

Maxxam Job #: A331738
Report Date: 2003/09/08

Gartner Lee Ltd
Client Project #: 23635
Site Reference: NANISIVIK MINE
Sampler Initials:

General Comments

Sample A82900-01: Note: Acidity could not be performed on this sample because the initial pH is greater than the endpoint of the titrating endpoint (ie. the sample is basic and alkalinity test is applicable in this case).

ELEMENTS BY ATOMIC SPECTROSCOPY (LIQUID) Comments

Total Metals Analysis of Water by ICP: Elevated duplicate RPD for Zn is due to sample matrix effects and is specific to sample B73079. All other parameters are within acceptable duplicate RPD limits.

Results relate only to the items tested.

Quality Assurance Report

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
508936 IG	QC STANDARD	Total Alkalinity (Total as CaCO ₃)	2003/08/27		98	%	85 - 115
	METHOD BLANK	Total Alkalinity (Total as CaCO ₃)	2003/08/27	ND		mg/L	
	RPD	Total Alkalinity (Total as CaCO ₃)	2003/08/27	1.2		%	20
508937 IG	QC STANDARD	Total pH	2003/08/27		100	%	85 - 115
	RPD	Total pH	2003/08/27	0.4		%	20
509116 IG	QC STANDARD	Sulphide	2003/08/27		100	%	85 - 115
	METHOD BLANK	Sulphide	2003/08/27	ND		mg/L	
	RPD	Sulphide	2003/08/27	NC		%	20
509225 SAC	QC STANDARD	Chloride (Cl)	2003/08/27		100	%	85 - 115
		Sulfates (SO ₄)	2003/08/27		98	%	85 - 115
	SPIKED BLANK	Chloride (Cl)	2003/08/27		101	%	75 - 125
		Sulfates (SO ₄)	2003/08/27		98	%	75 - 125
	METHOD BLANK	Chloride (Cl)	2003/08/27	ND		mg/L	
		Sulfates (SO ₄)	2003/08/27	ND		mg/L	
	RPD	Chloride (Cl)	2003/08/27	1.3		%	20
509269 ANL	SPIKED BLANK	Total Petroleum Hydrocarbons(Extractable)	2003/08/27		95	%	70 - 130
	METHOD BLANK	Total Petroleum Hydrocarbons(Extractable)	2003/08/27	ND		ug/L	
	RPD	Total Petroleum Hydrocarbons(Extractable)	2003/08/27	NC		%	N/A
509415 BA	QC STANDARD	Total Ammonia-N	2003/08/28		111	%	85 - 115
	SPIKED BLANK	Total Ammonia-N	2003/08/28		109	%	75 - 125
	METHOD BLANK	Total Ammonia-N	2003/08/28	ND		mg/L	
509745 ISI	QC STANDARD	Total Aluminum (Al)	2003/08/28		97	%	66 - 133
		Total Antimony (Sb)	2003/08/28		111	%	67 - 133
		Total Barium (Ba)	2003/08/28		100	%	83 - 119
		Total Beryllium (Be)	2003/08/28		98	%	76 - 119
		Total Bismuth (Bi)	2003/08/28		93	%	74 - 122
		Total Boron (B)	2003/08/28		99	%	77 - 121
		Total Cadmium (Cd)	2003/08/28		98	%	75 - 117
		Total Calcium (Ca)	2003/08/28		99	%	90 - 110
		Total Chromium (Cr)	2003/08/28		97	%	90 - 110
		Total Cobalt (Co)	2003/08/28		89	%	77 - 119
		Total Copper (Cu)	2003/08/28		96	%	73 - 120
		Total Iron (Fe)	2003/08/28		104	%	80 - 136
		Total Lead (Pb)	2003/08/28		96	%	76 - 119
		Total Lithium (Li)	2003/08/28		101	%	76 - 123
		Total Magnesium (Mg)	2003/08/28		106	%	93 - 114
		Total Manganese (Mn)	2003/08/28		97	%	85 - 115
		Total Molybdenum (Mo)	2003/08/28		94	%	76 - 120
		Total Nickel (Ni)	2003/08/28		98	%	79 - 118
		Total Phosphorus Total (P)	2003/08/28		100	%	90 - 110
		Total Potassium (K)	2003/08/28		97	%	90 - 110
		Total Selenium (Se)	2003/08/28		101	%	74 - 126
		Total Silicon (Si)	2003/08/28		100	%	90 - 112
		Total Silver (Ag)	2003/08/28		96	%	90 - 109
		Total Sodium (Na)	2003/08/28		103	%	91 - 112
		Total Strontium (Sr)	2003/08/28		99	%	80 - 116
		Total Sulfur (S)	2003/08/28		102	%	90 - 111
		Total Tin (Sn)	2003/08/28		100	%	75 - 121
		Total Titanium (Ti)	2003/08/28		97	%	80 - 116
		Total Tungsten (W)	2003/08/28		98	%	84 - 121
		Total Vanadium (V)	2003/08/28		97	%	90 - 110
		Total Zinc (Zn)	2003/08/28		96	%	80 - 115
	METHOD BLANK	Total Aluminum (Al)	2003/08/28	ND		ug/g	
		Total Antimony (Sb)	2003/08/28	ND		ug/g	

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Gartner Lee Ltd
 Attention: Eric Denholm
 Client Project #: 23635
 P.O. #:
 Site Reference: NANISIVIK MINE

Quality Assurance Report (Continued)

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
509745 ISI	METHOD BLANK	Total Barium (Ba)	2003/08/28	0.4		ug/g	
		Total Beryllium (Be)	2003/08/28	ND		ug/g	
		Total Bismuth (Bi)	2003/08/28	4.7		ug/g	
		Total Boron (B)	2003/08/28	ND		ug/g	
		Total Cadmium (Cd)	2003/08/28	ND		ug/g	
		Total Calcium (Ca)	2003/08/28	ND		ug/g	
		Total Chromium (Cr)	2003/08/28	ND		ug/g	
		Total Cobalt (Co)	2003/08/28	ND		ug/g	
		Total Copper (Cu)	2003/08/28	ND		ug/g	
		Total Iron (Fe)	2003/08/28	1.6		ug/g	
		Total Lead (Pb)	2003/08/28	ND		ug/g	
		Total Lithium (Li)	2003/08/28	ND		ug/g	
		Total Magnesium (Mg)	2003/08/28	1.0		ug/g	
		Total Manganese (Mn)	2003/08/28	ND		ug/g	
		Total Molybdenum (Mo)	2003/08/28	ND		ug/g	
		Total Nickel (Ni)	2003/08/28	ND		ug/g	
		Total Phosphorus Total (P)	2003/08/28	ND		ug/g	
		Total Potassium (K)	2003/08/28	ND		ug/g	
		Total Selenium (Se)	2003/08/28	4.6		ug/g	
		Total Silicon (Si)	2003/08/28	3		ug/g	
		Total Silver (Ag)	2003/08/28	ND		ug/g	
		Total Sodium (Na)	2003/08/28	9		ug/g	
		Total Strontium (Sr)	2003/08/28	ND		ug/g	
		Total Sulfur (S)	2003/08/28	ND		ug/g	
		Total Tin (Sn)	2003/08/28	ND		ug/g	
		Total Titanium (Ti)	2003/08/28	ND		ug/g	
		Total Tungsten (W)	2003/08/28	ND		ug/g	
		Total Vanadium (V)	2003/08/28	0.4		ug/g	
		Total Zinc (Zn)	2003/08/28	0.5		ug/g	
	RPD	Total Aluminum (Al)	2003/08/28	1.2		%	20
		Total Antimony (Sb)	2003/08/28	NC		%	20
		Total Barium (Ba)	2003/08/28	0.02		%	20
		Total Beryllium (Be)	2003/08/28	1.1		%	20
		Total Bismuth (Bi)	2003/08/28	NC		%	20
		Total Boron (B)	2003/08/28	1.1		%	20
		Total Cadmium (Cd)	2003/08/28	NC		%	20
		Total Calcium (Ca)	2003/08/28	2.4		%	20
		Total Chromium (Cr)	2003/08/28	1.8		%	20
		Total Cobalt (Co)	2003/08/28	1.9		%	20
		Total Copper (Cu)	2003/08/28	8.0		%	20
		Total Iron (Fe)	2003/08/28	1		%	20
		Total Lead (Pb)	2003/08/28	NC		%	20
		Total Lithium (Li)	2003/08/28	0.9		%	20
		Total Magnesium (Mg)	2003/08/28	1.9		%	20
		Total Manganese (Mn)	2003/08/28	1.9		%	20
		Total Molybdenum (Mo)	2003/08/28	NC		%	20
		Total Nickel (Ni)	2003/08/28	3.3		%	20
		Total Phosphorus Total (P)	2003/08/28	5.8		%	20
		Total Potassium (K)	2003/08/28	1.1		%	20
		Total Selenium (Se)	2003/08/28	NC		%	20
		Total Silicon (Si)	2003/08/28	NC		%	20
		Total Silver (Ag)	2003/08/28	NC		%	20
		Total Sodium (Na)	2003/08/28	1.5		%	20
		Total Strontium (Sr)	2003/08/28	1		%	20

