CLINTON CREEK MINE WASTE ROCK DUMP

ASSESSMENT OF REVEGETATION POTENTIAL

JULY 2008

July 15th, 2008

FOR

Yukon

ASSESSMENT AND ABANDONED MINES

ENERGY MINES AND RESOURCES

BY

Laberge
ENVIRONMENTAL SERVICES

August 31, 2008

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1.0 BACKGROUND

The waste rock dumps near the southwest bank of Clinton Creek have remained largely untouched since the closure of the asbestos mine in the late 1970s. EMR Yukon, Mineral Resources Branch is investigating ways to assist the naturally occurring revegetation of the waste rock dump slopes in their existing stable condition.

1.2 Scope of Work

A reconnaissance survey of the waste rock dump conducted on July 16th, 2008 included an inventory of naturally occurring revegetation and the collection of soil samples. In-situ pH and soil moisture measurements were taken at soil sampling sites. Photographs were also taken.

2.0 MONITORING RESULTS

2.1 Soil Conditions

Surface soil conditions were assessed at seven sites on the waste rock dumps. These included three paired sites (three sites where revegetation is occurring and three nearby sites with similar slope and aspect where nothing is growing) and one site adjacent to the shrub cutting test plot established by the Mineral Resources Branch in 2007. The locations of these sites, along with in-situ pH and per cent relative saturation data, are shown below:

Table 1: Soil Sample Site Locations and In-situ Results

CLINTON CREEK SEDIMENT SAMPLES, JULY 16, 2008				
Site #	**Easting**	**Northing**	**pH**	**% moisture saturation**
CC-1	512796	7147315	6.4	63%
CC-2	512739	7147271	6.6	37%
CC-3	513752	7147030	6.8	53%
CC-4	513717	7146964	6.6	48%
CC-5	513062	7147225	6.8	10%
CC-6	513051	7147235	6.8	52%
CC-7	513141	7147216	6.5	40%

Soil samples were collected at each of the above sites and sent to Bodycote Laboratories in Surrey, BC for nutrient analysis. The laboratory report is presented in Appendix A. Table 2 summarizes the analytical data, and details per site are outlined following the table. Photographs are presented in Appendix B.

TABLE 2: SUMMARY OF NUTRIENTS AND TEXTURES OF THE SOIL SAMPLES, JULY 2008

Parameter Name	Unit	CC-1	CC-2	CC-3	CC-4	CC-5	CC-6	CC-7	Detection Limit
Nitrate - N	ppm	<1	<1	<1	<1	<1	<1	<1	1
Phosphorus	ppm	<5	<5	6	<5	<5	<5	<5	5
Potassium	ppm	42	33	49	43	41	32	23	10
Sulfate-S	ppm	>200	116	27	>200	58	>200	>200	1
Calcium	ppm	2510	2580	2910	5590	1220	2460	4180	10
Magnesium	ppm	317	353	253	662	200	173	217	5
Iron	ppm	38.9	18.8	23.6	18.1	17.2	17.2	14.6	0.04
Copper	ppm	1.83	0.91	1.14	1.16	1.89	2.06	0.94	0.02
Zinc	ppm	4.75	0.94	0.49	2.24	0.78	6.39	1.26	0.01
Boron	ppm	<0.2	<0.2	0.6	1.4	<0.2	<0.2	1.3	0.1
Manganese	ppm	16.8	11.7	5.55	4.57	5.08	7.42	5.41	0.006
Chloride	mg/kg	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	0.5
pH	pH	7.8	8.4	8.4	8	8.3	8	7.9	
Electrical Conductivity	dS/m at 25 C	1.66	0.81	0.46	5.62	0.53	1.63	4.55	0.02
Organic Matter	% by weight	1.5	1.7	2.1	1.7	1.2	2.1	1.3	0.1
Calcium	%	82.2	81.1	86.8	83.4	77.7	89.1	91.9	
Magnesium	%	17.1	18.3	12.4	16.3	21	10.3	7.9	
Sodium	%	<0.6	<0.5	<0.5	<0.3	<1	<0.6	<0.4	
TEC	meq/100g	15.2	15.8	16.7	33.4	7.8	13.8	22.7	
Base saturation	%	100	100	100	100	100	100	100	
Sand	%	74.6	69	75	72.6	74	80	84	0.1
Silt	%	18.1	20.3	20.9	19.3	17.3	14.5	12.6	0.1
Clay	%	7.3	10.7	4.1	8.1	8.6	5.5	3.4	0.1

The analytical data shows that all soils were slightly alkaline, lacked the nutrients nitrogen and phosphorus, and had low organic content. Sulfate concentrations were extremely high at CC-1, CC-4, CC-6 and CC-7 with measurements greater than 200 ppm. It should be noted that the laboratory report is an agricultural soil analysis. The soil nutrients required for farm crops may differ from the nutrient requirements of the locally occurring colonizing plant species that have long-since adapted to more nutrient-poor soils. Details of the results per site are given below:

Site CC-1 and Site CC-2

Sites CC-1 and CC-2 are located on the toe of the waste rock dump near Hudgeon Lake with a northerly aspect. Site CC-1 has a sparse growth of balsam poplar, white spruce and willows, with an occasional trembling aspen and paper birch. Nearby Site CC-2 is devoid of vegetation. Both sites have compacted soils that are classified as sandy loam.

