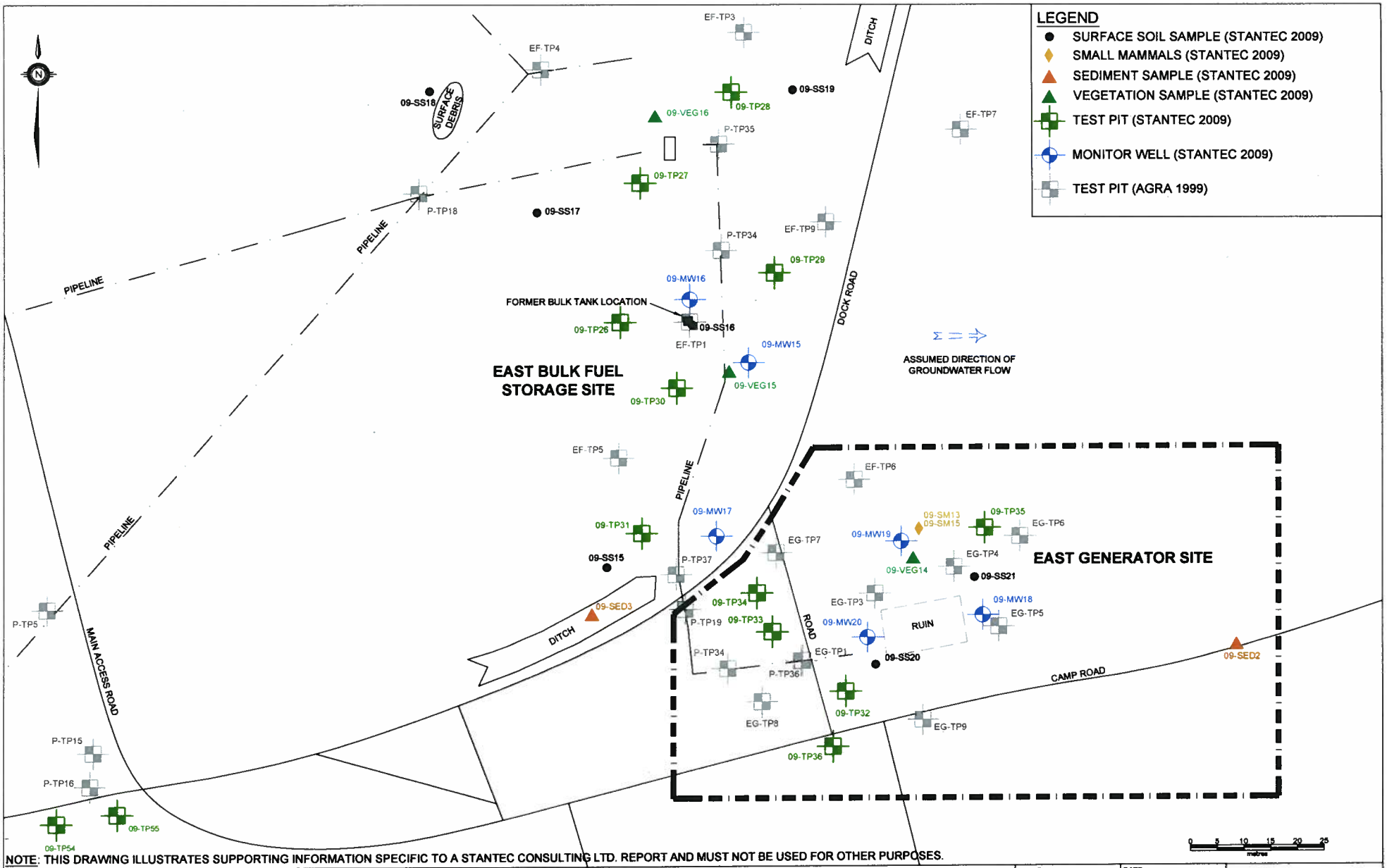
Appendix 5a

Site Drawings

– East Generator Site



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

CLIENT:
NEWFOUNDLAND AND LABRADOR DEPARTMENT OF ENVIRONMENT AND CONSERVATION

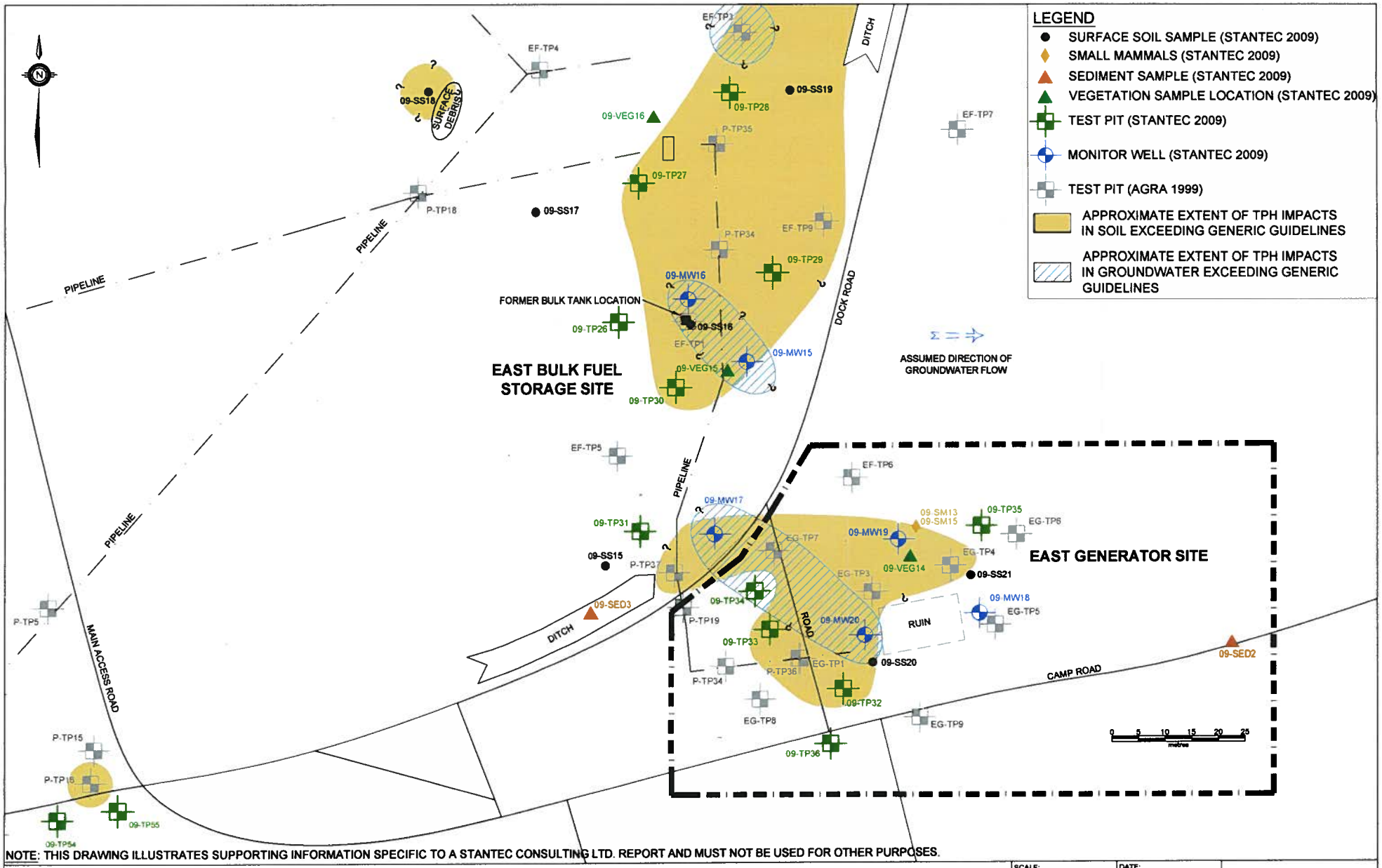
PROJECT TITLE:
PHASE III ENVIRONMENTAL SITE ASSESSMENT, HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS, REMEDIAL ACTION PLAN FOR THE FORMER U.S. MILITARY FACILITY OF NORTHWEST POINT, NL

