0	<1.0
Cobalt	0.4	ug/L	100	2.94	0.78	0.78
Copper	2	ug/L	23	7.7	2	<2.0
Iron	50	ug/L	-	2990	<50	<50
Lead	0.5	ug/L	32	<0.50	1.33	<0.50
Manganese	2	ug/L	-	121	43.3	52.7
Molybdenum	2	ug/L	7,300	<2.0	2.7	2.8
Nickel	2	ug/L	1,600	6.9	19.1	16.8
Selenium	1	ug/L	50	<1.0	<1.0	<1.0
Silver	0.1	ug/L	1.2	<0.10	<0.10	<0.10
Strontium	5	ug/L	-	45.3	28.5	31.4
Thallium	0.1	ug/L	400	<0.10	<0.10	<0.10
Tin	2	ug/L	-	<2.0	<2.0	<2.0
Titanium	2	ug/L	-	5	<2.0	<2.0
Uranium	0.1	ug/L	-	0.26	<0.10	<0.10
Vanadium	2	ug/L	200	2.7	<2.0	<2.0
Zinc	5	ug/L	1,100	18.1	16.4	14.7

Notes:
1 = OMOE Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*, Non-Potable Groundwater (2004)
RDL = Reportable Detection Limit for routine analysis
Field-Dup = Field duplicate sample
< # = Not detected above RDL noted
"-" = indicates value is not available or does not apply
Shaded = Value exceeds applicable criteria