There is little information in the soil analysis results to explain the difference in vegetative growth at the two sites. Soils at both sites are deficient in the macronutrients nitrate, phosphorous and potassium but with excess sulfate. Both sites have alkaline soils (although the in-situ pH readings show slightly acidic soils), satisfactory electrical conductivity and a low percentage of organic matter.

Site CC-3 and Site CC-4

Sites CC-3 and CC-4 are located near the northeast edge of a waste rock dump overlooking Clinton Creek (not far from the abandoned shovel and drill). Site CC-3 has a fairly dense and diverse vegetative growth dominated by balsam poplar, willows (including felt-leaf willow, blueberry willow and little-tree willow) and soapberry, along with several forb and grass species

(see next section). Nearby Site CC-4 is devoid of vegetation. The soil at Site CC-4 is slightly more compacted than that at Site CC-3.

The soils at both sites are deficient in the macronutrients nitrate, phosphorous and potassium but with excess sulfate. Both sites have alkaline soils (although the in-situ pH readings show slightly acidic soils). The electrical conductivity at Site CC-3 (0.46 dS/m) is satisfactory while that at Site CC-4 (5.62 dS/m) is in the toxic range. The loamy sand at Site CC-3 has a normal percentage of organic matter (2.1 %), while the percentage of organic matter in the sandy loam at Site CC-4 (1.7 %) is considered to be low.

Site CC-5 and Site CC-6

Sites CC-5 and CC-6 are located on the waste rock dump northeast of the Eagle pit and have a northeasterly aspect. The soils at both sites are compacted, with that at Site CC-5 classified as sandy loam and that at Site CC-6 classified as loamy sand. The naturally occurring revegetation at Site CC-5 includes white spruce, balsam poplar, trembling aspen, paper birch and soapberry, and almost appears as a planted plot however no documentation could be found to support this. Site CC-6 is devoid of vegetation.

The soils at both sites are deficient in the macronutrients nitrate, phosphorous and potassium but with excess sulfate. Both sites have alkaline soils (although the in-situ pH readings show slightly acidic soils). The electrical conductivity at both sites is considered to be satisfactory. The soil at Site CC-5 has a low percentage of organic matter (1.2 %), while the percentage of organic matter in the soil at Site CC-6 (2.1 %) is considered to be normal.

Site CC-7

Site CC-7 is located next to one of the haul roads and is beside the shrub cutting test plot established by the Mineral Resources Branch on September 21st, 2007. Willow and balsam poplar stakes, 40 to 50 cm long were planted leaving approximately 10 cm above ground. Aspen root cuttings were about 20 to 35 cm long and were buried approximately 10 cm deep. All donor plants were collected off site, near the Carcross Road. There was some initial sprouting on the live stakes, but no growth from the root cuttings was observed on July 16th, 2008.

The soil at Sites CC-7 is deficient in the macronutrients nitrate, phosphorous and potassium but with excess sulfate. The soil is alkaline (although, as at each of the other soil sampling sites, the in-situ pH readings show slightly acidic soils). The electrical conductivity at Site CC-7 (4.55 dS/m) is considered to be toxic and has a low percentage of organic matter (1.3 %).

2.2 Current State of Natural Revegetation

The revegetation that is naturally occurring on the waste rock dumps of the Clinton Creek mine site is found primarily in depressions or on more sheltered terraces. Most of the steeper slopes and some of the highly compacted level areas remain devoid of vegetation.

Of the shrub species colonizing the waste rock dumps, balsam poplar (*Populus balsamifera*) is by far the most prevalent. Other shrub species include willows (*Salix alaxensis, S. arbusculoides, S.bebbiana,) and S. myrtilifolia*), white spruce (*Picea glauca*), trembling aspen(*Populus tremuloides*), paper birch (*Betula papyrifera*), soapberry (*Shepherdia canadensis*) and prickly rose (*Rosa acicularis*).

Forb species noted during the July 2008 site visit include bear root (*Hedysarum alpinum*), fireweed (*Epilobium angustifolium*), lungwort (*Mertensia paniculata*), goldenrod (*Solidago multiradiata*), common yarrow (*Achillea millefolium*), Siberian yarrow (*Achillea sibirica*), and fleabane (*Erigeron* sp.). Grasses observed were alkali grass *(Puccinellia* sp.), foxtail barley (*Hordeum jubatum*), brome grass (*Bromus inermis*) and alpine bluegrass (*Poa alpina*).

3.0 Recommended Field Trials for Assisted Revegetation

It is recommended that locally occurring shrub species be used to assist the already established revegetation. Experimentation with balsam poplar (the most common pioneering shrub at the former minesite), along with willows and soapberry, could include the placement of vegetative islands, transplanting of dormant stem cuttings, and the transplanting of root propagules from nearby donor sites. The experimentation trials should be conducted in the fall after the plants have reached dormancy and before frost has penetrated the ground.