DRAWING TITLE:
SITE PLAN - EAST GENERATOR SITE

SCALE: 1:800	DATE: JUNE 17, 2010
DRAWN BY: N.M.	CHECKED BY: A.R.
EDITED BY: R.L.	REV. No. 0
DRAWING No: 121410105-EE-05A	
CAD FILE: 1044857-EE-07.DWG	

Stantec

15SEPT11 10:00AM



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CLIENT: NEWFOUNDLAND AND LABRADOR DEPARTMENT OF ENVIRONMENT AND CONSERVATION

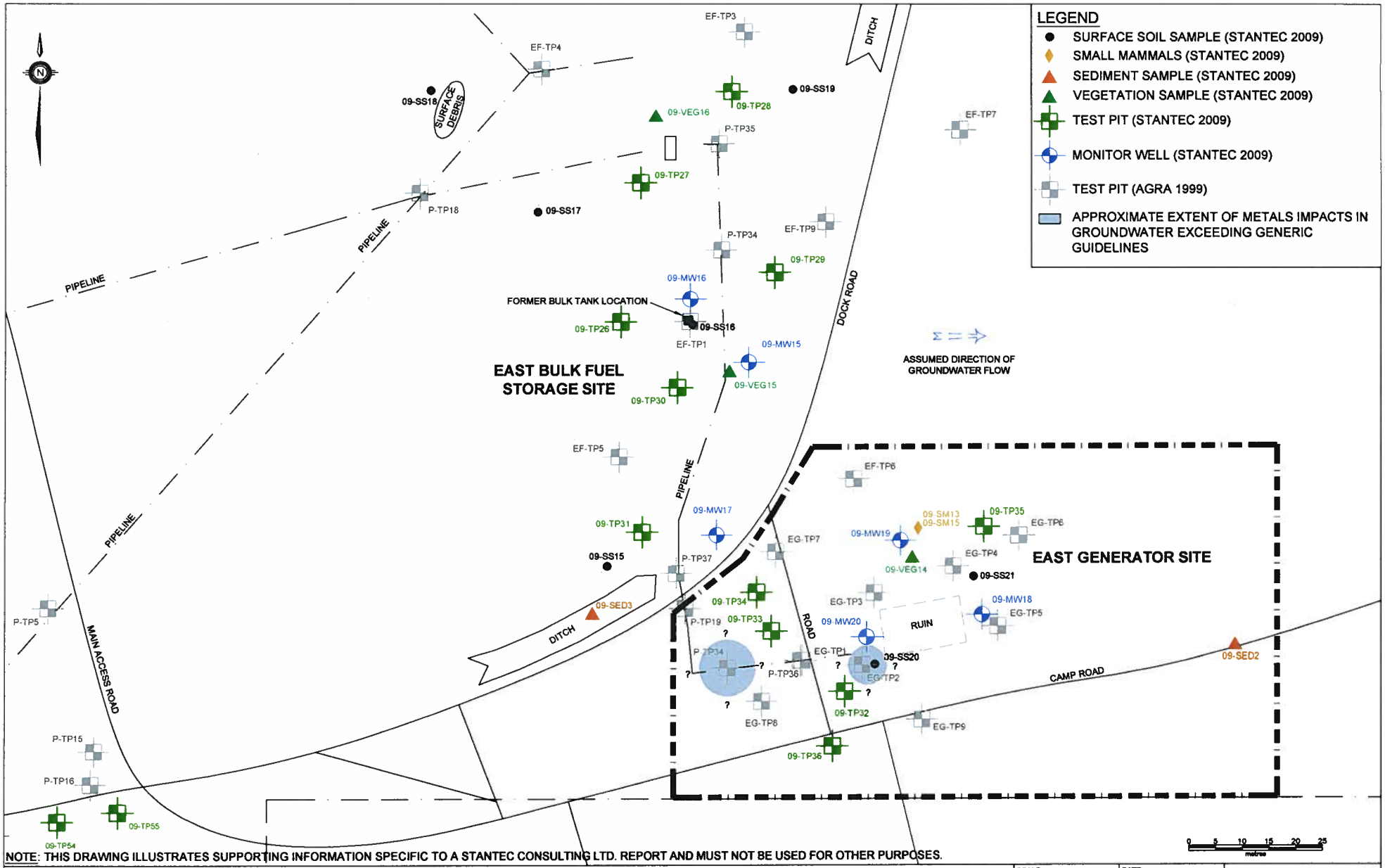
PROJECT TITLE: PHASE III ENVIRONMENTAL SITE ASSESSMENT, HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS, REMEDIAL ACTION PLAN FOR THE FORMER U.S. MILITARY FACILITY OF NORTHWEST POINT, NL

DRAWING TITLE: APPROXIMATE EXTENT OF TPH IMPACTS EXCEEDING GENERIC GUIDELINES - EAST GENERATOR SITE

SCALE: 1:800	DATE: JUNE 18, 2010
DRAWN BY: N.M.	CHECKED BY: A.R.
EDITED BY: -	REV. No. 0
DRAWING No: 121410105-EE-5B	
CAD FILE: 1044857-EE-10.DWG	

Stantec

18JUN10 1:00PM



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

CLIENT: NEWFOUNDLAND AND LABRADOR DEPARTMENT OF ENVIRONMENT AND CONSERVATION

PROJECT TITLE: PHASE III ENVIRONMENTAL SITE ASSESSMENT, HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS, REMEDIAL ACTION PLAN FOR THE FORMER U.S. MILITARY FACILITY OF NORTHWEST POINT, NL

DRAWING TITLE: APPROXIMATE EXTENT OF METALS IMPACTS EXCEEDING GENERIC GUIDELINES - EAST GENERATOR SITE

SCALE: 1:800	DATE: JUNE 17, 2010
DRAWN BY: N.M.	CHECKED BY: A.R.
EDITED BY: R.L.	REV. No. 0
DRAWING No: 121410105-EE-05C	
CAD FILE: 1044857-EE-07.DWG	

Stantec

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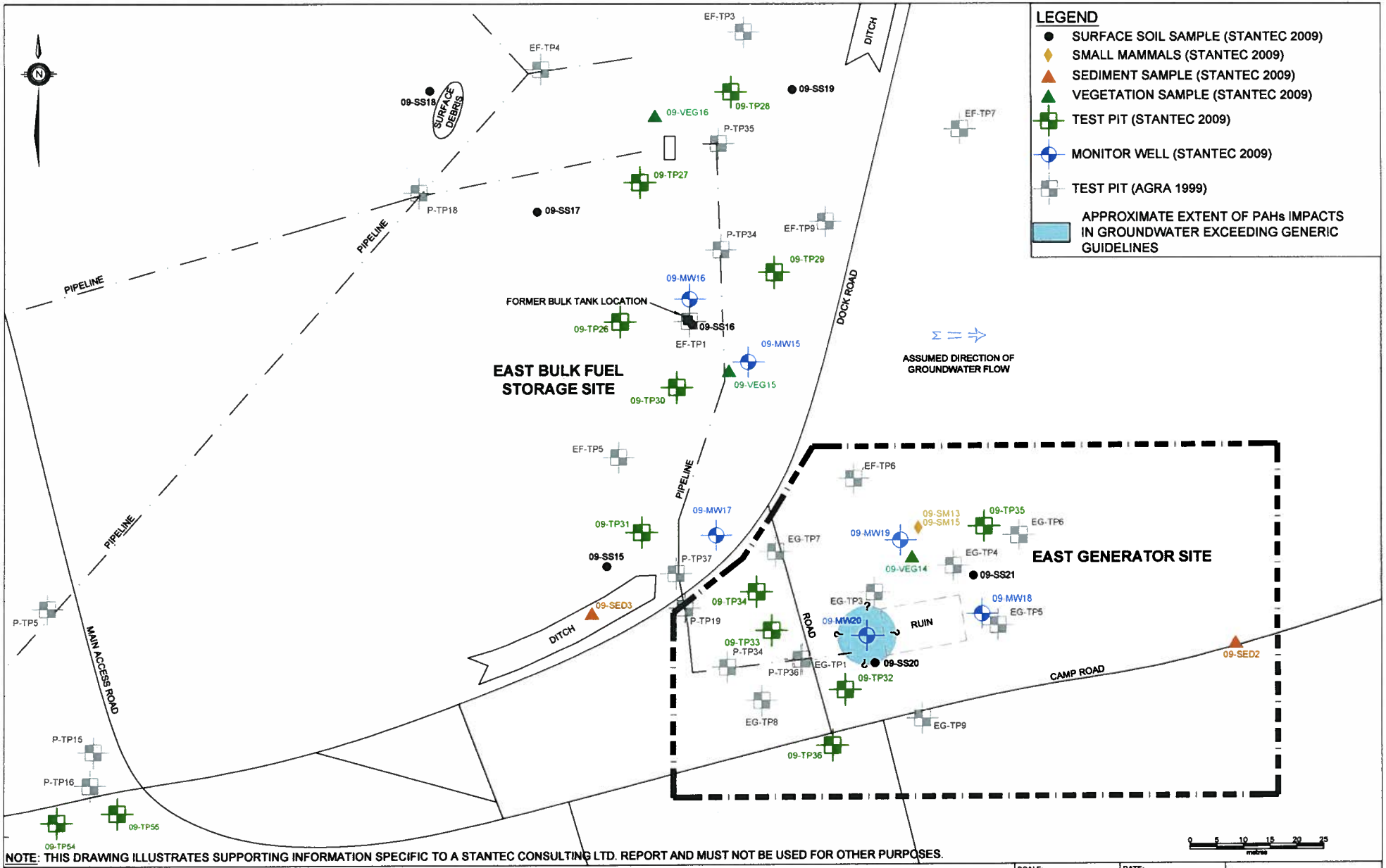


NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

CLIENT: NEWFOUNDLAND AND LABRADOR DEPARTMENT OF ENVIRONMENT AND CONSERVATION

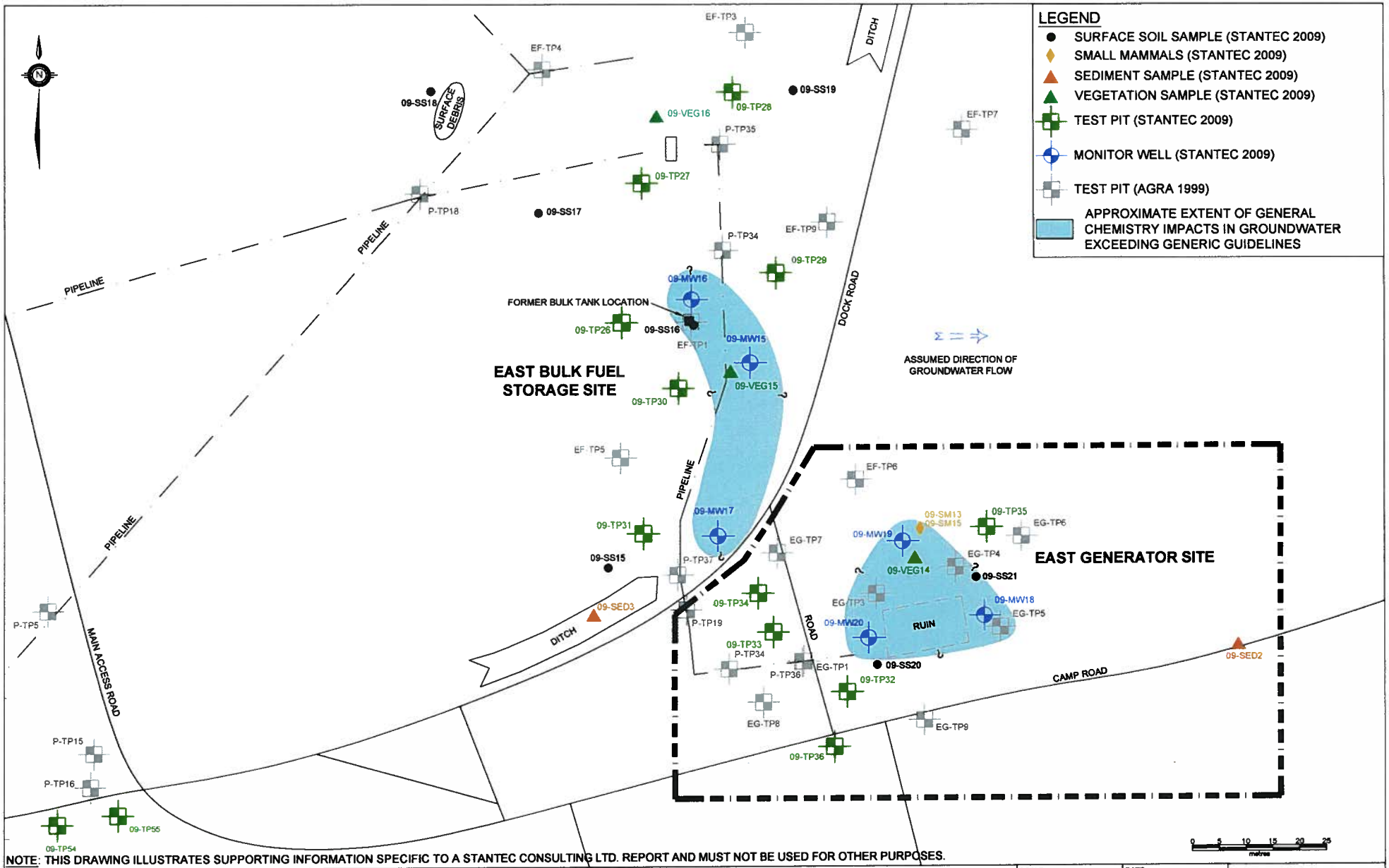
PROJECT TITLE: PHASE III ENVIRONMENTAL SITE ASSESSMENT, HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS, REMEDIAL ACTION PLAN FOR THE FORMER U.S. MILITARY FACILITY OF NORTHWEST POINT, NL

DRAWING TITLE: APPROXIMATE EXTENT OF PAHs IMPACTS EXCEEDING GENERIC GUIDELINES - EAST GENERATOR SITE

SCALE: 1:800	DATE: JUNE 21, 2010
DRAWN BY: N.M.	CHECKED BY: A.R.
EDITED BY: R.L.	REV. No. 0
DRAWING No: 121410105-EE-5D	
CAD FILE: 1044857-EE-12.DWG	

Stantec

15SEPT11 11:11AM



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

CLIENT: NEWFOUNDLAND AND LABRADOR DEPARTMENT OF ENVIRONMENT AND CONSERVATION

PROJECT TITLE: PHASE III ENVIRONMENTAL SITE ASSESSMENT, HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS, REMEDIAL ACTION PLAN FOR THE FORMER U.S. MILITARY FACILITY OF NORTHWEST POINT, NL

DRAWING TITLE: APPROXIMATE EXTENT OF GENERAL CHEMISTRY IMPACTS EXCEEDING GENERIC GUIDELINES - EAST GENERATOR SITE

SCALE: 1:800	DATE: JUNE 21, 2010
DRAWN BY: N.M.	CHECKED BY: A.R.
EDITED BY: R.L.	REV. No. 0
DRAWING No: 121410105-EE-5E	
CAD FILE: 1044857-EE-13.DWG	

Stantec

15SEPT11 11:20AM

Appendix 5b

Site Photos

– East Generator Site

Site Photographs – East Generator Site

Photo 1 View of 09-MW19

Photo 2 View of 09-TP35

Site Photographs – East Generator Site

Photo 3 View of 09-MW18

Photo 4 View of concrete pad at the site

Appendix 5c

Sample Coordinates

– East Generator Site

Sample Coordinates - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd. Project No. 121410105

Sample ID	Coordinates (NAD27)	
	Easting	Northing
TEST PITS		
09-TP32	694522	5931114
09-TP33	694508	5931125
09-TP34	694505	5931132
09-TP35	694537	5931142
09-TP36	694519	5931112
MONITOR WELLS		
09-MW18	694543	5931133
09-MW19	694531	5931136
09-MW20	694521	5931128
SURFACE SOIL		
09-SS20	694517	5931125
09-SS21	694534	5931137
SEDIMENT		
09-SED2	694595	5931124
VEGETATION		
09-VEG14	694534	5931139
SMALL MAMMALS		
09-SM13	694535	5931145
09-SM15	694535	5931145

Appendix 5d

Test Pit Records and Monitor Well Records

– East Generator Site

TEST PIT RECORD

CLIENT: NL Department of Environment and Conservation
PROJECT: Phase III ESA, HHRA & ERA, Former US Military Facility
LOCATION: Northwest Point, NL
DATES (mm-dd-yy): DUG 8-7-09 WATER LEVEL 0.9m 8-7-09