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Quality Assurance Report (Continued)

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
509745 ISI	RPD	Total Sulfur (S)	2003/08/28	NC		%	20
		Total Tin (Sn)	2003/08/28	NC		%	20
		Total Titanium (Ti)	2003/08/28	NC		%	20
		Total Tungsten (W)	2003/08/28	NC		%	20
		Total Vanadium (V)	2003/08/28	1.2		%	20
		Total Zinc (Zn)	2003/08/28	18.7		%	20
509761 HHT	QC STANDARD	Dissolved Total Dissolved Solids (TDS)	2003/08/28		101	%	85 - 115
	METHOD BLANK	Dissolved Total Dissolved Solids (TDS)	2003/08/28	ND		mg/L	
	RPD	Dissolved Total Dissolved Solids (TDS)	2003/08/28	2.9		%	20
509929 ISI	QC STANDARD	Dissolved Aluminum (Al)	2003/08/29		97	%	66 - 133
		Dissolved Antimony (Sb)	2003/08/29		97	%	67 - 133
		Dissolved Arsenic (As)	2003/08/29		91	%	80 - 126
		Dissolved Barium (Ba)	2003/08/29		101	%	83 - 119
		Dissolved Beryllium (Be)	2003/08/29		98	%	76 - 119
		Dissolved Bismuth (Bi)	2003/08/29		103	%	74 - 122
		Dissolved Boron (B)	2003/08/29		99	%	77 - 121
		Dissolved Cadmium (Cd)	2003/08/29		100	%	75 - 117
		Dissolved Calcium (Ca)	2003/08/29		98	%	90 - 110
		Dissolved Chromium (Cr)	2003/08/29		99	%	90 - 110
		Dissolved Cobalt (Co)	2003/08/29		99	%	77 - 119
		Dissolved Copper (Cu)	2003/08/29		99	%	73 - 120
		Dissolved Iron (Fe)	2003/08/29		104	%	80 - 136
		Dissolved Lead (Pb)	2003/08/29		97	%	76 - 119
		Dissolved Lithium (Li)	2003/08/29		99	%	76 - 123
		Dissolved Magnesium (Mg)	2003/08/29		104	%	93 - 114
		Dissolved Manganese (Mn)	2003/08/29		98	%	85 - 115
		Dissolved Molybdenum (Mo)	2003/08/29		98	%	76 - 120
		Dissolved Nickel (Ni)	2003/08/29		101	%	79 - 118
		Dissolved Phosphorus Total (P)	2003/08/29		101	%	90 - 110
		Dissolved Potassium (K)	2003/08/29		97	%	90 - 110
		Dissolved Selenium (Se)	2003/08/29		100	%	74 - 126
		Dissolved Silicon (Si)	2003/08/29		98	%	90 - 112
		Dissolved Silver (Ag)	2003/08/29		100	%	90 - 109
		Dissolved Sodium (Na)	2003/08/29		100	%	91 - 112
		Dissolved Strontium (Sr)	2003/08/29		99	%	80 - 116
		Dissolved Sulfur (S)	2003/08/29		100	%	90 - 111
		Dissolved Thallium (Tl)	2003/08/29		100	%	68 - 129
		Dissolved Tin (Sn)	2003/08/29		101	%	75 - 121
		Dissolved Titanium (Ti)	2003/08/29		98	%	80 - 116
		Dissolved Tungsten (W)	2003/08/29		94	%	84 - 121
		Dissolved Vanadium (V)	2003/08/29		98	%	90 - 110
		Dissolved Zinc (Zn)	2003/08/29		97	%	80 - 115
	METHOD BLANK	Dissolved Aluminum (Al)	2003/08/29	ND		mg/L	
		Dissolved Antimony (Sb)	2003/08/29	ND		mg/L	
		Dissolved Arsenic (As)	2003/08/29	ND		mg/L	
		Dissolved Barium (Ba)	2003/08/29	ND		mg/L	
		Dissolved Beryllium (Be)	2003/08/29	ND		mg/L	
		Dissolved Bismuth (Bi)	2003/08/29	ND		mg/L	
		Dissolved Boron (B)	2003/08/29	ND		mg/L	
		Dissolved Cadmium (Cd)	2003/08/29	ND		mg/L	
		Dissolved Calcium (Ca)	2003/08/29	ND		mg/L	
		Dissolved Chromium (Cr)	2003/08/29	ND		mg/L	
		Dissolved Cobalt (Co)	2003/08/29	ND		mg/L	
		Dissolved Copper (Cu)	2003/08/29	ND		mg/L	

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
509929 ISI	METHOD BLANK	Dissolved Iron (Fe)	2003/08/29	ND		mg/L	
		Dissolved Lead (Pb)	2003/08/29	ND		mg/L	
		Dissolved Lithium (Li)	2003/08/29	ND		mg/L	
		Dissolved Magnesium (Mg)	2003/08/29	ND		mg/L	
		Dissolved Manganese (Mn)	2003/08/29	ND		mg/L	
		Dissolved Molybdenum (Mo)	2003/08/29	ND		mg/L	
		Dissolved Nickel (Ni)	2003/08/29	ND		mg/L	
		Dissolved Phosphorus Total (P)	2003/08/29	ND		mg/L	
		Dissolved Potassium (K)	2003/08/29	ND		mg/L	
		Dissolved Selenium (Se)	2003/08/29	ND		mg/L	
		Dissolved Silicon (Si)	2003/08/29	ND		mg/L	
		Dissolved Silver (Ag)	2003/08/29	ND		mg/L	
		Dissolved Sodium (Na)	2003/08/29	ND		mg/L	
		Dissolved Strontium (Sr)	2003/08/29	ND		mg/L	
		Dissolved Sulfur (S)	2003/08/29	ND		mg/L	
		Dissolved Thallium (Tl)	2003/08/29	ND		mg/L	
		Dissolved Tin (Sn)	2003/08/29	ND		mg/L	
		Dissolved Titanium (Ti)	2003/08/29	ND		mg/L	
		Dissolved Tungsten (W)	2003/08/29	ND		mg/L	
		Dissolved Vanadium (V)	2003/08/29	ND		mg/L	
510584 ISI	MATRIX SPIKE	Dissolved Zinc (Zn)	2003/08/29	ND		mg/L	
		Total Aluminum (Al)	2003/09/02		92	%	75 - 125
		Total Antimony (Sb)	2003/09/02		89	%	75 - 125
		Total Arsenic (As)	2003/09/02		99	%	75 - 125
		Total Barium (Ba)	2003/09/02		100	%	75 - 125
		Total Beryllium (Be)	2003/09/02		96	%	75 - 125
		Total Bismuth (Bi)	2003/09/02		93	%	75 - 125
		Total Boron (B)	2003/09/02		81	%	75 - 125
		Total Cadmium (Cd)	2003/09/02		98	%	75 - 125
		Total Chromium (Cr)	2003/09/02		94	%	75 - 125
		Total Cobalt (Co)	2003/09/02		95	%	75 - 125
		Total Copper (Cu)	2003/09/02		99	%	75 - 125
		Total Iron (Fe)	2003/09/02		90	%	75 - 125
		Total Lead (Pb)	2003/09/02		89	%	75 - 125
		Total Lithium (Li)	2003/09/02		110	%	75 - 125
		Total Manganese (Mn)	2003/09/02		92	%	75 - 125
		Total Molybdenum (Mo)	2003/09/02		101	%	75 - 125
		Total Nickel (Ni)	2003/09/02		93	%	75 - 125
		Total Selenium (Se)	2003/09/02		98	%	75 - 125
		Total Thallium (Tl)	2003/09/02		99	%	75 - 125
		Total Tin (Sn)	2003/09/02		95	%	75 - 125
		Total Titanium (Ti)	2003/09/02		99	%	75 - 125
		Total Vanadium (V)	2003/09/02		97	%	75 - 125
		Total Zinc (Zn)	2003/09/02		99	%	75 - 125
	QC STANDARD	Total Aluminum (Al)	2003/09/02		100	%	66 - 133
		Total Antimony (Sb)	2003/09/02		111	%	67 - 133
		Total Arsenic (As)	2003/09/02		97	%	80 - 126
		Total Barium (Ba)	2003/09/02		99	%	83 - 119
		Total Beryllium (Be)	2003/09/02		100	%	76 - 119
		Total Bismuth (Bi)	2003/09/02		99	%	74 - 122
		Total Boron (B)	2003/09/02		100	%	77 - 121
		Total Cadmium (Cd)	2003/09/02		97	%	75 - 117
		Total Calcium (Ca)	2003/09/02		104	%	90 - 110
		Total Chromium (Cr)	2003/09/02		98	%	90 - 110

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Quality Assurance Report (Continued)