APPENDIX A

LABORATORY ANALYTICAL REPORTS

JULY 16, 2008

Bodycote TESTING GROUP

Farm Soil Analysis

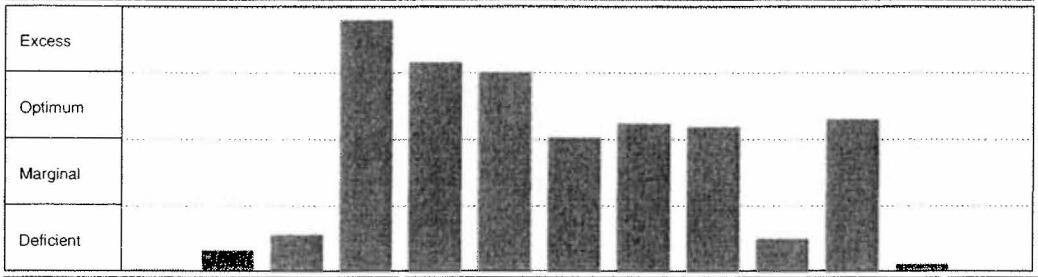
Bill To:	Laberge Environmental Services	Grower Name:		Lot Number:	631714
Report To:	Laberge Environmental Services	Client's Sample Id:		Report Number:	1136494
	Box 21072	Field Id:	CC-1 Clinton Cr.	Date Received:	Jul 21, 2008
	1-405 Ogilvie Street	Acres:		Disposal Date:	Aug 20, 2008
	Whitehorse, YT., Canada	Legal Location:		Report Date:	Jul 24, 2008
	Y1A 6P7	Last Crop:	Crop not provided	Arrival Condition:	
Agreement:	66943				

Nutrient analysis (ppm)

Depth	N*	P	K	S**	Ca	Mg	Fe	Cu	Zn	B	Mn	Cl	BiCarbP
0" - 6"	<1	<5	42	>200	2510	317	38.9	1.83	4.75	<0.2	16.8	<0.5	

Soil Quality

pH	EC(dS/m)	OM(%)	Sample#
7.8	1.66	1.5	2788101



Alkaline	*Very Toxic*	*High*
Neutral	*Toxic*	*Normal*
Acidic	*Caution*	*Low*
Very Acidic	*Good*	*Very Low*

Total lbs/acre	2	10	85	400
Estimated lbs/acre	4	10	85	815

Texture *Sandy Loam* Hand Texture *n/a*

Sand 74.6 % Silt 18.1 % Clay 7.3 %

Ammonium n/a mg/kg

BS 100 %

Ca 82.2 % Mg 17.1 % Na <0.6 % K 0.7 %

TEC 15.2 meq/100g Na <20 ppm

Lime 0 T/ac Buffer pH Not Required Est. N Release n/a

*Nitrate-N **Sulfate-S n/a = not analysed

RECOMMENDATIONS FOR BALANCED CROP NUTRITION

	Crop not provided				
Macro-nutrients	Yield	N	P_2O_5	K_2O	S
Growing Condition		To be added (lbs/acre)			
Excellent					
Average					
Your Goal					
Removal Rate (Seed/Total)					
Micro-nutrients	Iron	Copper	Zinc	Boron	Manganese
To be added (lbs/ac)					

Comments:

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Recommendations are based on general research consensus. They should not replace responsible judgement.

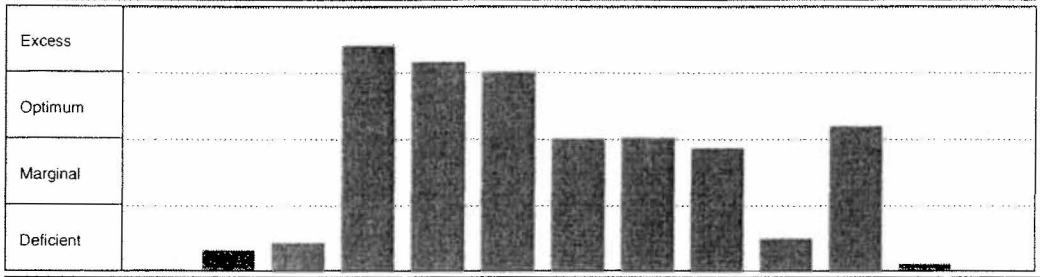
Bodycote TESTING GROUP

Farm Soil Analysis

Bill To:	Laberge Environmental Services	Grower Name:		Lot Number:	631714
Report To:	Laberge Environmental Services	Client's Sample Id:		Report Number:	1136495
	Box 21072	Field Id:	CC-2 Waste Dump	Date Received:	Jul 21, 2008
	1-405 Ogilvie Street	Acres:		Disposal Date:	Aug 20, 2008
	Whitehorse, YT., Canada	Legal Location:		Report Date:	Jul 24, 2008
	Y1A 6P7	Last Crop:	Crop not provided	Arrival Condition:	
Agreement:	66943				

Nutrient analysis (ppm)

Depth	N*	P	K	S**	Ca	Mg	Fe	Cu	Zn	B	Mn	Cl	BiCarbP
0" - 6"	<1	<5	33	116	2580	353	18.8	0.91	0.94	<0.2	11.7	<0.5	



Soil Quality

pH	EC(dS/m)	OM(%)	Sample#
8.4	0.81	1.7	2788102

Alkaline	*Very Toxic*	*High*
Neutral	*Toxic*	*Normal*
Acidic	*Caution*	*Low*
Very Acidic	*Good*	*Very Low*

	N	P	K	S
Total lbs/acre	2	10	66	232
Estimated lbs/acre	4	10	66	472

Texture *Sandy Loam* Hand Texture *n/a*

Sand 69.0 % Silt 20.3 % Clay 10.7 %

Ammonium n/a mg/kg

BS 100 %

Ca 81.1 % Mg 18.3 % Na <0.5 % K 0.5 %

TEC 15.8 meq/100g Na <20 ppm

Lime 0 T/ac Buffer pH Not Required Est. N Release n/a

*Nitrate-N **Sulfate-S n/a = not analysed

RECOMMENDATIONS FOR BALANCED CROP NUTRITION

	Crop not provided				
Macro-nutrients	Yield	N	P_2O_5	K_2O	S
Growing Condition		To be added (lbs/acre)			
Excellent					
Average					
Your Goal					
Removal Rate (Seed/Total)					
Micro-nutrients	Iron	Copper	Zinc	Boron	Manganese
To be added (lbs/ac)					

Comments:

•

Recommendations are based on general research consensus. They should not replace responsible judgement.