TEST PIT No. 09-TP32
PROJECT No. 121410105
DATUM

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES HYDROCARBON ODOUR	SAMPLES OTHER TESTS	PID READINGS (ppm)	CHEMICAL ANALYSIS (ppm) TPH	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
0														
		Compact, brown, SAND (SP)		▽	BS	1	0		23	-	-	-	-	-
1					BS	2	1		264	2200	nd	nd	nd	nd
		End of Test Pit Rapid groundwater seepage observed at 0.9 m depth. Bedrock not encountered.												
2														
3														
4														
5														

Stantec

TEST PIT RECORD

CLIENT **NL Department of Environment and Conservation**
PROJECT **Phase III ESA, HHRA & ERA, Former US Military Facility**
LOCATION **Northwest Point, NL**
DATES (mm-dd-yy): DUG **8-7-09** WATER LEVEL **1.1m** **8-7-09**

TEST PIT No. **09-TP33**
PROJECT No. **121410105**
DATUM

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES HYDROCARBON ODOUR	SAMPLES OTHER TESTS	PID READINGS (ppm)	CHEMICAL ANALYSIS (ppm) TPH	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
0														
		Compact, brown, SAND (SP)			BS	1	0-1		40.1	-	-	-	-	-
1		-50mm fuel line at 0.8 m depth that leads to building and is in line with 09-MW20		▽	BS	2	1		565	99000	nd	nd	nd	nd
		End of Test Pit Moderate groundwater seepage observed at 1.1 m depth. Bedrock not encountered.												
2														
3														
4														
5														

TEST PIT RECORD

CLIENT: NL Department of Environment and Conservation
PROJECT: Phase III ESA, HHRA & ERA, Former US Military Facility
LOCATION: Northwest Point, NL
DATES (mm-dd-yy): DUG 8-7-09 WATER LEVEL 0.9m 8-7-09

TEST PIT No. 09-TP34
PROJECT No. 121410105
DATUM

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES HYDROCARBON ODOUR	SAMPLES OTHER TESTS	PID READINGS (ppm)	CHEMICAL ANALYSIS (ppm) TPH	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
0														
		Compact, brown, SAND (SP)		▽	BS	1	0		16.9	-	-	-	-	-
1					BS	2	0-1		52.2	nd	nd	nd	nd	nd
		End of Test Pit Rapid groundwater seepage observed at 0.9 m depth. Bedrock not encountered.												
2														
3														
4														
5														

TEST PIT RECORD

CLIENT: NL Department of Environment and Conservation
PROJECT: Phase III ESA, HHRA & ERA, Former US Military Facility
LOCATION: Northwest Point, NL
DATES (mm-dd-yy): DUG 8-7-09 WATER LEVEL 1m 8-7-09

TEST PIT No. 09-TP35
PROJECT No. 121410105
DATUM

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES HYDROCARBON ODOUR	SAMPLES OTHER TESTS	PID READINGS (ppm)	CHEMICAL ANALYSIS (ppm) TPH	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
0														
		Compact, brown, SAND (SP)		▽	BS	1	0		10.5	-	-	-	-	-
1					BS	2	0-1		10.6	nd	nd	nd	nd	nd
		End of Test Pit Rapid groundwater seepage observed at 1.0 m depth. Bedrock not encountered.												
2														
3														
4														
5														

TEST PIT RECORD

CLIENT: NL Department of Environment and Conservation
PROJECT: Phase III ESA, HHRA & ERA, Former US Military Facility
LOCATION: Northwest Point, NL
DATES (mm-dd-yy): DUG 8-7-09 WATER LEVEL 1.1m 8-7-09

TEST PIT No. 09-TP36
PROJECT No. 121410105
DATUM

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES HYDROCARBON ODOUR	SAMPLES OTHER TESTS	PID READINGS (ppm)	CHEMICAL ANALYSIS (ppm) TPH	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
0		Compact, brown, SAND (SP)		▽	BS	1	0		8.2	-	-	-	-	-
1					BS	2	0		8.2	-	-	-	-	-
2		End of Test Pit Rapid groundwater seepage observed at 1.1 m depth. Bedrock not encountered.												
3														
4														
5														

MONITOR WELL RECORD

BOREHOLE No. **09-MW18**
PAGE **1** of **1**
PROJECT No. **121410105**
DRILLING METHOD **Auger**
SIZE **100mm HS**
DATUM

CLIENT **NL Department of Enviroment and Conservation**
PROJECT **Phase III ESA, HHRA & ERA, Former US Military Facility**
LOCATION **Northwest Point, NL**
DATES (mm-dd-yy): BORING **8-8-09** WATER LEVEL **1.22m** **8-8-09**

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 (0.91 m STICK UP)
0													CAST IRON WELL HEAD
0		Dark brown, SAND (SP) with layers of black, SAND (SP)			SS	1	510	5	0		30	-	BENTONITE
1				▼	SS	2	455	8	0	S	26.2	-	50 mm DIAMETER No. 10 SLOT PVC SCREEN IN No. 2 SILICA SAND PACK
		Brown, SAND (SP); some cobbles			SS	3	355	4	0		16.7	-	
2		Grey, CLAY (CL)			SS	4	305	6	0		17.6	-	
3		End of Borehole											END CAP
4													
5													
6													
7													
8													
9													
10													

MONITOR WELL RECORD

BOREHOLE No. **09-MW19**
PAGE **1** of **1**
PROJECT No. **121410105**
DRILLING METHOD **Auger**
SIZE **100mm HS**
DATUM

CLIENT **NL Department of Enviroment and Conservation**
PROJECT **Phase III ESA, HHRA & ERA, Former US Military Facility**
LOCATION **Northwest Point, NL**
DATES (mm-dd-yy): BORING **8-8-09** WATER LEVEL **1.22m** **8-8-09**

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 (0.61 m STICK UP)
													CAST IRON WELL HEAD
0		Brown, SAND (SP)			SS	1	150	6	1		19.8	-	BENTONITE
1				▼	SS	2	510	10	0		18.7	-	50 mm DIAMETER No. 10 SLOT PVC SCREEN IN No. 2 SILICA SAND PACK
					SS	3	205	4	1		31.6	190	
2		Brown, SAND (SP); trace silt			SS	4	405	8	1		14.1	-	
3													END CAP
4		End of Borehole											
5													
6													
7													
8													
9													
10													

MONITOR WELL RECORD

Stantec

BOREHOLE No. **09-MW20**
PAGE **1** of **1**
PROJECT No. **121410105**
DRILLING METHOD **Auger**
SIZE **100mm HS**
DATUM

CLIENT **NL Department of Enviroment and Conservation**
PROJECT **Phase III ESA, HHRA & ERA, Former US Military Facility**
LOCATION **Northwest Point, NL**
DATES (mm-dd-yy): BORING **8-8-09** WATER LEVEL **0.91m** **8-8-09**

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 (0.61 m STICK UP)
0		Dark brown, SAND (SP) with layers of black SAND (SP)			SS	1	305	4	1		226	-	CAST IRON WELL HEAD; BENTONITE
1		Black and dark brown SAND (SP); some cobbles		▼	SS	2	305	10	1-2	S	424	9300	
					SS	3	510	20	1-2		438	-	50 mm DIAMETER No. 10 SLOT PVC SCREEN IN No. 2 SILICA SAND PACK
2		Grey, silty SAND (SM); some cobbles			SS	4	560	18	1		478	-	
3		End of Borehole											END CAP
4													
5													
6													
7													
8													
9													
10													