Maxxam Job Number: MA331738

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
510584 ISI	QC STANDARD	Total Cobalt (Co)	2003/09/02		98	%	77 - 119
		Total Copper (Cu)	2003/09/02		99	%	73 - 120
		Total Iron (Fe)	2003/09/02		107	%	80 - 136
		Total Lead (Pb)	2003/09/02		97	%	76 - 119
		Total Lithium (Li)	2003/09/02		101	%	76 - 123
		Total Magnesium (Mg)	2003/09/02		107	%	93 - 114
		Total Manganese (Mn)	2003/09/02		98	%	85 - 115
		Total Molybdenum (Mo)	2003/09/02		97	%	76 - 120
		Total Nickel (Ni)	2003/09/02		97	%	79 - 118
		Total Phosphorus Total (P)	2003/09/02		100	%	90 - 110
		Total Potassium (K)	2003/09/02		99	%	90 - 110
		Total Selenium (Se)	2003/09/02		100	%	74 - 126
		Total Silicon (Si)	2003/09/02		103	%	90 - 112
		Total Silver (Ag)	2003/09/02		99	%	90 - 109
		Total Sodium (Na)	2003/09/02		103	%	91 - 112
		Total Strontium (Sr)	2003/09/02		101	%	80 - 116
		Total Sulfur (S)	2003/09/02		103	%	90 - 111
		Total Thallium (Tl)	2003/09/02		94	%	68 - 129
		Total Tin (Sn)	2003/09/02		101	%	75 - 121
		Total Titanium (Ti)	2003/09/02		101	%	80 - 116
		Total Tungsten (W)	2003/09/02		98	%	84 - 121
		Total Vanadium (V)	2003/09/02		98	%	90 - 110
		Total Zinc (Zn)	2003/09/02		99	%	80 - 115
	SPIKED BLANK	Total Aluminum (Al)	2003/09/02		100	%	76 - 133
		Total Antimony (Sb)	2003/09/02		106	%	67 - 133
		Total Arsenic (As)	2003/09/02		110	%	80 - 126
		Total Barium (Ba)	2003/09/02		107	%	83 - 115
		Total Beryllium (Be)	2003/09/02		103	%	76 - 119
		Total Bismuth (Bi)	2003/09/02		106	%	74 - 122
		Total Boron (B)	2003/09/02		109	%	77 - 121
		Total Cadmium (Cd)	2003/09/02		104	%	75 - 117
		Total Chromium (Cr)	2003/09/02		106	%	75 - 125
		Total Cobalt (Co)	2003/09/02		108	%	77 - 119
		Total Copper (Cu)	2003/09/02		106	%	73 - 120
		Total Iron (Fe)	2003/09/02		116	%	80 - 136
		Total Lead (Pb)	2003/09/02		106	%	76 - 119
		Total Lithium (Li)	2003/09/02		102	%	76 - 123
		Total Manganese (Mn)	2003/09/02		105	%	75 - 125
	METHOD BLANK	Total Molybdenum (Mo)	2003/09/02		109	%	76 - 120
		Total Nickel (Ni)	2003/09/02		105	%	79 - 118
		Total Selenium (Se)	2003/09/02		110	%	74 - 126
		Total Strontium (Sr)	2003/09/02		106	%	80 - 116
		Total Thallium (Tl)	2003/09/02		118	%	68 - 129
		Total Tin (Sn)	2003/09/02		108	%	75 - 121
		Total Titanium (Ti)	2003/09/02		108	%	80 - 116
		Total Vanadium (V)	2003/09/02		106	%	75 - 125
		Total Zinc (Zn)	2003/09/02		106	%	80 - 115
		Total Aluminum (Al)	2003/09/02	ND		mg/L	
		Total Antimony (Sb)	2003/09/02	ND		mg/L	
		Total Arsenic (As)	2003/09/02	ND		mg/L	
		Total Barium (Ba)	2003/09/02	ND		mg/L	
		Total Beryllium (Be)	2003/09/02	ND		mg/L	
		Total Bismuth (Bi)	2003/09/02	ND		mg/L	
		Total Boron (B)	2003/09/02	ND		mg/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MA331738

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
510584 ISI	METHOD BLANK	Total Cadmium (Cd)	2003/09/02	ND		mg/L	
		Total Calcium (Ca)	2003/09/02	ND		mg/L	
		Total Chromium (Cr)	2003/09/02	ND		mg/L	
		Total Cobalt (Co)	2003/09/02	ND		mg/L	
		Total Copper (Cu)	2003/09/02	ND		mg/L	
		Total Iron (Fe)	2003/09/02	ND		mg/L	
		Total Lead (Pb)	2003/09/02	ND		mg/L	
		Total Lithium (Li)	2003/09/02	ND		mg/L	
		Total Magnesium (Mg)	2003/09/02	0.007		mg/L	
		Total Manganese (Mn)	2003/09/02	ND		mg/L	
		Total Molybdenum (Mo)	2003/09/02	ND		mg/L	
		Total Nickel (Ni)	2003/09/02	ND		mg/L	
		Total Phosphorus Total (P)	2003/09/02	ND		mg/L	
		Total Potassium (K)	2003/09/02	ND		mg/L	
		Total Selenium (Se)	2003/09/02	ND		mg/L	
		Total Silicon (Si)	2003/09/02	ND		mg/L	
		Total Silver (Ag)	2003/09/02	ND		mg/L	
		Total Sodium (Na)	2003/09/02	ND		mg/L	
		Total Strontium (Sr)	2003/09/02	ND		mg/L	
		Total Sulfur (S)	2003/09/02	ND		mg/L	
		Total Thallium (Tl)	2003/09/02	ND		mg/L	
		Total Tin (Sn)	2003/09/02	ND		mg/L	
		Total Titanium (Ti)	2003/09/02	ND		mg/L	
		Total Tungsten (W)	2003/09/02	ND		mg/L	
		Total Vanadium (V)	2003/09/02	ND		mg/L	
	RPD	Total Zinc (Zn)	2003/09/02	ND		mg/L	
		Total Arsenic (As)	2003/09/02	NC		%	20
		Total Beryllium (Be)	2003/09/02	NC		%	20
		Total Calcium (Ca)	2003/09/02	0.4		%	20
		Total Chromium (Cr)	2003/09/02	NC		%	20
		Total Cobalt (Co)	2003/09/02	NC		%	20
		Total Iron (Fe)	2003/09/02	5.2		%	20
		Total Magnesium (Mg)	2003/09/02	0.3		%	20
		Total Manganese (Mn)	2003/09/02	0.5		%	20
		Total Molybdenum (Mo)	2003/09/02	NC		%	20
510681 WLI	METHOD BLANK RPD	Acidity as CaCO ₃	2003/09/02	ND		mg/L	
		Acidity as CaCO ₃	2003/09/02	3.0		%	N/A
549666 ISI	MATRIX SPIKE	Total Arsenic (As)	2003/12/30		111	%	75 - 125
		Total Thallium (Tl)	2003/12/30		111	%	75 - 125
	QC STANDARD	Total Arsenic (As)	2003/12/30		97	%	80 - 126
		Total Thallium (Tl)	2003/12/30		101	%	68 - 129
	SPIKED BLANK	Total Arsenic (As)	2003/12/30		110	%	80 - 126
		Total Thallium (Tl)	2003/12/30		118	%	68 - 129
	METHOD BLANK	Total Arsenic (As)	2003/12/30	ND		mg/L	
		Total Thallium (Tl)	2003/12/30	ND		mg/L	
549785 ISI	QC STANDARD	Total Arsenic (As)	2003/12/30		97	%	80 - 126
		Total Thallium (Tl)	2003/12/30		101	%	68 - 129
	METHOD BLANK	Total Arsenic (As)	2003/12/30	ND		ug/g	
		Total Thallium (Tl)	2003/12/30	ND		ug/g	

Mississauga: 5540 McAdam Road L4Z 1P1 Telephone (905) 890-2555 FAX (905) 890-0370

ND = Not detected
N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference

Mississauga: 5540 McAdam Road L4Z 1P1 Telephone(905) 890-2555 FAX(905) 890-0370

Maxxam Job #: A351838
Report Date: 2004/01/08

Gartner Lee Ltd
Client Project #:
Site Reference: NANISIVIK NU
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID)

Maxxam ID		B73937	B73937		B73939	B73940		
Sampling Date		2003/08/09	2003/08/09		2003/08/12	2003/08/14		
	Units	TP03-302-1	TP03-302-1 Dup	DL	TP03-333-2	TP03-353-1	DL	QA Batch