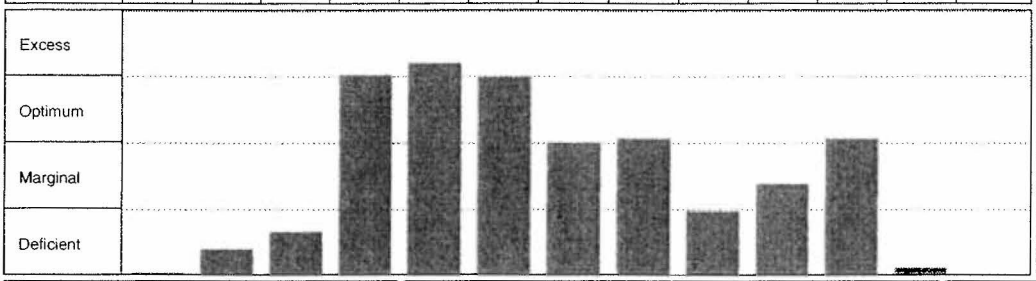
Bodycote TESTING GROUP

Farm Soil Analysis

Bill To:	Laberge Environmental Services	Grower Name:		Lot Number:	631714
Report To:	Laberge Environmental Services	Client's Sample Id:		Report Number:	1136496
	Box 21072	Field Id:	CC-3	Date Received:	Jul 21, 2008
	1-405 Ogilvie Street	Acres:		Disposal Date:	Aug 20, 2008
	Whitehorse, YT., Canada	Legal Location:		Report Date:	Jul 24, 2008
	Y1A 6P7	Last Crop:	Crop not provided	Arrival Condition:	
Agreement:	66943				

Nutrient analysis (ppm)

Depth	N*	P	K	S**	Ca	Mg	Fe	Cu	Zn	B	Mn	Cl	BiCarbP
0" - 6"	<1	6	49	27	2910	253	23.6	1.14	0.49	0.6	5.55	<0.5	



Soil Quality

pH	EC(dS/m)	OM(%)	Sample#
8.4	0.46	2.1	2788103

Alkaline	*Very Toxic*	*High*
Neutral	*Toxic*	*Normal*
Acidic	*Caution*	*Low*
Very Acidic	*Good*	*Very Low*

	N	P	K	S
Total lbs/acre	2	12	99	55
Estimated lbs/acre	4	12	99	111

Texture *Loamy Sand* Hand Texture *n/a*

Sand 75.0 % Silt 20.9 % Clay 4.1 %

Ammonium n/a mg/kg

BS 100 %

Ca 86.8 % Mg 12.4 % Na <0.5 % K 0.8 %

TEC 16.7 meq/100g Na <20 ppm

Lime 0 T/ac Buffer pH Not Required Est. N Release n/a

*Nitrate-N **Sulfate-S n/a = not analysed

RECOMMENDATIONS FOR BALANCED CROP NUTRITION

	Crop not provided				
Macro-nutrients	Yield	N	P_2O_5	K_2O	S
Growing Condition		To be added (lbs/acre)			
Excellent					
Average					
Your Goal					
Removal Rate (Seed/Total)					
Micro-nutrients	Iron	Copper	Zinc	Boron	Manganese
To be added (lbs/ac)					

Comments:

•

Recommendations are based on general research consensus. They should not replace responsible judgement.

Bodycote TESTING GROUP

Farm Soil Analysis

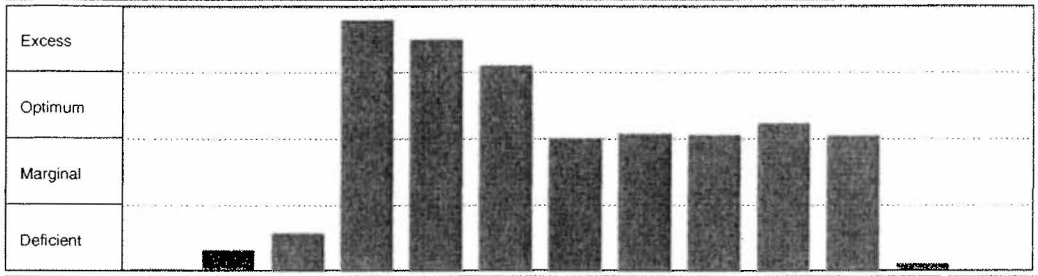
Bill To:	Laberge Environmental Services	Grower Name:		Lot Number:	631714
Report To:	Laberge Environmental Services	Client's Sample Id:		Report Number:	1136497
	Box 21072	Field Id:	CC-4	Date Received:	Jul 21, 2008
	1-405 Ogilvie Street	Acres:		Disposal Date:	Aug 20, 2008
	Whitehorse, YT., Canada	Legal Location:		Report Date:	Jul 24, 2008
	Y1A 6P7	Last Crop:	Crop not provided	Arrival Condition:	
Agreement:	66943				