Appendix 5e

Laboratory Analytical Results Summary Tables

– East Generator Site

Table 5.1 Results of Laboratory Analysis of TPH/BTEX in Soil - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Sample Location	Sample Depth (m)	Benzene	Toluene	Ethyl-benzene	Xylenes	TPH Purgeable ($<C_{10}$)	TPH Extractable (C_{10}-C_{32})	C_6-C_{10} (Gas Range)	C_{10}-C_{21} (Fuel Range)	C_{21}-C_{32} (Lube Range)	Modified TPH - Tier I[2]	Resemblance
Units		mg/kg	mg/kg	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	-
1999 Sampling (AGRA)												
EG-TP1	0.5	<2	<2	<2	<4	1,520	13,300	-	-	-	14,820	D
EG-TP3	0.5	<0.2	<0.2	<0.2	<0.4	11.6	4,090	-	-	-	4,102	D
EG-TP4	0.75	<0.2	<0.2	<0.2	<0.4	17.5	3,510	-	-	-	3,528	D
EG-TP5	0.5	<0.002	<0.002	<0.002	<0.004	<0.02	<0.2	-	-	-	<0.22	-
EG-TP6	0.75	<0.002	<0.002	<0.002	<0.004	<0.2	<0.2	-	-	-	<0.22	-
EG-TP7	0.6	<0.002	<0.002	<0.002	<0.004	793	793	-	-	-	793	D
EG-TP8	0.75	<0.002	<0.002	<0.002	<0.004	<0.02	<0.2	-	-	-	<0.22	-
EG-TP9	0.6	<0.002	<0.002	<0.002	<0.004	0.09	<0.2	-	-	-	0.29	-
EF-TP6	0.5	<0.002	<0.002	<0.002	<0.004	<0.02	<0.2	-	-	-	<0.2	-
P-TP19	1.5	<0.002	<0.002	<0.002	<0.004	<0.02	13	-	-	-	13	-
MDL	**-**	0.002	0.002	0.002	0.002	0.02	0.2	-	-	-	0.2	-
2009 Sampling (Stantec)												
09-TP32-BS2	0.7 - 1.2	<0.03	<0.03	<0.03	<0.05	-	-	80	2,100	37	2,200	FO
09-TP33-BS2	0.8 - 1.2	<0.03	<0.03	<0.04(1)	<0.2(1)	-	-	1,100	8,700	59	9,900	FO
09-TP34-BS2	0.7 - 1.2	<0.03	<0.03	<0.03	<0.05	-	-	<3	<15	<15	<20	-
09-TP35-BS2	0.8 - 1.3	<0.03	<0.03	<0.03	<0.05	-	-	<3	<15	<15	<20	-
09-MW19-SS3	1.2 - 1.8	<0.03	<0.03	<0.03	<0.05	-	-	14	160	20	190	FO
09-MW20-SS2	0.6 - 1.2	<0.03	<0.03	<0.03	0.06	-	-	320	8,800	110	9,300	FO
RDL	**-**	0.03	0.03	0.03/0.04	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
(1) = Elevated VPH RDL(s) due to matrix interference
MDL = Method Detection Limit; RDL = Reportable Detection Limit for routine analysis
< # = Not detected above MDL/RDL noted
"-" = Indicates value is not available or does not apply
D = Diesel; FO = Fuel oil
Shaded = Value exceeds generic guideline for a residential site, non-potable groundwater, coarse grained soil and fuel oil impacts

Table 5.2 Results of Laboratory Analysis of Metals in Soil - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Parameters	Units	Criteria[1]	1999 Sampling (AGRA)			2009 Sampling (Stantec)				
			EG-TP2	EG-TP3	MDL	09-MW20-SS2	RDL	09-SS20	09-SS21	RDL
Sample Depth (m)			0.5	0.5	-	0.6 - 1.2	-	0.0 - 0.15	0.0 - 0.15	
Aluminum	mg/kg	-	2,860	3,360	5	1,600	10	1,700	1,800	10
Antimony	mg/kg	20	<0.1	<0.1	0.1	<2	2	<2	<2	2
Arsenic	mg/kg	12	0.3	0.2	0.1	<2	2	<2	<2	2
Barium	mg/kg	500	13	32	0.5	9	5	7	7	5
Beryllium	mg/kg	4	<0.2	<0.2	0.2	<2	2	<2	<2	2
Bismuth	mg/kg	-	<0.2	<0.2	0.2	<2	2	<2	<2	2
Boron	mg/kg	-	-	-	-	<5	5	<5	<5	5
Cadmium	mg/kg	10	<0.5	<0.5	0.5	<0.3	0.3	<0.3	<0.3	0.3
Chromium	mg/kg	64	8	6	1	4	2	9	9	2
Cobalt	mg/kg	50	1	40	<1	<1	1	<1	<1	1
Copper	mg/kg	63	2	4	1	<2	2	<2	<2	2
Iron	mg/kg	-	-	-	-	2,100	50	6,700	5,800	50
Lead	mg/kg	140	<5	<5	5	0.6	0.5	15	2.3	0.5
Lithium	mg/kg	-	-	-	-	<2	2	<2	<2	2
Manganese	mg/kg	-	53	46	5	23	2	31	30	2
Mercury	mg/kg	6.6	0.02	0.04	0.01	<0.1	0.1	<0.1	<0.1	0.1
Molybdenum	mg/kg	10	<4	<4	4	<2	2	<2	<2	2
Nickel	mg/kg	50	<5	<5	5	<2	2	<2	2	2
Rubidium	mg/kg	-	-	-	-	<2	2	<2	<2	2
Selenium	mg/kg	1	<0.1	<0.1	0.1	<2	2	<1	<1	1
Silver	mg/kg	20	<5	<5	5	<0.5	0.5	<0.5	<0.5	0.5
Strontium	mg/kg	-	-	-	-	<5	5	<5	6	5
Thallium	mg/kg	1	-	-	-	<0.1	0.1	<0.1	<0.1	0.1
Tin	mg/kg	-	-	-	-	<2	2	<2	<2	2
Uranium	mg/kg	23	-	-	-	<0.1	0.1	0.2	0.2	0.1
Vanadium	mg/kg	130	11	9	5	6	2	17	18	2
Zinc	mg/kg	200	6	9	2	6	5	7	10	5

Notes:
1 = CCME Canadian Soil Quality Guidelines for Protection of Environmental and Human Health at a Residential/Parkland site (2007)
MDL = Method Detection Limit; RDL = Reportable Detection Limit for routine analysis
< # = Not detected above MDL/RDL noted
"-" = No applicable guideline

Table 5.3 Results of Laboratory Analysis of PAHs in Soil - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Parameters	Units	Criteria[1,3]	Criteria[2,3]	1999 Sampling (AGRA)				2009 Sampling (Stantec)	
				EG-TP2	EG-TP3	EG-TP4	MDL	09-SS20	RDL
Sample Depth (m)				0.5	0.5	0.5	-	0.0 - 0.15	-
Non-carcinogenic PAHs									
1-Methylnaphthalene	mg/kg	-	-	-	-	-	-	0.13	0.005
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	<0.005	0.005
Acenaphthene	mg/kg	-	-	<0.002	<0.002	<0.002	0.002	0.031	0.005
Acenaphthylene	mg/kg	-	-	<0.001	<0.001	<0.001	0.001	0.21	0.005
Anthracene	mg/kg	2.5	-	<0.001	<0.001	<0.001	0.001	0.011	0.005
Fluoranthene	mg/kg	50	-	0.01	<0.001	<0.001	0.001	0.16	0.005
Fluorene	mg/kg	-	-	<0.001	<0.001	<0.001	0.001	0.055	0.005
Naphthalene	mg/kg	-	-	<0.002	<0.002	<0.002	0.002	0.038	0.005
Perylene	mg/kg	-	-	-	-	-	-	0.024	0.005
Phenanthrene	mg/kg	-	-	<0.001	<0.001	<0.001	0.001	0.071	0.005
Pyrene	mg/kg	-	-	0.02	<0.003	0.02	0.003	0.57	0.005
Carcinogenic PAHs									
Benzo(a)anthracene	mg/kg	-	-	0.01	<0.001	0.005	0.001	0.25	0.005
Benzo(a)pyrene	mg/kg	20	-	0.014	<0.003	<0.003	0.003	0.13	0.005
Benzo(b)fluoranthene	mg/kg	-	-	0.016	<0.004	<0.004	0.004	0.17	0.005
Benzo(g,h,i)perylene	mg/kg	-	-	<0.002	<0.002	<0.002	0.002	0.094	0.005
Benzo(k)fluoranthene	mg/kg	-	-	0.013	<0.004	<0.004	0.004	0.17	0.005
Chrysene	mg/kg	-	-	0.015	<0.001	0.007	0.001	0.30	0.005
Indeno(1,2,3-c,d) pyrene	mg/kg	-	-	0.008	<0.003	<0.003	0.003	0.10	0.005
Dibenz(a,h,)anthracene	mg/kg	-	-	<0.004	<0.004	<0.004	0.004	0.022	0.005
Benzo(a)pyrene TPE[4]		-	5.3	0.021	0.004	0.005	-	0.225	-