METALS								
Total Aluminum (Al)	ug/g	13100	13200	4	3440	16100	4	550112
Total Antimony (Sb)	ug/g	83	86	10	82	107	10	550112
Total Arsenic (As)	ug/g	25.9	23.1	4	16.9	23.5	4	550112
Total Barium (Ba)	ug/g	50.3	49.2	0.1	38.9	53.0	0.1	550112
Total Beryllium (Be)	ug/g	0.5	0.5	0.1	0.2	0.6	0.1	550112
Total Bismuth (Bi)	ug/g	3.7	!! 8.47700	2.3	5.5	10.8	2.3	550112
Total Boron (B)	ug/g	17.9	17.5	0.5	ND	12.7	0.5	550112
Total Cadmium (Cd)	ug/g	69.9	64.9	0.3	1.4	ND	0.3	550112
Total Calcium (Ca)	ug/g	77700	78200	4	131000	88300	4	550112
Total Chromium (Cr)	ug/g	18.1	17.7	0.5	4.3	18.5	0.5	550112
Total Cobalt (Co)	ug/g	7.7	7.5	0.5	3.4	18.2	0.5	550112
Total Copper (Cu)	ug/g	207	212	0.4	15.7	95.1	0.4	550112
Total Iron (Fe)	ug/g	26500	26200	0.6	26500	25000	0.6	550112
Total Lead (Pb)	ug/g	1600	1500	2.5	142	73.1	2.5	550112
Total Lithium (Li)	ug/g	62.7	62.7	2	12.9	81.4	2	550112
Total Magnesium (Mg)	ug/g	68300	66700	0.3	81800	65100	3	550112
Total Manganese (Mn)	ug/g	307	303	0.15	302	367	0.15	550112
Total Molybdenum (Mo)	ug/g	ND	ND	0.6	0.8	0.7	0.6	550112
Total Nickel (Ni)	ug/g	19.4	18.1	1	9	21.7	1	550112
Total Phosphorus Total (P)	ug/g	280	280	4	141	307	4	550112
Total Potassium (K)	ug/g	2790	2650	100	664	3090	100	550112
Total Selenium (Se)	ug/g	ND	ND	3.3	ND	ND	3.3	550112
Total Silicon (Si)	ug/g	437	458	2	537	382	2	550112
Total Silver (Ag)	ug/g	10.1	9.3	0.7	0.8	ND	0.7	550112
Total Sodium (Na)	ug/g	296	293	9	161	148	9	550112
Total Strontium (Sr)	ug/g	56.1	57.2	0.3	34.7	45.4	0.3	550112
Total Sulfur (S)	ug/g	15700	14400	6.5	10400	2250	6.5	550112
Total Thallium (Tl)	ug/g	6	ND	5	7	ND	5	550112
Total Tin (Sn)	ug/g	ND	ND	1.8	ND	ND	1.8	550112
Total Titanium (Ti)	ug/g	213	204	0.3	83.2	125	0.3	550112
Total Tungsten (W)	ug/g	18.6	!! 13.2150	3	ND	ND	3	550112
Total Vanadium (V)	ug/g	35.5	35.3	0.3	16.0	35.1	0.3	550112

ND = Not detected
Please check for attached comments

Maxxam Job #: A351838
Report Date: 2004/01/08

Gartner Lee Ltd
Client Project #:
Site Reference: NANISIVIK NU
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID)

Maxxam ID		B73937	B73937		B73939	B73940		
Sampling Date		2003/08/09	2003/08/09		2003/08/12	2003/08/14		
	Units	TP03-302-1	TP03-302-1	DL	TP03-333-2	TP03-353-1	DL	QA Batch
			Dup					

Total Zinc (Zn)	ug/g	25400	22900	0.3	1590	325	0.3	550112
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Please check for attached comments

Maxxam ID		B73941		B73942		B73943		
Sampling Date		2003/08/15		2003/08/15		2003/08/09		
	Units	TP03-354-1	DL	TP03-355-1	DL	TP03-310-2	DL	QA Batch

METALS								
Total Aluminum (Al)	ug/g	14200	4	16700	4	13100	4	550112
Total Antimony (Sb)	ug/g	83	10	78	10	80	10	550112
Total Arsenic (As)	ug/g	22.1	4	25.0	4	22.6	4	550112
Total Barium (Ba)	ug/g	54.5	0.1	46.3	0.1	63.6	0.1	550112
Total Beryllium (Be)	ug/g	0.5	0.1	0.6	0.1	0.5	0.1	550112
Total Bismuth (Bi)	ug/g	5.7	2.3	11.6	2.3	5.0	2.3	550112
Total Boron (B)	ug/g	11.7	0.5	14.8	0.5	13.6	0.5	550112
Total Cadmium (Cd)	ug/g	0.8	0.3	ND	0.3	77.9	0.3	550112
Total Calcium (Ca)	ug/g	87200	4	64900	4	77100	4	550112
Total Chromium (Cr)	ug/g	16.4	0.5	19.7	0.5	15.4	0.5	550112
Total Cobalt (Co)	ug/g	7.7	0.5	13.5	0.5	7.3	0.5	550112
Total Copper (Cu)	ug/g	39.6	0.4	40.7	0.4	51.5	0.4	550112
Total Iron (Fe)	ug/g	20100	0.6	24100	0.6	24700	0.6	550112
Total Lead (Pb)	ug/g	175	2.5	158	2.5	2010	2.5	550112
Total Lithium (Li)	ug/g	71.8	2	76.7	2	63.1	2	550112
Total Magnesium (Mg)	ug/g	64600	0.3	61500	3	65600	3	550112
Total Manganese (Mn)	ug/g	288	0.15	348	0.15	323	0.15	550112
Total Molybdenum (Mo)	ug/g	ND	0.6	0.7	0.6	ND	0.6	550112
Total Nickel (Ni)	ug/g	16.2	1	25.7	1	17.9	1	550112
Total Phosphorus Total (P)	ug/g	237	4	329	4	269	4	550112
Total Potassium (K)	ug/g	2070	100	3250	100	2590	100	550112
Total Selenium (Se)	ug/g	ND	3.3	ND	3.3	ND	3.3	550112
Total Silicon (Si)	ug/g	389	2	404	2	420	2	550112
Total Silver (Ag)	ug/g	ND	0.7	ND	0.7	9.5	0.7	550112
Total Sodium (Na)	ug/g	151	9	221	9	427	9	550112

ND = Not detected

Please check for attached comments

Maxxam Job #: A351838
Report Date: 2004/01/08

Gartner Lee Ltd
Client Project #:
Site Reference: NANISIVIK NU
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID)

Maxxam ID		B73941		B73942		B73943		
Sampling Date		2003/08/15		2003/08/15		2003/08/09		
	Units	TP03-354-1	DL	TP03-355-1	DL	TP03-310-2	DL	QA Batch

Total Strontium (Sr)	ug/g	65.6	0.3	45.9	0.3	52.5	0.3	550112
Total Sulfur (S)	ug/g	1860	6.5	1390	6.5	16400	6.5	550112
Total Thallium (Tl)	ug/g	ND	5	7	5	10.9	5	550112
Total Tin (Sn)	ug/g	ND	1.8	ND	1.8	ND	1.8	550112
Total Titanium (Ti)	ug/g	141	0.3	263	0.3	133	0.3	550112
Total Tungsten (W)	ug/g	ND	3	ND	3	19.7	3	550112
Total Vanadium (V)	ug/g	31.6	0.3	49.5	0.3	33.4	0.3	550112
Total Zinc (Zn)	ug/g	542	0.3	406	0.3	24600	3	550112

ND = Not detected
Please check for attached comments

Maxxam ID		B73945		B73946		B73947		B73948	
Sampling Date		2003/08/11		2003/08/12		2003/08/12		2003/08/19	
	Units	TP03-323-2	DL	TP03-330-3	DL	TP03-336-2	DL	TP03-392-3	DL

METALS								
Total Aluminum (Al)	ug/g		4	1660			4	550112
Total Antimony (Sb)	ug/g		10	99			10	550112
Total Arsenic (As)	ug/g		4	18.4			4	550112
Total Barium (Ba)	ug/g		0.1	34.3			0.1	550112
Total Beryllium (Be)	ug/g		0.1	0.1			0.1	550112
Total Bismuth (Bi)	ug/g		2.3	8.8			2.3	550112
Total Boron (B)	ug/g		0.5	ND			0.5	550112
Total Cadmium (Cd)	ug/g	2.7	0.3	1.2	117		0.3	550112
Total Calcium (Ca)	ug/g		4	165000			4	550112
Total Chromium (Cr)	ug/g		0.5	0.8			0.5	550112
Total Cobalt (Co)	ug/g		0.5	1.8			0.5	550112
Total Copper (Cu)	ug/g		0.4	13.3			0.4	550112
Total Iron (Fe)	ug/g		0.6	39400			0.6	550112
Total Lead (Pb)	ug/g	201	2.5	70.1	9480	123	2.5	550112
Total Lithium (Li)	ug/g		2	6			2	550112
Total Magnesium (Mg)	ug/g		3	96900			0.3	550112
Total Manganese (Mn)	ug/g		0.15	356			0.15	550112
Total Molybdenum (Mo)	ug/g		0.6	ND			0.6	550112

ND = Not detected
Please check for attached comments

Maxxam Job #: A351838
Report Date: 2004/01/08

Gartner Lee Ltd
Client Project #:
Site Reference: NANISIVIK NU
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID)

