CUMBERLAND
RESOURCES LTD

Suite 906 – 595 Howe Street
Vancouver, B.C. V6C 2T5

Tel: 604/608-2557
Fax: 604/608-2559
E-mail: info@goldmin.com

May 13, 1999

VIA FAX: 867 645-2348

Mr. Ryan St. John
Land Management Officer
Kivalliq Inuit Association
P.O. Box 340
Rankin Inlet, NT X0C 0G0

Dear Ryan:

Re: Proposed Trenching Program
Meadowbank Project
Amendment to Land Use Permit

Please find enclosed information relating to our proposed trenching program at the Meadowbank project. Please advise us if you require any further information.

Best Regards,

CUMBERLAND RESOURCES LTD.

Kerry M. Curtis, B.Sc., P. Geo.
Senior Vice President

KMC/bg

cc: Nunavut Water Board

PROPOSED TRENCHING PROGRAM
THIRD PORTAGE GOLD DEPOSIT
MEADOWBANK PROJECT, NUNAVUT

APPLICATION TO AMEND LAND USE PERMIT TO INCLUDE SURFACE DISTURBANCE

May,1999

Cumberland Resources Ltd.
Vancouver, B.C.

PROPOSED TRENCHING PROGRAM

THIRD PORTAGE GOLD DEPOSIT
MEADOWBANK PROJECT, NUNAVUT

APPLICATION TO AMEND LAND USE PERMIT TO INCLUDE
SURFACE DISTURBANCE

TABLE OF CONTENTS

SUMMARY OF OPERATIONS

1. Purpose

The Meadowbank Gold Project is currently the focus of a pre-feasibility level study designed to evaluate the economic viability of a proposed gold mine on the site. Part of the requirements of a feasibility study will be to better define the shape and evaluate the near surface continuity of gold mineralization in the deposits, in preparation for an independent bankable audit of the reserves. Trenches exposing surface mineralization are an integral part of these studies and offer the ability to confirm gold grade data collected from subsurface drill holes and obtain larger more representative samples of the mineralization if necessary.

One of four gold deposits located on the project, called Third Portage, contains the largest gold resource and is proposed to be accessed by open pit mining techniques. Detailed drill data in this area indicates that large volumes of potentially high-grade resources exist immediately below the overburden at Third Portage. However, further proof, by exposing this mineralization with trenches is a fundamental requirement for advancement of the project into feasibility. Provided economic studies eventually indicate a viable mining operation these near surface resources would be the first to be extracted and processed. It is therefore a high priority to expose and sample these resources. The proposed trenching program will allow the evaluation of the continuity of near surface gold reserves and is a fundamental step in evaluating and eliminating risk.