Notes:

1 = CCME Canadian Soil Quality Guidelines for the Protection of Environmental Health at a Residential/Parkland Site (2008)

2 = CCME Canadian Soil Quality Guidelines for Protection of Human Health for a Residential Site (Direct Soil Contact) (2008)

3 = As per CCME recommendations, soil samples are compared against the SQG for the protection of human health and environmental health separately

4 = Carcinogenic PAHs Assessed as Benzo(a)pyrene Total Potency Equivalent (TPE)

MDL = Method Detection Limit; RDL = Reportable Detection Limit for routine analysis

< # = Not detected above MDL/RDL noted

"-" = No applicable guideline or does not apply

Table 5.4 Results of Laboratory Analysis of PCBs in Soil - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Sample Location	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)
	RDL	0.05
	Units	ug/g
	Criteria[1]	1.3
2009 Sampling (Stantec)		
09-MW20-SS2	0.6 - 1.2	<0.05
09-SS20	0.0 - 0.15	0.16
09-SS21	0.0 - 0.15	<0.05

Notes:
1 = CCME Canadian Soil Quality Guidelines for a Residential/Parkland site (2007)
RDL = Reportable Detection Limit for routine analysis
< # = Not detected above RDL noted

Table 5.5 Results of Laboratory Analysis of TPH/BTEX in Groundwater - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Sample Location	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]	Resemblance
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	-
Tier I RBSLs[1]	1	20	20	20	-	-	-	12/20/20	-
2009 Sampling (Stantec)									
09-MW18	<0.001	<0.001	<0.001	<0.002	1.4	<0.05	<0.1	1.4	-
09-MW19	<0.001	<0.001	<0.001	<0.002	0.07	1.0	0.2	1.3	WFO

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
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

Table 5.6 Results of Laboratory Analysis of Petroleum Hydrocarbon Fractionation in Groundwater - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Parameter	RDL	Units	Criteria[1]	2009 Sampling (Stantec)
				09-MW20
Benzene	0.01	mg/L	1	<0.01
Toluene	0.01	mg/L	20	<0.01
Ethylbenzene	0.01	mg/L	20	0.02
Xylene (Total)	0.02	mg/L	20	0.09
Aliphatic >C6-C8	0.1	mg/L	-	0.2
Aliphatic >C8-C10	0.1	mg/L	-	0.2
>C8-C10 Aromatics (-EX)	0.1	mg/L	-	0.3
Aliphatic >C10-C12	1	mg/L	-	110
Aliphatic >C12-C16	5	mg/L	-	320
Aliphatic >C16-C21	5	mg/L	-	100
Aliphatic >C21-C32	0.1	mg/L	-	6
Aromatic >C10-C12	1	mg/L	-	34
Aromatic >C12-C16	5	mg/L	-	130
Aromatic >C16-C21	5	mg/L	-	51
Aromatic >C21-C32	0.1	mg/L	-	4.40
Modified TPH (Tier 2)	5	mg/L	12/20/20	760
Resemblance	-	-	-	FO

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, gasoline/fuel oil/lube oil impacts (September, 2003)
RDL = Reportable Detection Limit
"-" = indicates value is not available or does not apply
< # = Not detected above RDL noted
Shaded = Value exceeds applicable criteria

Table 5.7 Results of Laboratory Analysis of Dissolved Metals in Groundwater - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Parameters	Units	Criteria[1]	1999 Sampling (AGRA)			2009 Sampling (Stantec)			
			EG-TP2	P-TP34	MDL	09-MW18	09-MW19	09-MW20	RDL
Aluminum	ug/L	-	<5	200	5	122	206	400	5.0
Antimony	ug/L	20,000	<1	<1	1	<2.0	<2.0	<2.0	2.0
Arsenic	ug/L	1,900	<1	<1	1	<2.0	<2.0	<2.0	2.0
Barium	ug/L	29,000	150	370	5	15.7	21.1	11.7	5.0
Beryllium	ug/L	67	<1	<1	1	<2.0	<2.0	<2.0	2.0
Bismuth	ug/L	-	<1	<1	1	<2.0	<2.0	<2.0	2.0
Boron	ug/L	45,000	-	-	-	<5.0	<5.0	<5.0	5.0
Cadmium	ug/L	2.7	<0.015	<0.015	0.015	0.017	0.031	<0.017	0.017
Chromium	ug/L	810	<1	3	1	<1.0	1.1	1.2	1.0
Cobalt	ug/L	66	<10	<10	5	<0.40	1.32	0.95	0.40
Copper	ug/L	87	<1	3	1	2.4	4.1	<2.0	2.0
Iron	ug/L	-	20	274	5	<50	1,540	11,200	50
Lead	ug/L	25	<1	<1	1	<0.50	<0.50	<0.50	0.50
Manganese	ug/L	-	14	83	5	16.5	45.7	41	2.0
Mercury	ug/L	0.29	1.0	1.2	100	<0.02	<0.02	0.068	0.02
Molybdenum	ug/L	9,200	<5	<5	5	<2.0	<2.0	<2.0	2.0
Nickel	ug/L	490	<5	<5	5	<2.0	2.5	<2.0	2.0
Selenium	ug/L	63	<1	<1	1	<1.0	<1.0	<1.0	1.0
Silver	ug/L	1.5	<0.1	<0.1	0.1	<0.10	<0.10	<0.10	0.10
Strontium	ug/L	-	-	-	-	36.1	35.8	23.9	5.0
Thallium	ug/L	510	-	-	-	<0.10	<0.10	<0.10	0.10
Tin	ug/L	-	-	-	-	<2.0	<2.0	<2.0	2.0
Titanium	ug/L	-	-	-	-	<2.0	2.3	7.4	2.0
Uranium	ug/L	420	-	-	-	<0.10	<0.10	<0.10	0.10
Vanadium	ug/L	250	<50	<50	50	<2.0	<2.0	3.5	2.0
Zinc	ug/L	1,100	93	280	1	12.9	22.7	12.8	5.0

Notes:

1 = Ontario Ministry of the Environment (MOE) Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. July 27, 2009. Table 3: full depth generic site condition standards in a non-potable groundwater condition, coarse-grained soil

MDL = Method Detection Limit; RDL = Reportable Detection Limit for routine analysis

< # = Not detected above MDL/RDL noted

"-" = No applicable guideline

Table 5.8 Results of Laboratory Analysis of PAHs in Groundwater - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Parameter	RDL	Units	Criteria[1]	2009 Sampling (Stantec)
				09-MW20
1-Methylnaphthalene	10	ug/L	18,000	2,000
2-Methylnaphthalene	10	ug/L	18,000	2,600
Acenaphthene	2	ug/L	600	97
Acenaphthylene	2	ug/L	1.8	42
Acridine	10	ug/L	-	140
Anthracene	2	ug/L	2.4	18
Benzo[a]anthracene	0.2	ug/L	4.7	5.9
Benzo[a]pyrene	0.2	ug/L	0.81	2.7
Benzo[b]fluoranthene	0.2	ug/L	0.75	2.5
Benzo[ghi]perylene	0.2	ug/L	0.2	1.3
Benzo[k]fluoranthene	0.2	ug/L	0.4	2.5
Chrysene	0.2	ug/L	1	5.4
Dibenz[a,h]anthracene	0.2	ug/L	0.52	0.3
Fluoranthene	0.2	ug/L	130	20
Fluorene	2	ug/L	400	410
Indeno[1,2,3-cd]pyrene	0.2	ug/L	0.2	1.5
Naphthalene	40	ug/L	1,400	570
Perylene	0.2	ug/L	-	1.1
Phenanthrene	2	ug/L	580	250
Pyrene	0.2	ug/L	68	16
Quinoline	10	ug/L	-	34

Notes:

1 = Ontario Ministry of the Environment (MOE) Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. July 27, 2009. Table 3: full depth generic site condition standards in a non-potable groundwater condition, coarse-grained soil