Maxxam ID		B73945		B73946		B73947		B73948		
Sampling Date		2003/08/11		2003/08/12		2003/08/12		2003/08/19		
	Units	TP03-323-2	DL	TP03-330-3	TP03-336-2	TP03-392-3	DL	QA Batch		
Total Nickel (Ni)	ug/g		1	4				1	550112	
Total Phosphorus Total (P)	ug/g		4	102				4	550112	
Total Potassium (K)	ug/g		100	300				100	550112	
Total Selenium (Se)	ug/g		3.3	ND				3.3	550112	
Total Silicon (Si)	ug/g		2	459				2	550112	
Total Silver (Ag)	ug/g		0.7	1.1				0.7	550112	
Total Sodium (Na)	ug/g		9	199				9	550112	
Total Strontium (Sr)	ug/g		0.3	37.3				0.3	550112	
Total Sulfur (S)	ug/g		6.5	2570				6.5	550112	
Total Thallium (Tl)	ug/g		5	ND				5	550112	
Total Tin (Sn)	ug/g		1.8	ND				1.8	550112	
Total Titanium (Ti)	ug/g		0.3	24.7				0.3	550112	
Total Tungsten (W)	ug/g		3	ND				3	550112	
Total Vanadium (V)	ug/g		0.3	8.1				0.3	550112	
Total Zinc (Zn)	ug/g	1250	0.3	989	36200			0.3	550112	
ND = Not detected Please check for attached comments										

Maxxam Job #: A351838
Report Date: 2004/01/08

Gartner Lee Ltd
Client Project #:
Site Reference: NANISIVIK NU
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID) Comments

Total Metals Analysis in Soil by ICP. Elevated duplicate RPD for W and Bi is due to sample matrix effects and is specific to sample B73937. All other parameters are within acceptable duplicate RPD limits.

Results relate only to the items tested.

Gartner Lee Ltd
 Attention: Arlene Laudrum
 Client Project #:
 P.O. #:
 Site Reference: NANISIVIK NU

Quality Assurance Report
 Maxxam Job Number: MA351838

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
550112 ISI	QC STANDARD	Total Aluminum (Al)	2003/12/31		106	%	66 - 133
		Total Antimony (Sb)	2003/12/31		103	%	67 - 133
		Total Arsenic (As)	2003/12/31		101	%	80 - 126
		Total Barium (Ba)	2003/12/31		97	%	83 - 119
		Total Beryllium (Be)	2003/12/31		100	%	76 - 119
		Total Bismuth (Bi)	2003/12/31		101	%	74 - 122
		Total Boron (B)	2003/12/31		100	%	77 - 121
		Total Cadmium (Cd)	2003/12/31		96	%	75 - 117
		Total Calcium (Ca)	2003/12/31		104	%	90 - 110
		Total Chromium (Cr)	2003/12/31		98	%	90 - 110
		Total Cobalt (Co)	2003/12/31		100	%	77 - 119
		Total Copper (Cu)	2003/12/31		97	%	73 - 120
		Total Iron (Fe)	2003/12/31		114	%	80 - 136
		Total Lead (Pb)	2003/12/31		99	%	76 - 119
		Total Lithium (Li)	2003/12/31		98	%	76 - 123
		Total Magnesium (Mg)	2003/12/31		113	%	93 - 114
		Total Manganese (Mn)	2003/12/31		98	%	85 - 115
		Total Molybdenum (Mo)	2003/12/31		99	%	76 - 120
		Total Nickel (Ni)	2003/12/31		98	%	79 - 118
		Total Phosphorus Total (P)	2003/12/31		101	%	90 - 110
		Total Potassium (K)	2003/12/31		97	%	90 - 110
		Total Selenium (Se)	2003/12/31		103	%	74 - 126
		Total Silicon (Si)	2003/12/31		104	%	90 - 112
		Total Silver (Ag)	2003/12/31		97	%	90 - 109
		Total Sodium (Na)	2003/12/31		102	%	91 - 112
		Total Strontium (Sr)	2003/12/31		98	%	80 - 116
		Total Sulfur (S)	2003/12/31		108	%	90 - 111
		Total Thallium (Tl)	2003/12/31		98	%	68 - 129
		Total Tin (Sn)	2003/12/31		100	%	75 - 121
		Total Titanium (Ti)	2003/12/31		100	%	80 - 116
		Total Tungsten (W)	2003/12/31		95	%	84 - 121
		Total Vanadium (V)	2003/12/31		98	%	90 - 110
		Total Zinc (Zn)	2003/12/31		99	%	80 - 115
	METHOD BLANK	Total Aluminum (Al)	2003/12/31	ND		ug/g	
		Total Antimony (Sb)	2003/12/31	ND		ug/g	
		Total Arsenic (As)	2003/12/31	ND		ug/g	
		Total Barium (Ba)	2003/12/31	ND		ug/g	
		Total Beryllium (Be)	2003/12/31	ND		ug/g	
		Total Bismuth (Bi)	2003/12/31	ND		ug/g	
		Total Boron (B)	2003/12/31	ND		ug/g	
		Total Cadmium (Cd)	2003/12/31	ND		ug/g	
		Total Calcium (Ca)	2003/12/31	ND		ug/g	
		Total Chromium (Cr)	2003/12/31	ND		ug/g	
		Total Cobalt (Co)	2003/12/31	ND		ug/g	
		Total Copper (Cu)	2003/12/31	ND		ug/g	
		Total Iron (Fe)	2003/12/31	ND		ug/g	
		Total Lead (Pb)	2003/12/31	ND		ug/g	
		Total Lithium (Li)	2003/12/31	ND		ug/g	
		Total Magnesium (Mg)	2003/12/31	0.4		ug/g	
		Total Manganese (Mn)	2003/12/31	ND		ug/g	
		Total Molybdenum (Mo)	2003/12/31	ND		ug/g	
		Total Nickel (Ni)	2003/12/31	ND		ug/g	
		Total Phosphorus Total (P)	2003/12/31	ND		ug/g	
		Total Potassium (K)	2003/12/31	ND		ug/g	

Mississauga: 5540 McAdam Road L4Z 1P1 Telephone: (905) 890-2555 FAX: (905) 890-0370

Quality Assurance Report (Continued)

Maxxam Job Number: MA351838

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
550112 ISI	METHOD BLANK	Total Selenium (Se)	2003/12/31	ND		ug/g	
		Total Silicon (Si)	2003/12/31	ND		ug/g	
		Total Silver (Ag)	2003/12/31	ND		ug/g	
		Total Sodium (Na)	2003/12/31	ND		ug/g	
		Total Strontium (Sr)	2003/12/31	ND		ug/g	
		Total Sulfur (S)	2003/12/31	7.3		ug/g	
		Total Thallium (Tl)	2003/12/31	ND		ug/g	
		Total Tin (Sn)	2003/12/31	ND		ug/g	
		Total Titanium (Ti)	2003/12/31	ND		ug/g	
		Total Tungsten (W)	2003/12/31	ND		ug/g	
		Total Vanadium (V)	2003/12/31	ND		ug/g	
		Total Zinc (Zn)	2003/12/31	ND		ug/g	
	RPD	Total Aluminum (Al)	2003/12/31	0.3		%	20
		Total Antimony (Sb)	2003/12/31	NC		%	20
		Total Arsenic (As)	2003/12/31	NC		%	20
		Total Barium (Ba)	2003/12/31	2.2		%	20
		Total Beryllium (Be)	2003/12/31	NC		%	20
		Total Bismuth (Bi)	2003/12/31	NC		%	20
		Total Boron (B)	2003/12/31	2.2		%	20
		Total Cadmium (Cd)	2003/12/31	7.4		%	20
		Total Calcium (Ca)	2003/12/31	0.6		%	20
		Total Chromium (Cr)	2003/12/31	2.0		%	20
		Total Cobalt (Co)	2003/12/31	2.6		%	20
		Total Copper (Cu)	2003/12/31	2.6		%	20
		Total Iron (Fe)	2003/12/31	1.1		%	20
		Total Lead (Pb)	2003/12/31	6.7		%	20
		Total Lithium (Li)	2003/12/31	0		%	20
		Total Magnesium (Mg)	2003/12/31	2.4		%	20
		Total Manganese (Mn)	2003/12/31	1.3		%	20
		Total Molybdenum (Mo)	2003/12/31	NC		%	20
		Total Nickel (Ni)	2003/12/31	7.1		%	20
		Total Phosphorus Total (P)	2003/12/31	0.08		%	20
		Total Potassium (K)	2003/12/31	5.0		%	20
		Total Selenium (Se)	2003/12/31	NC		%	20
		Total Silicon (Si)	2003/12/31	4.7		%	20
		Total Silver (Ag)	2003/12/31	8.0		%	20
		Total Sodium (Na)	2003/12/31	0.9		%	20
		Total Strontium (Sr)	2003/12/31	1.9		%	20
		Total Sulfur (S)	2003/12/31	8.3		%	20
		Total Thallium (Tl)	2003/12/31	NC		%	20
		Total Tin (Sn)	2003/12/31	NC		%	20
		Total Titanium (Ti)	2003/12/31	4.7		%	20
		Total Tungsten (W)	2003/12/31	NC		%	20
		Total Vanadium (V)	2003/12/31	0.5		%	20
		Total Zinc (Zn)	2003/12/31	10.3		%	20