Nutrient analysis (ppm)

Depth	N*	P	K	S**	Ca	Mg	Fe	Cu	Zn	B	Mn	Cl	BiCarbP
0" - 6"	<1	<5	43	>200	5590	662	18.1	1.16	2.24	1.4	4.57	<0.5	

Soil Quality

pH	EC(dS/m)	OM(%)	Sample#
8.0	5.62	1.7	2788104



Alkaline	*Very Toxic*	*High*
Neutral	*Toxic*	*Normal*
Acidic	*Caution*	*Low*
Very Acidic	*Good*	*Very Low*

Total lbs/acre	2	10	87	400
Estimated lbs/acre	4	10	87	815

Texture *Sandy Loam* Hand Texture *n/a*

Sand 72.6 % Silt 19.3 % Clay 8.1 %

Ammonium n/a mg/kg

Lime 0 T/ac Buffer pH Not Required Est. N Release n/a

BS 100 %

Ca 83.4 % Mg 16.3 % Na <0.3 % K 0.3 %

TEC 33.4 meq/100g Na <20 ppm

*Nitrate-N **Sulfate-S n/a = not analysed

RECOMMENDATIONS FOR BALANCED CROP NUTRITION

	Crop not provided				
Macro-nutrients	Yield	N	P_2O_5	K_2O	S
Growing Condition		To be added (lbs/acre)			
Excellent					
Average					
Your Goal					
Removal Rate (Seed/Total)					
Micro-nutrients	Iron	Copper	Zinc	Boron	Manganese
To be added (lbs/ac)					

Comments:

•

Recommendations are based on general research consensus. They should not replace responsible judgement.

Bodycote TESTING GROUP

Farm Soil Analysis

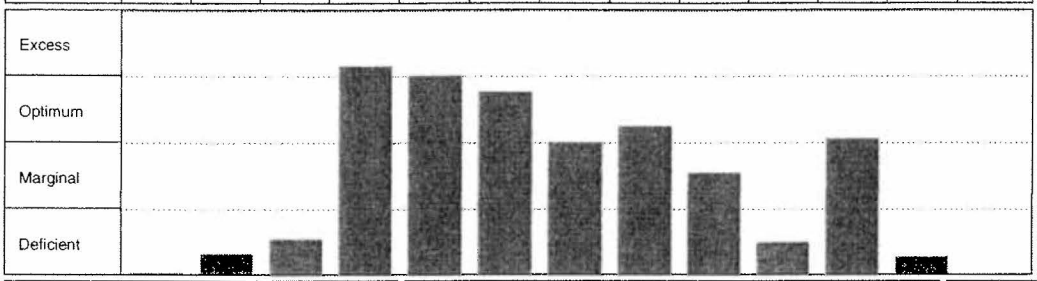
Bill To:	Laberge Environmental Services	Grower Name:		Lot Number:	631714
Report To:	Laberge Environmental Services	Client's Sample Id:		Report Number:	1136498
	Box 21072	Field Id:	CC-5	Date Received:	Jul 21, 2008
	1-405 Ogilvie Street	Acres:		Disposal Date:	Aug 20, 2008
	Whitehorse, YT., Canada	Legal Location:		Report Date:	Jul 24, 2008
	Y1A 6P7	Last Crop:	Crop not provided	Arrival Condition:	
Agreement:	66943				

Nutrient analysis (ppm)

Depth	N*	P	K	S**	Ca	Mg	Fe	Cu	Zn	B	Mn	Cl	BiCarbP
0" - 6"	<1	<5	41	58	1220	200	17.2	1.89	0.78	<0.2	5.08	1	

Soil Quality

pH	EC(dS/m)	OM(%)	Sample#
8.3	0.53	1.2	2788105



Alkaline	*Very Toxic*	*High*	
Neutral	*Toxic*	*Normal*	
Acidic	*Caution*	*Low*	
Very Acidic	*Good*	*Very Low*	

Total lbs/acre	2	10	83	116
Estimated lbs/acre	4	10	83	236

Texture *Sandy Loam* Hand Texture *n/a*

Sand 74.0 % Silt 17.3 % Clay 8.6 %

Ammonium n/a mg/kg

BS 100 %

Ca 77.7 % Mg 21.0 % Na <1 % K 1.3 %

TEC 7.8 meq/100g Na <20 ppm

Lime 0 T/ac Buffer pH Not Required Est. N Release n/a

*Nitrate-N **Sulfate-S n/a = not analysed

RECOMMENDATIONS FOR BALANCED CROP NUTRITION

	Crop not provided				
Macro-nutrients	Yield	N	P_2O_5	K_2O	S
Growing Condition		To be added (lbs/acre)			
Excellent					
Average					
Your Goal					
Removal Rate (Seed/Total)					
Micro-nutrients	Iron	Copper	Zinc	Boron	Manganese
To be added (lbs/ac)					

Comments:

•

Recommendations are based on general research consensus. They should not replace responsible judgement.

