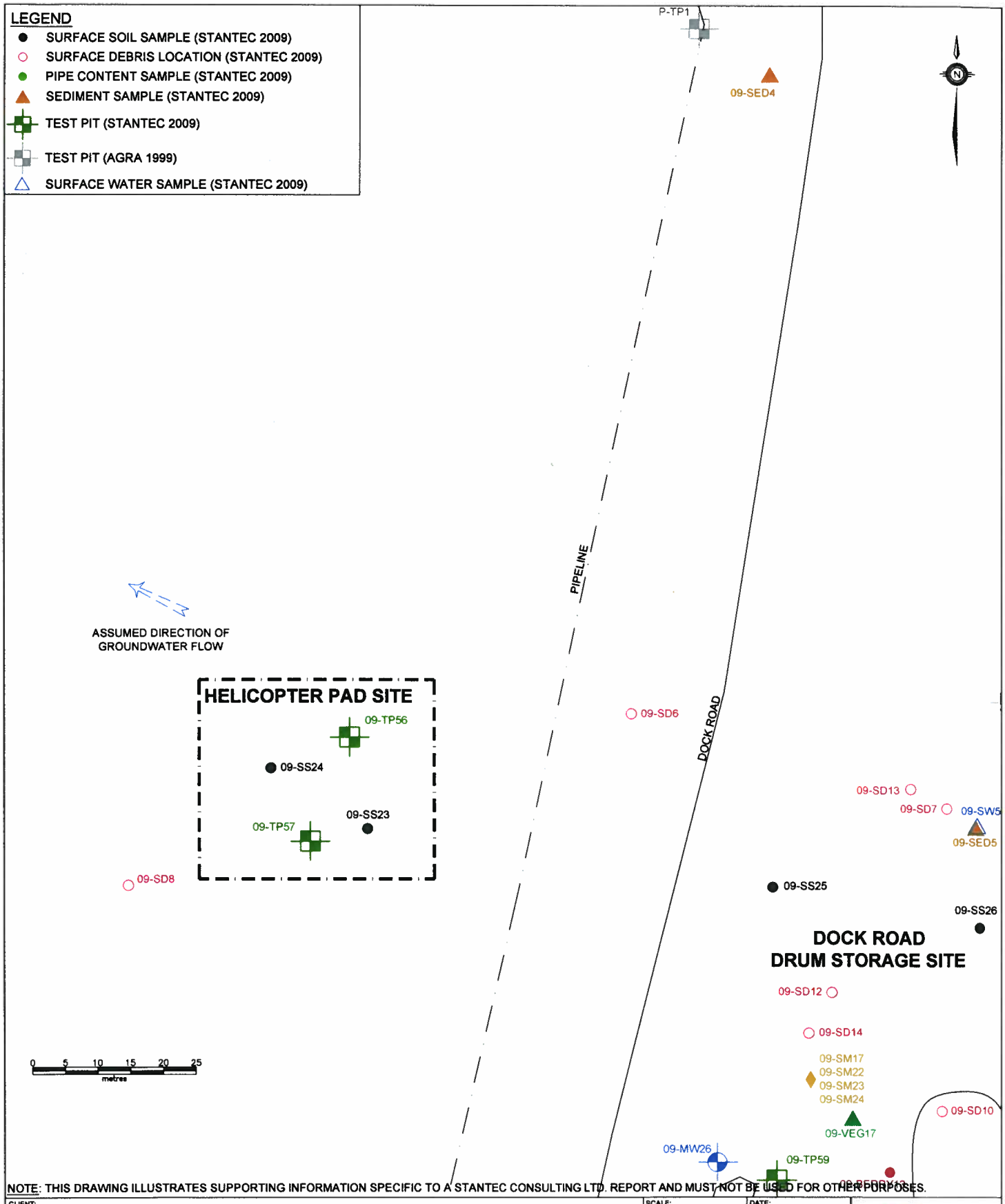
Appendix 16a

Site Drawings

– Helicopter Pad



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	SCALE: 1:800
	DATE: JUNE 17, 2010
	DRAWN BY: N.M.
	CHECKED BY: A.R.
PROJECT TITLE: PHASE III ESA, HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS, REMEDIAL ACTION PLAN FOR THE FORMER U.S. MILITARY FACILITY OF NORTHWEST POINT, NL	EDITED BY: -
	REV. No. 0
DRAWING TITLE: SITE PLAN - HELICOPTER PAD SITE	DRAWING No: 121410105-EE-16A
	CAD FILE: 1044857-EE-07.DWG

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17JUN10 1:00PM

Appendix 16b

Sample Coordinates

– Helicopter Pad

Sample Coordinates - Helicopter Pad
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-TP56	694693	5932171
09-TP57	694687	5932155
SURFACE SOIL		
09-SS23	694696	5932157
09-SS24	694681	5932166