ND = Not detected
 NC = Non-calculable
 RPD = Relative Percent Difference

Mississauga: 5540 McAdam Road L4Z 1P1 Telephone(905) 890-2555 FAX(905) 890-0370

Appendix J

Summary Tables of analytical results for soil from the 2002 Phase 2 ESA



Table 1. Town and Related Facilities, Summary of 2002 Analytical Results in Soil

Gartner Lee			Location: Sample ID: Sample Date: Sample Depth (m): Sample Depth (m): Field Screen ^a (ppm) Federal CCME Guidelines ^b PHC CWS ^c RL		Units	Parameter	Townsite																
Extractable Hydrocarbons																							
Fraction 2 (C10-16) surface ^{d,e}	µg/g	450	-	<25	<25	-	-	<25	SE corner of airport road and townsite road	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond				
Fraction 3 (C16-34) surface ^{d,e}	µg/g	400	-	<25	<25	-	-	<25	SE corner of airport road and townsite road	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond				
Fraction 4 (C34-50) surface ^{d,e}	µg/g	2800	-	<10	<10	-	-	<10	SE corner of airport road and townsite road	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond	SE corner of ball diamond				
Metals																							
Cadmium (Cd)	µg/g	35	9.1	<0.5	-	-	5.7	-	-	4.7	0.9	<0.5	5.5	1.9	2.9								
Lead (Pb)	µg/g	700	299	26	-	-	342	-	-	159	79	9	213	58	367								
Zinc (Zn)	µg/g	10800	3690	83	-	-	1970	-	-	1650	262	33	1870	1530	1300								

BOLD Concentration greater than or equal to the CCME generic soil guideline for Residential/Parkland (RL) land use.
Concentration greater than or equal to the Nanisivik Mines site-specific SQRO's for the Town Area

Notes:
< = Less than the detection limit indicated.
- = Analysis not conducted, or no guideline

a Field screening measurements are based on the 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.
b Canadian Council of Ministers of the Environment (CCME) standards and guidelines provides criteria based on land use activities and applies the most stringent criteria based on site-specific receptors and exposure pathway.
c Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: ecological soil contact, and soil ingestion.
d Guideline is dependent upon depth of sample (surface, subsoil > 1.5 m depth).
e Guideline is dependent on median grain size of soil analyzed (Fine ≤ 75 µm, Coarse > 75 µm). Medium grain size of soil sampled is coarse.

Table 1. Town and Related Facilities₁ Summary of 2002 Analytical Results in Soil

Gartner Lee	Location:		Townsite												Carpenter Shop			
	Sample ID:	TP02-117-1	TP02-117-3	TP02-119-1	SS02-025	SS02-026	SS02-027-1	SS02-027-2	SS02-028-1	SS02-028-2	SS02-019	TP02-08-3	TP02-11-1	TP02-12-1				
	Sample Date:	2002-07-23	2002-07-23	2002-07-23	2002-07-23	2002-07-23	2002-07-23	2002-07-23	2002-07-24	2002-07-24	2002-07-17	2002-07-17	2002-07-17	2002-07-17				
	Sample Depth (m):	0.0-0.1	0.9-1.2	0.0-0.2	0.0-0.3	0.0-0.3	0.0-0.03	0.05-0.25	0.0-0.05	0.05-0.2	0.0-0.10	0.7-1.0	1.2	1.0				
Parameter	Units	Federal CCME Guidelines ^b	Field Screen ^a (ppm)	existing AST	existing AST	existing AST	existing AST	existing AST	existing AST	existing AST, no surface staining	existing AST, no surface staining	seepage from bank North of shop	adjacent excavated area	assumed down gradient	down gradient 5m east of TP01-12			
				PHC CWS ^c RL	SQROs for Town Area													
Extractable Hydrocarbons																		
Fraction 2 (C10-16) surface ^{d,e}	mg/g	450		<25	11900	100	3020	80	2640	380	300	420	-	140	1200	400		
Fraction 3 (C16-34) surface ^{d,e}	ug/g	400		<25	520	30	480	<25	1120	130	190	<25	-	<25	<25	<25		
Fraction 4 (C34-50) surface ^{d,e}	ug/g	2800		<10	-	-	-	-	-	-	-	-	-	-	-	-		
Metals																		
Cadmium (Cd)	ug/g	35		-	-	-	-	-	-	1.4	2.7	<0.5	5.4	-	-	-		
Lead (Pb)	ug/g	700		-	-	-	-	-	-	69	751	34	412	-	-	-		
Zinc (Zn)	ug/g	10800		-	-	-	-	-	-	512	1030	131	2010	-	-	-		

BOLD Concentration greater than or equal to the CCME generic soil guideline for Residential/Parkland (RL) land use.
Concentration greater than or equal to the Nanisivik Mines site-specific SQROs for the Town Area

Notes:
< = Less than the detection limit indicated
- = Analysis not conducted, or no guideline

^a Field screening measurements are based on the 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.
^b Canadian Council of Ministers of the Environment (CCME) standards and guidelines provides criteria based on land use activities and applies the most stringent criteria based on site-specific receptors and exposure pathways.
^c Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: ecological soil contact, and soil ingestion.
^d Guideline is dependent upon depth of sample (surface, subsoil > 1.5 m depth).
^e Guideline is dependent on median grain size of soil analyzed (fine ≤ 75 µm, Coarse > 75 µm). Median grain size of soil sampled is coarse.

Table 2. Dock and Related Facilities, Summary of 2002 Analytical Results in Soil

Gartner Lee			Location:		Concentrate Storage Shed Area										Chemical Fuel and Storage Area																					
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2		TP02-51-1		TP02-53-1		TP02-53-2		TP02-53-3		TP02-55-1		TP02-57-3		TP02-58-1		TP02-58-3		TP02-60-1		TP02-61-1		TP02-63-1		TP02-65-1	
Sample ID: 2002-07-19			Sample Date: 2002-07-19		Sample Depth (m): 0.2-0.35		Field Score ^a (ppm)		TP02-47-2		TP02-50-2																									

Notes:

- = Analysis not conducted, or no guideline
 < = Less than the detection limit indicated.

a Field screening measurements are based on the 'dry heulapack' method using a combustible gas meter calibrated to a hexane standard.
 b Canadian Council of Ministers of the Environment (CCME) standards and guidelines provides criteria based on land use activities and applies the most stringent criteria based on site-specific receptors and exposure pathway.
 c Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: ecological soil contact, and soil ingestion.

d Canadian Environmental Quality Guidelines (CEQG). The site-specific factors used for determining the soil quality guideline include: soil ingestion, soil contact and nutrient cycling.
 e Guideline is dependent upon depth of sample (surface, subsoil) > 1.5 m depth.
 f Guideline is dependent on median grain size of soil analyzed (Fine ≤ 75 µm, Coarse > 75 µm). Median grain size of soil sampled is coarse.
 g Total Xylene calculated as the sum of meta, para and ortho Xylenes.