RDL = Reportable Detection Limit

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

< # = Not detected above RDL noted

Shaded = Value exceeds applicable criteria

Table 5.9 Results of Laboratory Analysis of General Chemistry in Groundwater - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Parameter	RDL	Units	Criteria[1]	2009 Sampling (Stantec)			
				09-MW18	09-MW18 Lab-Dup	09-MW19	09-MW20
Metals							
Dissolved Calcium	0.1	mg/L	-	5.0	-	4.1	2.7
Dissolved Magnesium	0.1	mg/L	-	0.5	-	0.6	0.4
Dissolved Phosphorus	0.1	mg/L	<0.004 to >0.1[3]	<0.1	-	<0.1	<0.1
Dissolved Potassium	0.1	mg/L	-	0.7	-	0.9	0.7
Dissolved Sodium	0.1	mg/L	-	1.9	-	1.9	1.9
Calculated Parameters							
Anion Sum	N/A	me/L	-	0.240	-	0.260	0.190
Bicarb. Alkalinity (calc. as $CaCO_3$)	1	mg/L	-	10	-	13	8
Calculated TDS	1	mg/L	-	26	-	25	31
Carb.Alkalinity (calc. as $CaCO_3$)	1	mg/L	-	<1	-	<1	<1
Cation Sum	N/A	me/L	-	0.400	-	0.410	0.680
Hardness ($CaCO_3$)	1	mg/L	-	15	-	13	8
Ion Balance (% Difference)	N/A	%	-	25.0	-	22.4	56.3
Langelier Index (@ 20C)	N/A	N/A	-	-3.32	-	-3.36	-4.24
Langelier Index (@ 4C)	N/A	N/A	-	-3.57	-	-3.61	-4.49
Nitrate (N)	0.05	mg/L	2.9	0.37	-	<0.05	<0.05
Saturation pH (@20C)	N/A	N/A	-	9.57	-	9.56	9.97
Saturation pH (@4C)	N/A	N/A	-	9.82	-	9.81	10.2
Inorganics							
Total Alkalinity (Total as $CaCO_3$)	5	mg/L	-	10	11	13	8
Dissolved Chloride (Cl)	1	mg/L	-	<1	<1	<1	1
Colour	5	TCU	-	10	11	23	14
Nitrate + Nitrite	0.05	mg/L	-	0.37	0.36	<0.05	<0.05
Nitrite (N)	0.01	mg/L	0.06	<0.01	<0.01	<0.01	<0.01
Nitrogen (Ammonia Nitrogen)	0.05	mg/L	-	<0.05	<0.05	<0.05	<0.05
Total Organic Compound	5/50	mg/L	-	<5	-	14	59(50)
Orthophosphate (P)	0.01	mg/L	-	<0.01	<0.01	<0.01	<0.01
pH	N/A	pH	6.5 - 9	6.25	-	6.20	5.73
Reactive Silica (SO_2)	0.5	mg/L	-	9.9	9.9	7.9	7.9
Dissolved Sulphate (SO_4)	2	mg/L	-	<2	<2	<2	<2
Turbidity	1/10	NTU	Narritive[2]	130	-	200	>1000(10)
Conductivity	1	uS/cm	-	31	-	28	18

Notes:
1 = CCME Water Quality Guidelines for the protection of freshwater aquatic life (2007)
2 = Maximum increase of 8 NTUs from background levels when background levels are between 8 and 80 NTUs
3 = Phosphorous guideline is dependant on trophic status of the freswater environment
RDL = Reportable Detection Limit
< # = Not detected above RDL noted
"-" = Indicates value is not available or does not apply
() = Indicates elevated detection limit
Lab-dup = Laboratory duplicate sample
Shaded = Value exceeds applicable criteria

Table 5.10 Results of Laboratory Analysis of TPH/BTEX in Sediment - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd. Project No. 121410105

Sample Location	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]	Resemblance
RDL	0.03	0.03	0.03	0.05	3	15	15	20	-
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Tier I RBSLs[1]	-	-	-	-	-	-	-	1,500	-
2009 Sampling (Stantec)									
09-SED2	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-

Notes:

1 = Ontario Ministry of Environment Guideline for sediments to be used as lake fill material (1993). There are no federal or provincial guidelines for TPH or BTEX in marine sediment.

2 = Modified TPH - Tier I does not include BTEX

RDL = Reportable Detection Limit for routine analysis

< # = Not detected above RDL noted

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

Table 5.11 Results of Laboratory Analysis of Metals in Sediment - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd. Project No. 121410105

Parameters	RDL	Units	Criteria[1]	Criteria[2]	2009 Sampling (Stantec)
					09-SED2
Aluminum	10	mg/kg	-	-	1,400
Antimony	2	mg/kg	-	-	<2
Arsenic	2	mg/kg	5.9	17	<2
Barium	5	mg/kg	-	-	8
Beryllium	2	mg/kg	-	-	<2
Bismuth	2	mg/kg	-	-	<2
Boron	5	mg/kg	-	-	<5
Cadmium	0.3	mg/kg	0.6	3.5	<0.3
Chromium	2	mg/kg	37.3	90	3
Cobalt	1	mg/kg	-	-	<1
Copper	2	mg/kg	35.7	197	<2
Iron	50	mg/kg	-	-	1,600
Lead	0.5	mg/kg	35	91.3	1.2
Lithium	2	mg/kg	-	-	<2
Manganese	2	mg/kg	-	-	18
Mercury	0.1	mg/kg	-	-	<0.1
Molybdenum	2	mg/kg	-	-	<2
Nickel	2	mg/kg	-	-	<2
Rubidium	2	mg/kg	-	-	<2
Selenium	2	mg/kg	-	-	<1
Silver	0.5	mg/kg	-	-	<0.5
Strontium	5	mg/kg	-	-	<5
Thallium	0.1	mg/kg	-	-	<0.1
Tin	2	mg/kg	-	-	<2
Uranium	0.1	mg/kg	-	-	<0.1
Vanadium	2	mg/kg	-	-	5
Zinc	5	mg/kg	123	315	7

Notes:
1 = CCME Interim Sediment Quality Guidelines (ISQGs) for freshwater sediment (2002)
2 = CCME Probable Effects Levels (PELs) for freshwater sediment (2002)
RDL = Reportable Detection Limit for routine analysis
< # = Not detected above RDL noted
"-" = No applicable guideline

Table 5.12 Results of Laboratory Analysis of PCBs in Vegetation - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Sample Location	Polychlorinated Biphenyls (PCBs)
RDL	0.05
Units	ug/L
Criteria	na
2009 Sampling (Stantec)	
09-VEG-14	<0.3

Notes:
RDL = Reportable Detection Limit
na = No applicable guideline
< # = Not detected above RDL noted

Table 5.13 Results of Laboratory Analysis of PCBs/Crude Fat in Small Mammal Tissue Samples - East Generator Site
Phase III ESA, HHERA and RAP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Ltd.Project No. 121410105

Sample Location	Polychlorinated Biphenyls (PCBs)	Crude Fat
RDL	0.05 / 0.07	0.5
Units	ug/g	%
Criteria	na	na
2009 Sampling (Stantec)		
09-SM13	<0.07	-
09-SM15	<0.05	11

Notes:
RDL = Reportable Detection Limit
na = No applicable guideline
< # = Not detected above RDL noted
"-" = Not analyzed

Appendix 5f

Results of Hydraulic Response (Bail-Down) Test

– East Generator Site

Stantec Consulting Ltd.
607 Torbay Road
St. John's, NL, A1A 4Y6
Stantec Tel: (709) 576-1458