Appendix 16c

Test Pit Records

– Helicopter Pad

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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 **3.8m** **8-7-09**

TEST PIT No. **09-TP56**
PROJECT No. **121410105**
DATUM

DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES TYPE	SAMPLES NUMBER	HYDROCARBON ODOUR	SAMPLES OTHER TESTS	PID READINGS (ppm)	CHEMICAL ANALYSIS (ppm) TPH	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
0		Compact, brown, SAND with gravel (SP); some cobbles			BS	1	0		0.0	-	-	-	-	-
1		Compact, grey, SAND with silt (SP-SM)												
2														
3														
4				▽	BS	2	0		0.0	nd	nd	nd	nd	nd
		End of Test Pit Slow groundwater seepage observed at 3.8 m depth. Bedrock not encountered.												
5														

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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 **3.8m** **8-7-09**

TEST PIT No. **09-TP57**
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 with gravel (SP); some cobbles			BS	1	0		0.0	-	-	-	-	-
1		Compact, grey, SAND with silt (SP-SM)												
2														
3														
4				▽	BS	2	0		0.0	nd	nd	nd	nd	nd
		End of Test Pit Slow groundwater seepage observed at 3.8 m depth. Bedrock not encountered.												
5														

Appendix 16d

Laboratory Analytical Results Summary Tables

– Helicopter Pad

Table 16.1 Results of Laboratory Analysis of TPH/BTEX in Soil - Helicopter Pad
Phase III ESA, HHERA and RAP/RMP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Limited Project No. 121410105

Sample Location	Sample Depth (m)	Benzene	Toluene	Ethyl-benzene	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]		0.16	14	58	17	-	-	-	140/690	-
2009 Sampling (Stantec)										
09-TP56-BS2	3.5 - 4.0	<0.03	<0.03	<0.03	<0.05	<3	<15	<15	<20	-
09-TP57-BS2	3.5 - 4.0	<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/lube 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; PLO = Possible Lube Oil
Shaded = Value exceeds generic guideline for a residential site, non-potable groundwater, coarse grained soil and fuel oil impacts

Table 16.2 Results of Laboratory Analysis of PAHs in Soil - Helicopter Pad
Phase III ESA, HHERA and RAP/RMP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Limited Project No. 121410105

Parameters	RDL	Units	Criteria[1,3]	Criteria[2,3]	2009 Sampling (Stantec)	
					09-SS23	09-SS24
				Sample Depth (m)	0.0 - 0.15	0.0 - 0.15
Non-carcinogenic PAHs						
1-Methylnaphthalene	0.005	mg/kg	-	-	<0.005	<0.005
2-Methylnaphthalene	0.005	mg/kg	-	-	<0.005	<0.005
Acenaphthene	0.005	mg/kg	-	-	<0.005	<0.005
Acenaphthylene	0.005	mg/kg	-	-	<0.005	<0.005
Anthracene	0.005	mg/kg	2.5	-	<0.005	0.006
Fluoranthene	0.005	mg/kg	50	-	0.029	0.063
Fluorene	0.005	mg/kg	-	-	<0.005	<0.005
Naphthalene	0.005	mg/kg	-	-	<0.005	<0.005
Perylene	0.005	mg/kg	-	-	<0.005	0.006
Phenanthrene	0.005	mg/kg	-	-	0.008	0.030
Pyrene	0.005	mg/kg	-	-	0.026	0.047
Carcinogenic PAHs						
Benzo(a)anthracene	0.005	mg/kg	-	-	0.015	0.022
Benzo(a)pyrene	0.005	mg/kg	20	-	0.017	0.019
Benzo(b)fluoranthene	0.005	mg/kg	-	-	0.014	0.020
Benzo(g,h,i)perylene	0.005	mg/kg	-	-	0.010	0.011
Benzo(k)fluoranthene	0.005	mg/kg	-	-	0.014	0.020
Chrysene	0.005	mg/kg	-	-	0.021	0.030
Indeno(1,2,3-c,d) pyrene	0.005	mg/kg	-	-	0.012	0.012
Dibenz(a,h,)anthracene	0.005	mg/kg	-	-	<0.005	<0.005
	Benzo(a)pyrene TPE[4]		-	5.3	0.025	0.029

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)

RDL = Reportable Detection Limit for routine analysis

< # = Not detected above RDL noted

"-" = No applicable guideline or does not apply

Table 16.3 Results of Laboratory Analysis of PCBs in Soil - Helicopter Pad
Phase III ESA, HHERA and RAP/RMP
Former U.S Military Facility, Northwest Point, NL
Stantec Consulting Limited 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-SS23	0.0 - 0.15	<0.05
09-SS24	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