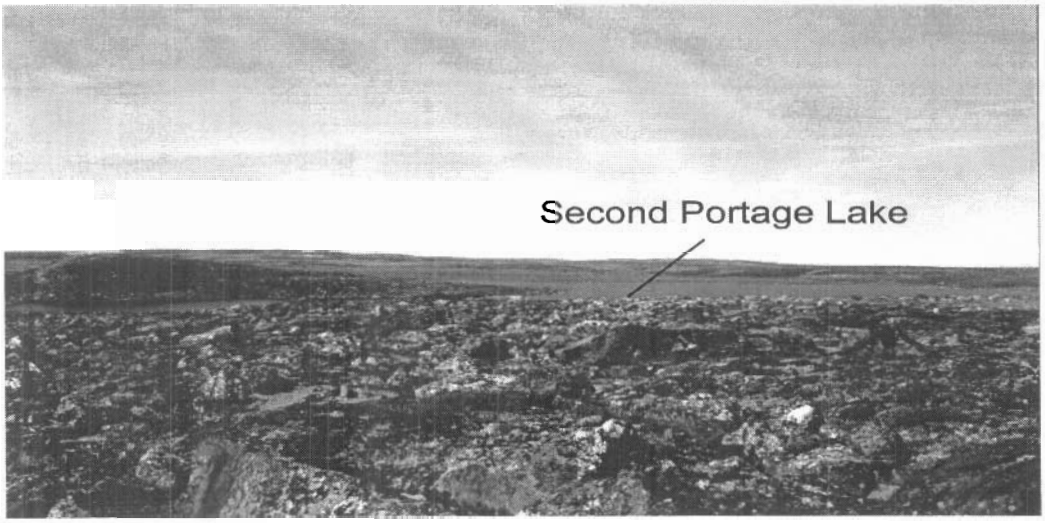
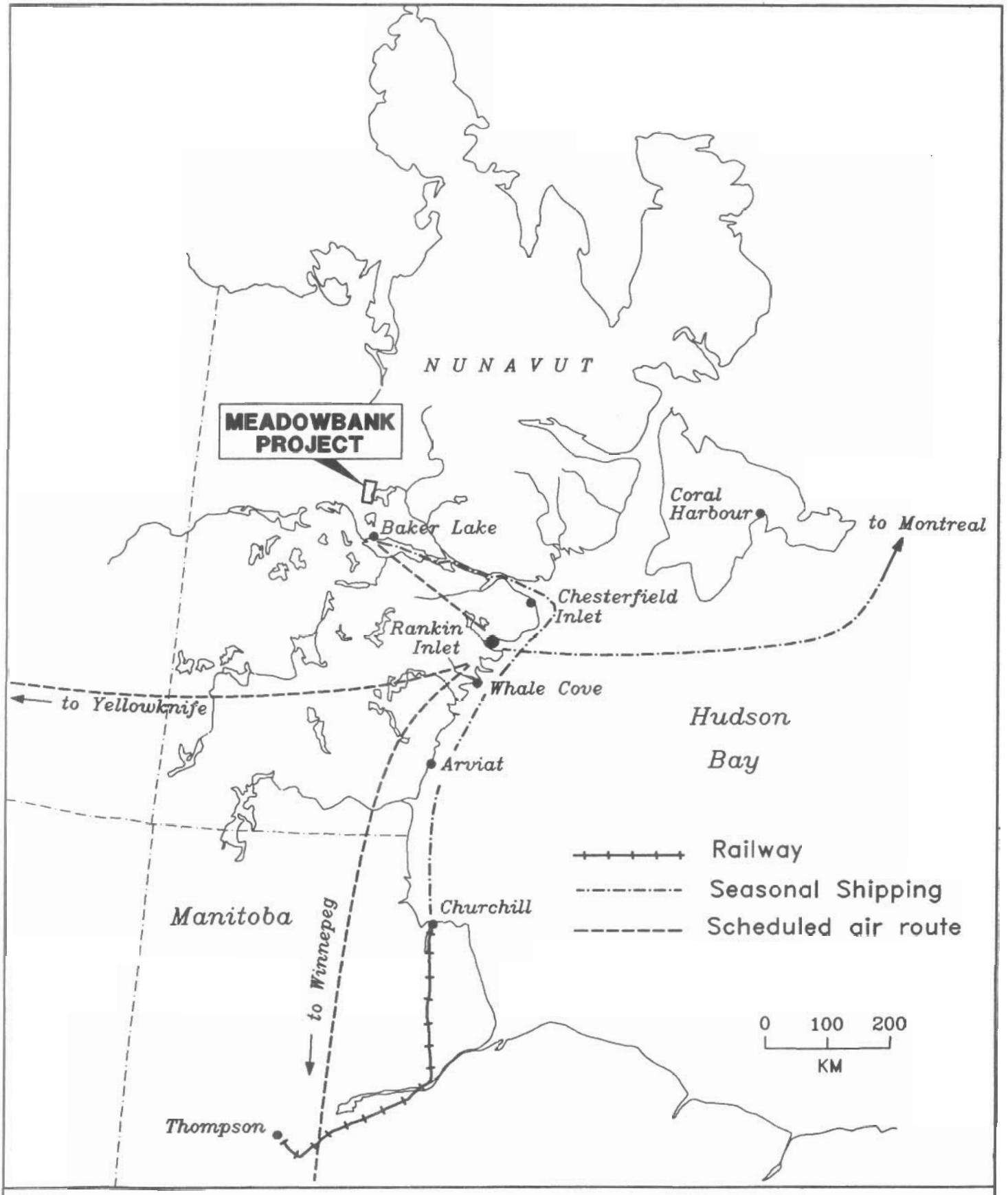


Plate 1
View to the northwest from Third Portage peninsula*: Low relief and limited vegetation characterize the area. Rusty boulders signify the presence of iron formation below surface.*



CUMBERLAND RESOURCES LTD

MEADOWBANK PROJECT LOCATION MAP

2. Location and Description

The Third Portage Deposit is located at 65° 01' 30" N latitude and 96° 04' 20" W longitude; approximately 70 km north of the town of Baker Lake (Figure 1), on a small peninsula between Second and Third Portage Lakes (Figure 2).

The Third Portage peninsula is approximately 700 meters in length from north to south and 500 meters wide at its maximum (Figure 3). Gold mineralization is found below the entire 700 meter length of the peninsula. However, near the center of the peninsula the mineralization lies below the surface and is amenable to exposure by trenching (Figure 4).

Topography on the peninsula is generally low with crest of 10 meters. Overburden on the peninsula consists of poorly sorted boulder tills and immature soils derived from underlying rocks. Frost heave of pebbles and large boulders of up to 2 meters in size is evident. Vegetation consists of patchy grasses and lichen. No standing water is present within the area of proposed trenches. Glacially transported overburden is a very minor component in the area.

Permafrost

Geotechnical studies over the past three years have included four thermister installations to study permafrost characteristics in the peninsula. These studies identified a seasonal freeze and thaw layer extending approximately 2 meters below surface. Ground temperatures reach minimums of between -8 degrees and -10 degrees Celsius at depths between 5 and 8 meters.