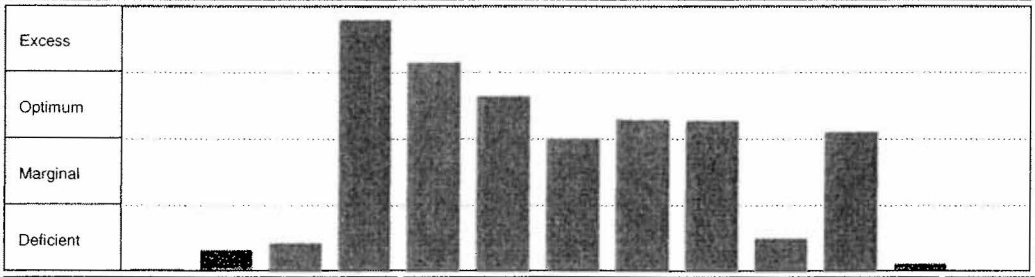
Bodycote TESTING GROUP

Farm Soil Analysis

Bill To:	Laberge Environmental Services	Grower Name:		Lot Number:	631714
Report To:	Laberge Environmental Services	Client's Sample Id:		Report Number:	1136499
	Box 21072	Field Id:	CC-6	Date Received:	Jul 21, 2008
	1-405 Ogilvie Street	Acres:		Disposal Date:	Aug 20, 2008
	Whitehorse, YT., Canada	Legal Location:		Report Date:	Jul 24, 2008
	Y1A 6P7	Last Crop:	Crop not provided	Arrival Condition:	
Agreement:	66943				

Nutrient analysis (ppm)

Depth	N*	P	K	S**	Ca	Mg	Fe	Cu	Zn	B	Mn	Cl	BiCarbP
0" - 6"	<1	<5	32	>200	2460	173	17.2	2.06	6.39	<0.2	7.42	<0.5	



Soil Quality

pH	EC(dS/m)	OM(%)	Sample#
8.0	1.63	2.1	2788106

Alkaline	*Very Toxic*	*High*
Neutral	*Toxic*	*Normal*
Acidic	*Caution*	*Low*
Very Acidic	*Good*	*Very Low*

Total lbs/acre	2	10	65	400
Estimated lbs/acre	4	10	65	815

Texture *Loamy Sand* Hand Texture *n/a*

Sand 80.0 % Silt 14.5 % Clay 5.5 %

Ammonium n/a mg/kg

BS 100 %

Ca 89.1 % Mg 10.3 % Na <0.6 % K 0.6 %

TEC 13.8 meq/100g Na <20 ppm

Lime 0 T/ac Buffer pH Not Required Est. N Release n/a

*Nitrate-N **Sulfate-S n/a = not analysed

RECOMMENDATIONS FOR BALANCED CROP NUTRITION

	Crop not provided				
Macro-nutrients	Yield	N	P_2O_5	K_2O	S
Growing Condition		To be added (lbs/acre)			
Excellent					
Average					
Your Goal					
Removal Rate (Seed/Total)					
Micro-nutrients	Iron	Copper	Zinc	Boron	Manganese
To be added (lbs/ac)					

Comments:

•

Recommendations are based on general research consensus. They should not replace responsible judgement.

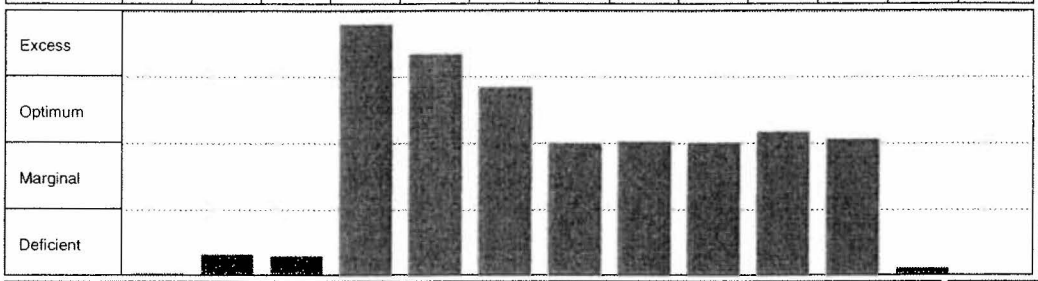
Bodycote TESTING GROUP

Farm Soil Analysis

Bill To:	Laberge Environmental Services	Grower Name:		Lot Number:	631714
Report To:	Laberge Environmental Services	Client's Sample Id:		Report Number:	1136500
	Box 21072	Field Id:	CC-7	Date Received:	Jul 21, 2008
	1-405 Ogilvie Street	Acres:		Disposal Date:	Aug 20, 2008
	Whitehorse, YT., Canada	Legal Location:		Report Date:	Jul 24, 2008
	Y1A 6P7	Last Crop:	Crop not provided	Arrival Condition:	
Agreement:	66943				

Nutrient analysis (ppm)

Depth	N*	P	K	S**	Ca	Mg	Fe	Cu	Zn	B	Mn	Cl	BiCarbP
0" - 6"	<1	<5	23	>200	4180	217	14.6	0.94	1.26	1.3	5.41	<0.5	



Soil Quality

pH	EC(dS/m)	OM(%)	Sample#
7.9	4.55	1.3	2788107

Alkaline	*Very Toxic*	*High*
Neutral	*Toxic*	*Normal*
Acidic	*Caution*	*Low*
Very Acidic	*Good*	*Very Low*

Total lbs/acre	2	10	46	400
Estimated lbs/acre	4	10	46	815

Texture *Loamy Sand* Hand Texture *n/a*

Sand 84.0 % Silt 12.6 % Clay 3.4 %

Ammonium n/a mg/kg

BS 100 %

Ca 91.9 % Mg 7.9 % Na <0.4 % K 0.3 %

TEC 22.7 meq/100g Na <20 ppm

Lime 0 T/ac Buffer pH Not Required Est. N Release n/a

*Nitrate-N **Sulfate-S n/a = not analysed

RECOMMENDATIONS FOR BALANCED CROP NUTRITION

	Crop not provided				
Macro-nutrients	Yield	N	P_2O_5	K_2O	S
Growing Condition		To be added (lbs/acre)			
Excellent					
Average					
Your Goal					
Removal Rate (Seed/Total)					
Micro-nutrients	Iron	Copper	Zinc	Boron	Manganese
To be added (lbs/ac)					

Comments:

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Recommendations are based on general research consensus. They should not replace responsible judgement.