Table 2. Dock and Related Facilities, Summary of 2002 Analytical Results in Soil

Gartner Lee			Location:		Chemical Fuel and Storage Area									
Parameter	Units	Federal CCME Guidelines ^b PHC CWS ^c SQR0s Dock CEQG ^d IL Area	Sample ID:	Sample Date:	Sample Depth (m):	TP02-65-2	TP02-66-1	TP02-68-1	TP02-69-3	TP02-70-1	TP02-70-2	TP02-72-1	TP02-72-2	SS02-055
			Sample Date:	Sample Date:	Sample Depth (m):	2002-07-20	2002-07-20	2002-07-20	2002-07-20	2002-07-20	2002-07-20	2002-07-20	2002-07-20	2002-07-26
			Field Screen ^a (ppm)	Field Screen ^a (ppm)	Field Screen ^a (ppm)	near shore line	in surface drainage pathway of yard	area used to store copper sulphate	downgradient of TP02-53 shore	down gradient of TP02-53	down gradient of TP02-53	west side of tank farm	west side tank farm	at bent fuel line from dock to mill
Non-Halogenated Volatiles														
Benzene (B)	µg/g	5	-	-	-	-	-	-	-	-	-	-	-	-
Fraction 1 (C6-10) surface ^{e,f}	µg/g	330	-	-	-	-	-	-	-	-	-	-	-	-
Fraction 1 (C6-10) subsoil ^{e,f}	µg/g	700	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene (E)	µg/g	20	-	-	-	-	-	-	-	-	-	-	-	-
Toluene (T)	µg/g	14	-	-	-	-	-	-	-	-	-	-	-	-
meta- & para-Xylene	µg/g	-	-	-	-	-	-	-	-	-	-	-	-	-
ortho-Xylene ^g	µg/g	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Xylene ^g	µg/g	21	-	-	-	-	-	-	-	-	-	-	-	-
Extractable Hydrocarbons														
Fraction 2 (C10-16) surface ^{e,f}	µg/g	760	-	-	-	-	-	-	-	-	-	-	-	140
Fraction 2 (C10-16) subsoil ^{e,f}	µg/g	1200	-	-	-	-	-	-	-	-	-	-	-	<25
Fraction 3 (C16-34) surface ^{e,f}	µg/g	1700	-	-	-	-	-	-	-	-	-	-	-	<25
Fraction 3 (C16-34) subsoil ^{e,f}	µg/g	3500	-	-	-	-	-	-	-	-	-	-	-	-
Fraction 4 (C34-50) surface ^{e,f}	µg/g	3300	-	-	-	-	-	-	-	-	-	-	-	-
Fraction 4 (C34-50) subsoil ^{e,f}	µg/g	10000	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons														
Benzo(a)anthracene	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/g	0.7	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/g	22	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/g	50	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/g	100	-	-	-	-	-	-	-	-	-	-	-	-
METALS														
Antimony (Sb)	µg/g	40	-	<1	-	-	-	-	-	-	-	-	-	-
Arsenic (As)	µg/g	12	-	4	-	-	-	-	-	-	-	-	-	-
Barium (Ba)	µg/g	2000	-	57	-	-	-	-	-	-	-	-	-	-
Beryllium (Be)	µg/g	8	-	<1	-	-	-	-	-	-	-	-	-	-
Boron (B)	µg/g	-	-	2	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)	µg/g	2500	-	7	-	20.8	-	-	35.0	1.0	13.5	1.4	-	-
Chromium (Cr)	µg/g	87	-	22	-	-	-	-	-	-	-	-	-	-
Chromium (VI)	µg/g	1.4	-	<1	-	-	-	-	-	-	-	-	-	-
Cobalt (Co)	µg/g	300	-	6	-	-	-	-	-	-	-	-	-	-
Copper (Cu)	µg/g	5500	-	83.5	-	-	-	-	-	-	-	-	-	-
Lead (Pb)	µg/g	4500	-	371	-	443	-	-	1050	36	445	46	-	-
Mercury (Hg)	µg/g	50	-	<0.1	-	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)	µg/g	40	-	<1	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)	µg/g	50	-	14	-	-	-	-	-	-	-	-	-	-
Selenium (Se)	µg/g	3.9	-	<1	-	-	-	-	-	-	-	-	-	-
Silver (Ag)	µg/g	40	-	1	-	-	-	-	-	-	-	-	-	-
Thallium (Tl)	µg/g	1	-	<1	-	-	-	-	-	-	-	-	-	-
Vanadium (V)	µg/g	130	-	26	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)	µg/g	44000	-	251	-	8300	-	-	9930	325	4470	488	-	-

BOLD Concentration greater than or equal to the CCME generic soil guideline for Industrial (IL) land use.
Concentration greater than or equal to the Nanisivik Mines site-specific SQRO's for the Dock Area

Notes:
- = Analysis not conducted, or no guideline
< = Less than the detection limit indicated.

a Field screening measurements are based on the 'dry headspace' method using a combustible gas meter calibrated to a hexane standard

b Canadian Council of Ministers of the Environment (CCME) standards and guidelines provides criteria based on land use activities and applies the most stringent criteria based on site-specific receptors and exposure pathway.

c Petroleum Hydrocarbon Canada-Wide Standards (PHCC CWS). The site-specific exposure pathways used to determine the standards include: ecological soil contact, and soil ingestion.

d Canadian Environmental Quality Guidelines (CEQG). The site-specific factors used for determining the soil quality guideline include: soil ingestion, soil contact and nutrient cycling.

e Guideline is dependent upon depth of sample (surface, subsoil > 1.5 m depth).

f Guideline is dependent on median grain size of soil analyzed (fine ≤ 75 µm, Coarse > 75 µm). Median grain size of soil sampled is coarse.

g Total Xylene calculated as the sum of meta, para and ortho Xylenes

Table 3. Industrial Complex and Related Facilities, Summary of 2002 Analytical Results in Soil

Parameter	Units	Location: Sample ID: TP02-73-1 TP02-73-3 TP02-74-1 TP02-74-2 TP02-74-3 TP02-75-1 TP02-75-2 TP02-75-3 TP02-76-1 TP02-76-2 TP02-77-3 TP02-79-1 TP02-79-3 TP02-80-1 Sample Date: 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-21 2002-07-22 Sample Depth (m): 0.0-0.2 1.4 0.0-0.4 0.45-0.7 1.9 0.0-0.15 0.75-0.9 2.1 0.0-0.15 0.6-0.8 1.3 0.0-0.15 1.4 0.0-0.15 Field Screen* (ppm) 47.2 677 491 695 887 40.2 3 245 599 629 1.1 0 0.5 na															
		Federal CCME Guidelines ^b PHC CWS ^c SQROs General Mine Area															
		Field Screen* (ppm)															
		between warm and cold storage															
Non-Halogenated Volatiles	Units	between warm and cold storage															
		between warm and cold storage															
Benzene	µg/g	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fraction 1 (C6-10) surface ^{e,f}	µg/g	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	µg/g	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	µg/g	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meth- & para-Xylene	µg/g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ortho-Xylene	µg/g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Xylene ^g	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extractable Hydrocarbons																	
Fraction 2 (C10-16) surface ^{e,f}	µg/g	450	70	1380	5040	4850	-	-	-	-	-	-	-	-	-	-	-
Fraction 2 (C10-16) subsoil ^{e,f}	µg/g	1500	-	280	3130	1160	-	-	-	-	-	-	-	-	-	-	-
Fraction 3 (C16-34) surface ^{e,f}	µg/g	400	2040	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fraction 3 (C16-34) subsoil ^{e,f}	µg/g	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fraction 4 (C34-50) surface ^{e,f}	µg/g	2800	340	<10	360	-	370	-	270	-	420	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
Benz(a)anthracene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)pyrene	µg/g	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(b)fluoranthene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(k)fluoranthene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/g	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/g	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene Glycol	µg/g	960	-	-	<10	-	-	-	<10	-	-	-	-	-	-	-	-
Metals																	
Antimony (Sb)	µg/g	20	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic (As)	µg/g	12	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium (Ba)	µg/g	500	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium (Be)	µg/g	4	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron (B)	µg/g	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (Cd)	µg/g	50	225	-	39.0	-	101	1.1	-	44.4	-	-	-	-	-	12.6	-
Chromium (Cr)	µg/g	64	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (VI)	µg/g	0.4	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt (Co)	µg/g	50	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (Cu)	µg/g	5900	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (Pb)	µg/g	1050	2750	-	1190	-	2200	36	-	2480	-	-	-	-	-	569	650
Mercury (Hg)	µg/g	6.6	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum (Mo)	µg/g	10	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (Ni)	µg/g	50	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium (Se)	µg/g	1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver (Ag)	µg/g	18000	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium (Tl)	µg/g	1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (V)	µg/g	130	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (Zn)	µg/g	23400	82900	-	10400	-	37700	373	-	15800	-	-	-	-	-	7060	4640

BOLD Concentration greater than or equal to the CCME generic soil guideline for Residential/Portland (RL) land use.

Concentration greater than or equal to the Nanisivik Mines site-specific SQRO's for the General Mine Area

Notes:

- = Analysis not conducted, or no guideline
< = Less than the detection limit indicated.

^a Field screening measurements are based on the 'dry' headspace' method using a combustible gas meter calibrated to a hexane standard.

^b Canadian Council of Ministers of the Environment (CCME) standards and guidelines provides criteria based on land use activities and applies the most stringent criteria based on site-specific receptors and exposure pathway.

^c Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: ecological soil contact, and soil ingestion.

^d Canadian Environmental Quality Guidelines (CEQG). The site-specific factors used for determining the soil quality guideline include: soil ingestion, soil contact and nutrient cycling.

^e Guideline is dependent upon depth of sample (surface, subsoil > 1.5 m depth).

^f Guideline is dependent on median grain size of soil analyzed (fine ≤ 75 µm, Coarse > 75 µm). Median grain size of soil sampled is coarse.