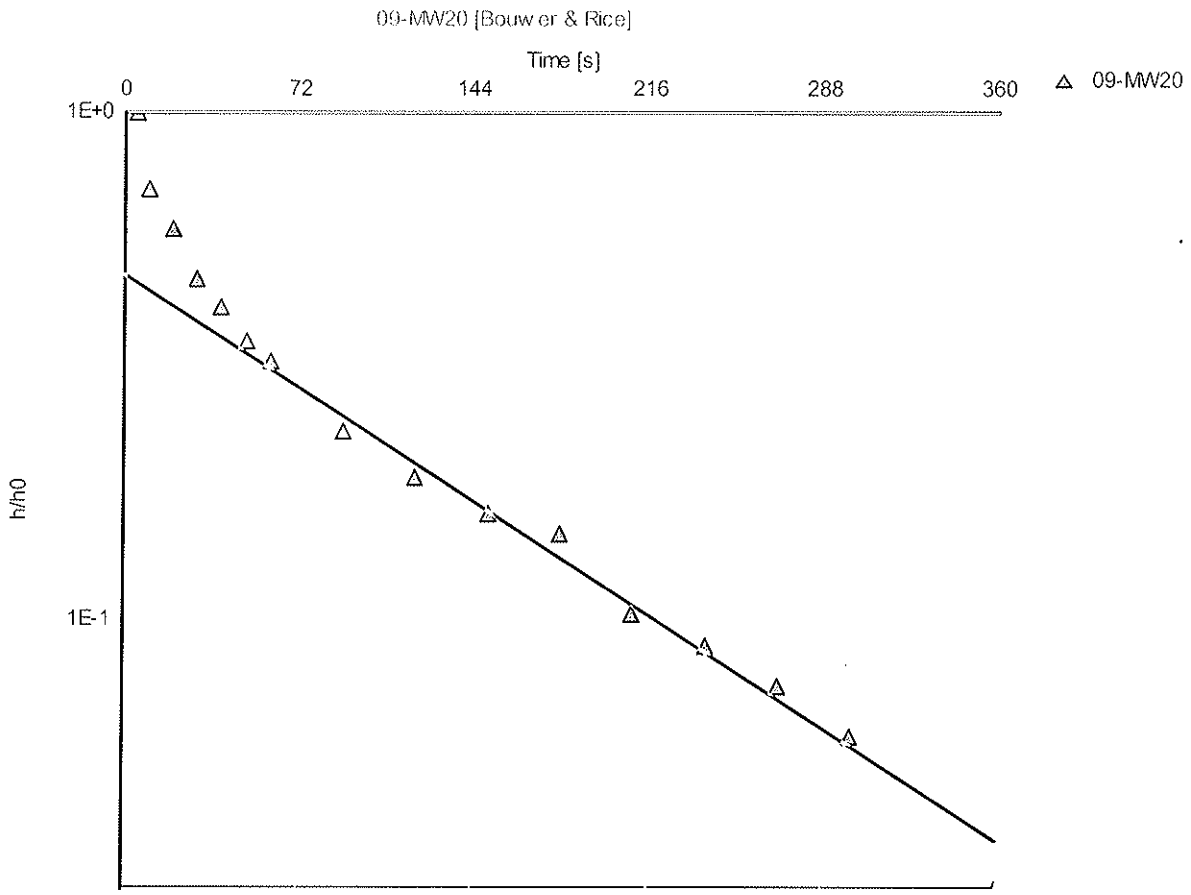
Slug Test Data Report
Project: Northwest Point
Number: 121410105
Client: NLDEC

Test Well:	**09-MW20**	**Slug Test:**	**09-MW20**
		Test Well:	09-MW20
Depth to Static WL:	0.85 [m]	Casing radius:	0.025 [m]
Location:		Boring radius:	0.05 [m]
Recorded by:	Stantec	Screen length:	2.44 [m]
Date:	8/27/2009	Aquifer Thickness:	2.85 [m]

	Time [s]	Depth to WL [m]	Drawdown [m]
1	5	1.19	0.34
2	10	1.09	0.24
3	20	1.05	0.20
4	30	1.01	0.16
5	40	0.99	0.14
6	50	0.97	0.12
7	60	0.96	0.11
8	90	0.93	0.08
9	120	0.92	0.07
10	150	0.91	0.06
11	180	0.90	0.05
12	210	0.89	0.04
13	240	0.88	0.03
14	270	0.88	0.03
15	300	0.87	0.02
16	360	0.86	0.01

Stantec Consulting Ltd.
607 Torbay Road
St. John's, NL, A1A 4Y6
Tel: (709) 576-1458

Slug Test Analysis Report
Project: Northwest Point
Number: 121410105
Client: NLDEC



Slug Test: **09-MW20**

Analysis Method: **Bouwer & Rice**

Analysis Results:

Conductivity: 2.83E-6 [m/s]

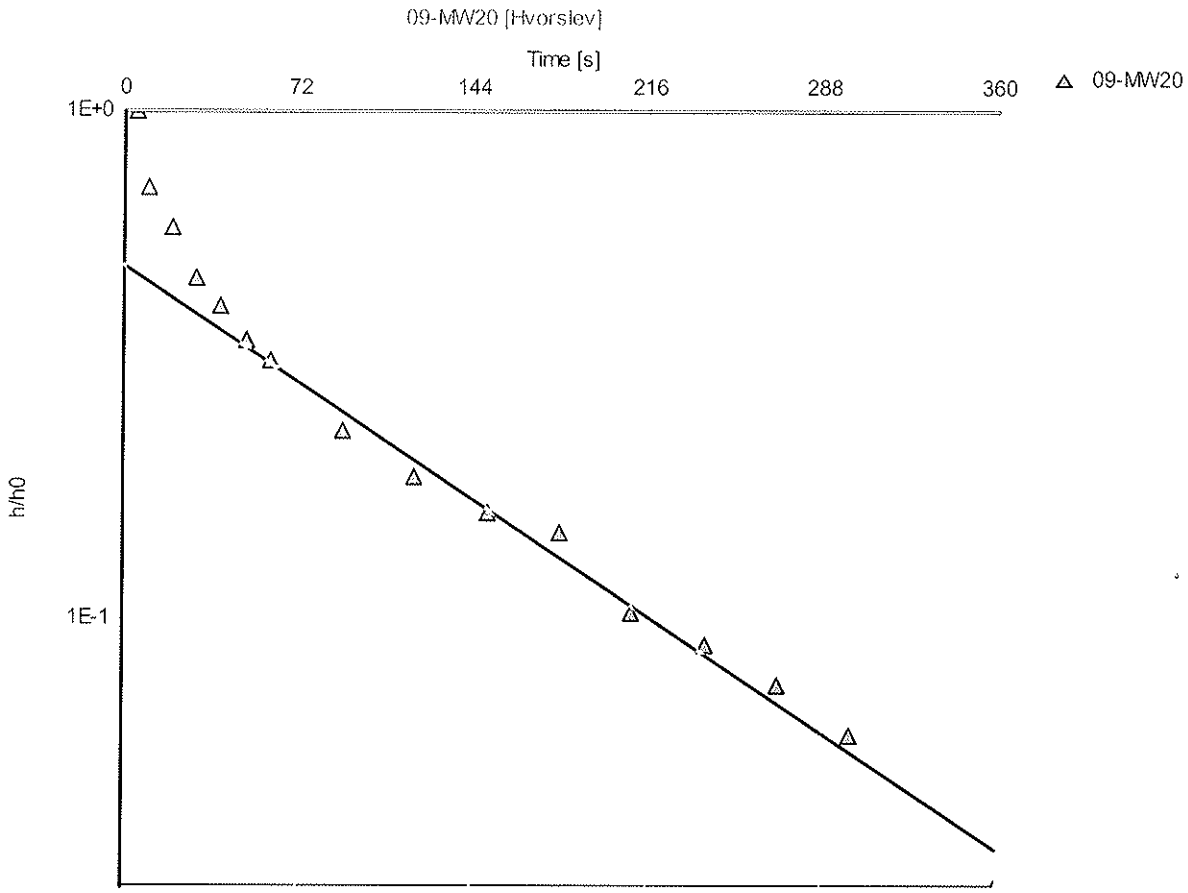
Test parameters:				
	Test Well:	09-MW20	Aquifer Thickness:	2.85 [m]
	Casing radius:	0.025 [m]	Gravel Pack Porosity (%)	25
	Screen length:	2.44 [m]		
	Boring radius:	0.05 [m]		
	r(eff):	0.033 [m]		

Comments:

Evaluated by: AR
Evaluation Date: 6/9/2010

Stantec Consulting Ltd.
607 Torbay Road
St. John's, NL, A1A 4Y6
Tel: (709) 576-1458

Slug Test Analysis Report
Project: Northwest Point
Number: 121410105
Client: NLDEC



Slug Test: **09-MW20**

Analysis Method: **Hvorslev**

Analysis Results:

Conductivity: 3.69E-6 [m/s]

Test parameters:

Test Well:	09-MW20	Aquifer Thickness:	2.85 [m]
Casing radius:	0.025 [m]		
Screen length:	2.44 [m]		
Boring radius:	0.05 [m]		

Comments:

Evaluated by: AR

Evaluation Date: 6/9/2010