APPENDIX B

PHOTOGRAPHS, JULY 2008

Photo #1: Toe of waste rock dump near Hudgeon Lake. The gullying evident is actually providing micro habitats allowing for the growth of forbs and shrubs, shown in Photo #2.

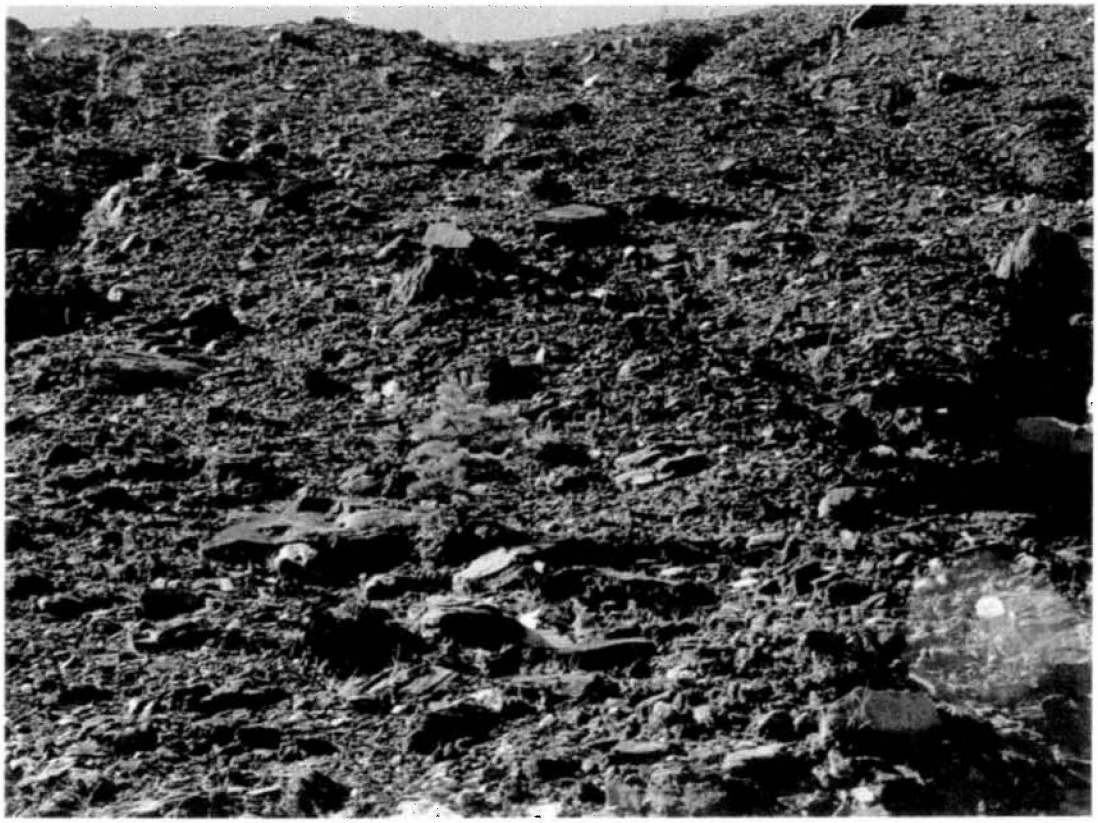

Photo #2: A close-up look at the slope in Photo #1. This area is near sample site CC-1.

Photo #3: A *Hedysarum alpinum* plant, a nitrogen-fixer, growing on the waste rock dump.