^g Total Xylene calculated as the sum of meta, para and ortho Xylenes

Table 3. Industrial Complex and Related Facilities, Summary of 2002 Analytical Results in Soil

Gartner Lee	Location:		Industrial Complex														
	Sample ID:	Sample Date:	TP02-81-1 TP02-81-2 TP02-82-1 TP02-82-2 TP02-83-1 TP02-83-3 TP02-85-1 TP02-85-2 TP02-86-1 TP02-86-2 TP02-86-3 TP02-87-1 TP02-87-2														
	Sample Depth (m):	Field Screen ^a (ppm)	adjacent compressor building	front of compressor building	DMS loadout	DMS loadout	ditch east of DMS loadout	in front of wash bay	in front of wash bay	1.4	0.0-0.1	south side of mill complex	south side of mill complex	0.0-0.15	existing AST	existing AST	reagent storage area west of mill
Parameter	Units	Federal CWS ^c , CEQG ^d RL	PHC CWS ^c , SQRGs General Mine Area	TP02-81-1	TP02-81-2	TP02-82-1	TP02-82-2	TP02-83-1	TP02-83-3	TP02-85-1	TP02-85-2	TP02-86-1	TP02-86-2	TP02-86-3	TP02-87-1	TP02-87-2	
Non-Halogenated Volatiles																	
Benzene	µg/g	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	
Fraction 1(C6-10) surface ^{e,f}	µg/g	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	µg/g	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	µg/g	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Meta- & para-Xylene	µg/g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ortho-Xylene ^g	µg/g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Xylene ^g	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Extractable Hydrocarbons																	
Fraction 2 (C10-16) surface ^{e,f}	µg/g	450	-	50	-	80	130	<25	-	-	-	30	-	<25	-	-	
Fraction 2 (C10-16) subsoil ^{e,f}	µg/g	1500	-	-	-	60	210	40	-	-	-	510	-	<25	-	-	
Fraction 3 (C16-34) surface ^{e,f}	µg/g	400	-	450	-	-	-	-	-	-	-	-	-	-	-	-	
Fraction 3 (C16-34) subsoil ^{e,f}	µg/g	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fraction 4(C34-50) surface ^{e,f}	µg/g	2800	-	-	-	-	230	-	-	-	-	60	-	-	-	-	
Polycyclic Aromatic Hydrocarbons																	
Benzo(a)anthracene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)pyrene	µg/g	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b)fluoranthene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(k)fluoranthene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibenzo(a,h)anthracene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Indeno(1,2,3-c,d)pyrene	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	µg/g	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene	µg/g	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyrene	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylene Glycol	µg/g	960	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	
Metals																	
Antimony (Sb)	µg/g	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic (As)	µg/g	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Barium (Ba)	µg/g	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Beryllium (Be)	µg/g	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Boron (B)	µg/g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cadmium (Cd)	µg/g	50	34.0	-	10.3	-	-	-	-	87.7	24.6	<0.5	49.5	24.7	230	19.4	
Chromium (Cr)	µg/g	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chromium (VI)	µg/g	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cobalt (Co)	µg/g	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Copper (Cu)	µg/g	5900	-	-	-	-	-	-	-	660	1890	16	847	1170	2010	417	
Lead (Pb)	µg/g	1050	2690	-	461	-	-	-	-	-	-	-	-	-	-	-	
Mercury (Hg)	µg/g	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Molybdenum (Mo)	µg/g	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel (Ni)	µg/g	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium (Se)	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Silver (Ag)	µg/g	18000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Thallium (Tl)	µg/g	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium (V)	µg/g	130	-	-	-	-	-	-	-	1220	8060	130	18400	9580	131000	4700	
Zinc (Zn)	µg/g	23400	14500	-	4720	-	-	-	-	-	-	-	-	-	-	-	

BOLD Concentration greater than or equal to the CCME generic soil guideline for Residential/Parkland (RL) land use.
Concentration greater than or equal to the Nantivik Mines site-specific SQRO's for the General Mine Area

Notes:

- = Analysis not conducted, or no guideline;
< = Less than the detection limit indicated.a Field screening measurements are based on the 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.
b Canadian Council of Ministers of the Environment (CCME) standards and guidelines provides criteria based on land use activities and applies the most stringent criteria based on site-specific receptors and exposure pathway.

c Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: ecological soil contact, and soil ingestion.

d Canadian Environmental Quality Guidelines (CEQG). The site-specific factors used for determining the soil quality guideline include: soil ingestion, soil contact and nutrient cycling.

e Guideline is dependent upon depth of sample (surface, subsoil > 1.5 m depth).

f Guideline is dependent on median grain size of soil analyzed (Fine ≤ 75 µm, Coarse > 75 µm). Median grain size of soil sampled is coarse.

g Total Xylene calculated as the sum of meta, para and ortho Xylenes

Table 3. Industrial Complex and Related Facilities, Summary of 2002 Analytical Results in Soil

Gartner Lee		Location: Sample ID: Sample Date:		Industrial Complex		Warehouse Yard						
Parameter		Units	Field Screen * (ppm)		TP02-87-3	TP02-88-2	TP02-88-3	TP02-89-2	TP02-90-2	TP02-91-1	TP02-92-1	TP02-92-2
			PHC CWS ^c	SQRGS General	TP02-87-3	TP02-88-2	TP02-88-3	TP02-89-2	TP02-90-2	TP02-91-1	TP02-92-1	TP02-92-2
Non-Halogenated Volatiles			CEOC ^c RL	Mine Area	0.7-0.9	0.6-0.8	1.5	0.6-0.8	1.1	0.0-0.3	0.0-0.3	1.1
					mg	270	182	221	202	474	3442	1857
					storage area	below cold	below cold	adjacent	surface	typical non	adjacent	adjacent
					west of mill	storage	storage	10V30 drum	staining	stained area	waste from	drums of
								storage			mill	mill
Benzene	µg/g	0.5			-	-	-	<0.05	-	<0.05	<0.05	<0.05
Fraction 1 (C6-10) surface ^{c1}	µg/g	130			-	-	-	60	-	<20	<20	<20
Toluene	µg/g	1.4			-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	µg/g	1.2			-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Meth- & para-Xylene	µg/g	-			-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene ^c	µg/g	-			-	-	-	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylene ^c	µg/g	1			-	-	-	<0.3	-	<0.3	<0.3	<0.3
Extractable Hydrocarbons												
Fraction 2 (C10-16) surface ^{c1}	µg/g	450			-	380	600	50	<25	<25	440	-
Fraction 2 (C10-16) subsoil ^{c1}	µg/g	1500			-	-	40	7200	120	<25	290	-
Fraction 3 (C16-34) surface ^{c1}	µg/g	400			-	30	-	-	<10	<10	10	-
Fraction 3 (C16-34) subsoil ^{c1}	µg/g	2500			-	-	-	-	-	-	-	-
Fraction 4 (C34-50) surface ^{c1}	µg/g	2800			-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons												
Benzofluoranthene	µg/g	1			-	-	-	-	-	-	<0.1	-
Benzofluoranthene	µg/g	0.7			-	-	-	-	-	-	<0.1	-
Benzofluoranthene	µg/g	1			-	-	-	-	-	-	<0.1	-
Benzofluoranthene	µg/g	1			-	-	-	-	-	-	<0.1	-
Dibenzofluoranthene	µg/g	1			-	-	-	-	-	-	<0.1	-
Indeno(1,2,3-c,d)pyrene	µg/g	1			-	-	-	-	-	-	<0.1	-
Naphthalene	µg/g	5			-	-	-	-	-	-	<0.1	-
Phenanthrene	µg/g	6			-	-	-	-	-	-	<0.1	-
Pyrene	µg/g	10			-	-	-	-	-	-	<0.1	-
Ethylene Glycol	µg/g	960			-	-	-	-	-	-	-	-
Metals												
Antimony (Sb)	µg/g	20			-	-	-	-	-	-	-	-
Arsenic (As)	µg/g	12			-	-	-	-	-	-	-	-
Barium (Ba)	µg/g	500			-	-	-	-	-	-	-	-
Beryllium (Be)	µg/g	4			-	-	-	-	-	-	-	-
Boron (B)	µg/g	-			-	-	-	-	-	-	-	-
Cadmium (Cd)	µg/g	-			5.4	-	-	-	-	1.9	11.1	2.5
Chromium (Cr)	µg/g	64			-	-	-	-	-	-	-	-
Chromium (V)	µg/g	0.4			-	-	-	-	-	-	-	-
Cobalt (Co)	µg/g	50			-	-	-	-	-	-	-	-
Copper (Cu)	µg/g	5900			-	-	-	-	-	-	-	-
Lead (Pb)	µg/g	141			-	-	-	-	-	-	-	-
Mercury (Hg)	µg/g	6.6			-	-	-	-	-	-	-	-
Molybdenum (Mo)	µg/g	10			-	-	-	-	-	-	-	-
Nickel (Ni)	µg/g	50			-	-	-	-	-	-	-	-
Selenium (Se)	µg/g	1			-	-	-	-	-	-	-	-
Silver (Ag)	µg/g	1			-	-	-	-	-	-	-	-
Thallium (Tl)	µg/g	1			-	-	-	-	-	-	-	-
Vanadium (V)	µg/g	130			-	-	-	-	-	-	-	-
Zinc (Zn)	µg/g	23400			1650	-	-	-	-	669	4220	928

Notes:

- = Analysis not conducted, or no guideline
< = Less than the detection limit indicated.

< = Less than the detection limit indicated.

^a Field screening measurements are based on the 'dry headspace' method using a combustible gas meter calibrated to a hecane standard.

applies the most stringent criteria based on site-specific receptors and exposure pathway.

c Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: ecological soil contact, and soil ingestion.

^d Canadian Environmental Quality Guidelines (CEQG). The site-specific factors used for determining the soil quality guideline

a Guideline is dependant upon depth of sample (surface, subsoil) > 1.5 m depth)

f Guideline is dependent on median grain size of soil analyzed (Fine ≤ 75 μm , Coarse > 75 μm). Median grain size of soil sampled is coarse.

8 Total Xylene calculated as the sum of meta, para and ortho Xylenes