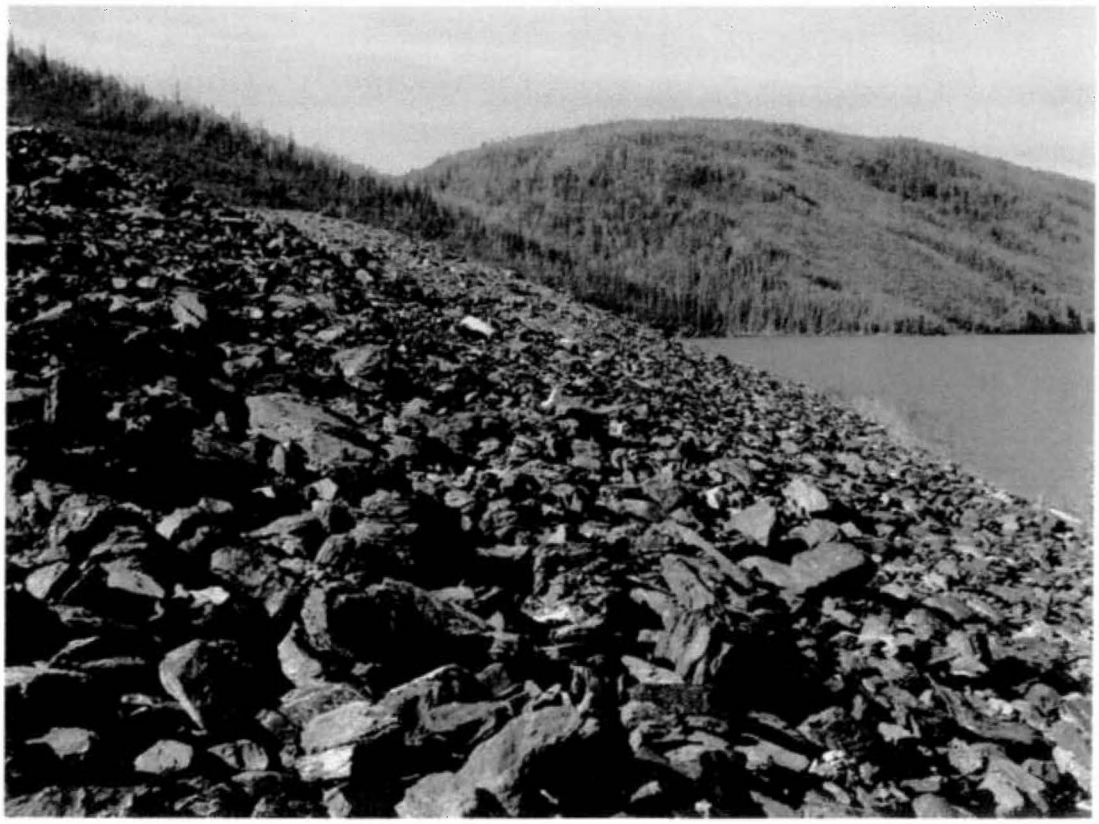

Photo #4: The bare slope devoid of any vegetation, where sample CC-2 was collected.

Photo #5: A well vegetated area where sample CC-3 was collected.

Photo #6: The area near the abandoned shovel and drill where no vegetation was growing, sample site CC-4.

Photo #7: Diverse growth of several species of shrubs and trees, where sample CC-5 was collected.

Photo #8: The barren area of Site CC-6, adjacent to CC-5.

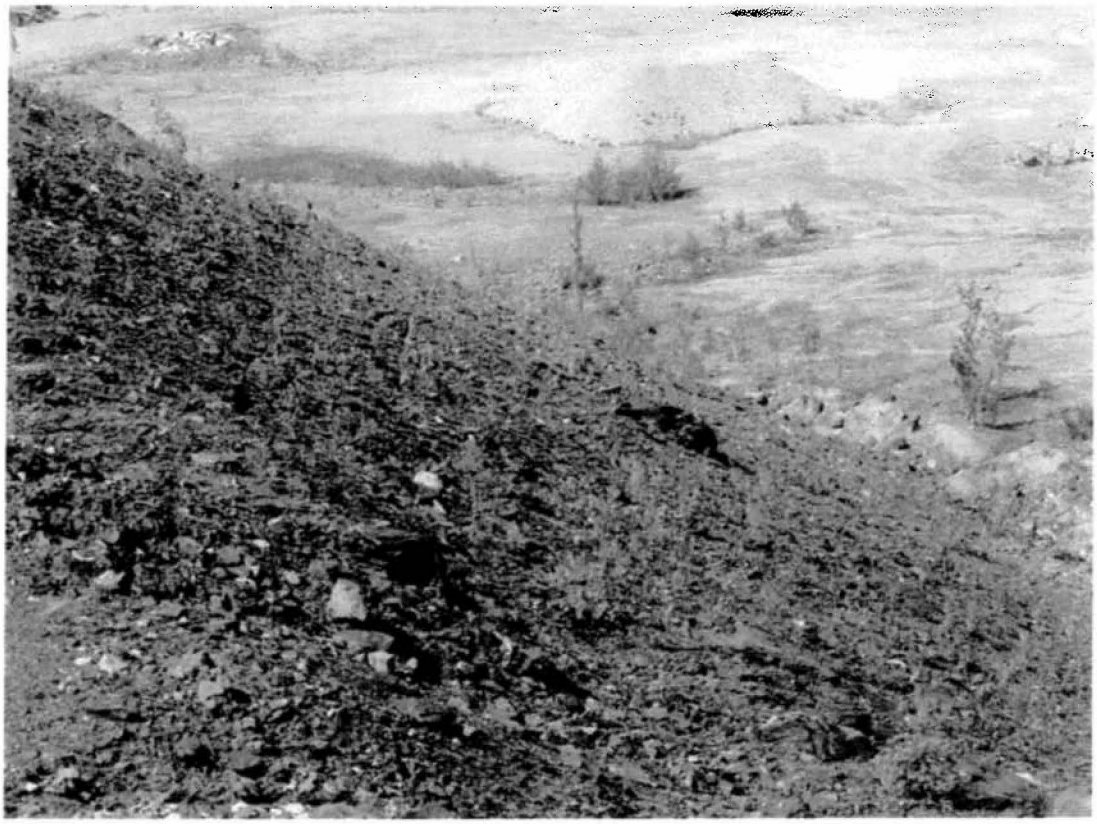

Photo #9: The slope near CC-5 and CC-6 showing good natural colonization of shrubs.

Photo #10: Site CC-7 showing the live staking test plot established by MRB in 2007.

Photo #11: Well established growth of poplars on terraces and upper slope of the southern area of the waste dump.

Photo #12: Natural invasion of native species on some of the level areas on the waste rock dump.