Proposed Trenches

The area of the proposed trenching is located on high ground at least 30m away from shorelines (Figure 5). A total of ten trenches are proposed, covering approximately 600 linear metres, and involving displacement of approximately 8400 cubic metres of overburden material (Table 1). The trenches are expected to be 2.0-3.5 meters deep and all material removed to expose the bedrock will be stacked near the trenches for easy reclamation (Figure 5). The area of surface disturbance for the trenches will be approximately 0.97 ha; with approximately 0.5 ha of secondary disturbance from the tracked machinery.

In order to facilitate the excavation of the frozen overburden, the use of explosives is required. These materials will be handled and stored on site in compliance with N.W.T. mines safety guidelines and regulations. We propose that these materials (both explosives and detonation caps) will be stored in separate magazines to be located at separate ends of the Third Portage

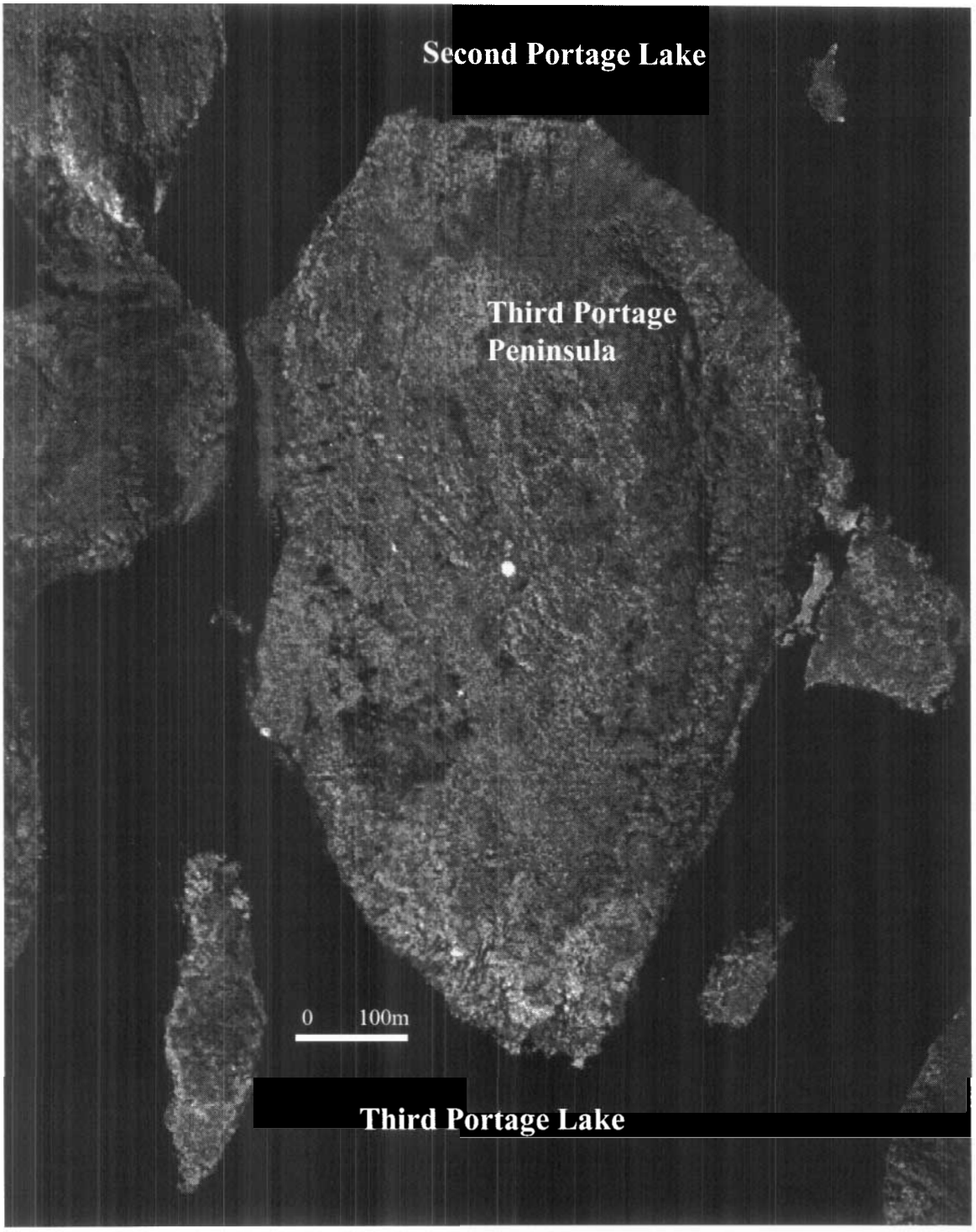


Figure 3
Third Portage Peninsula (August, 1988). An aerial view from 5000 feet above surface.

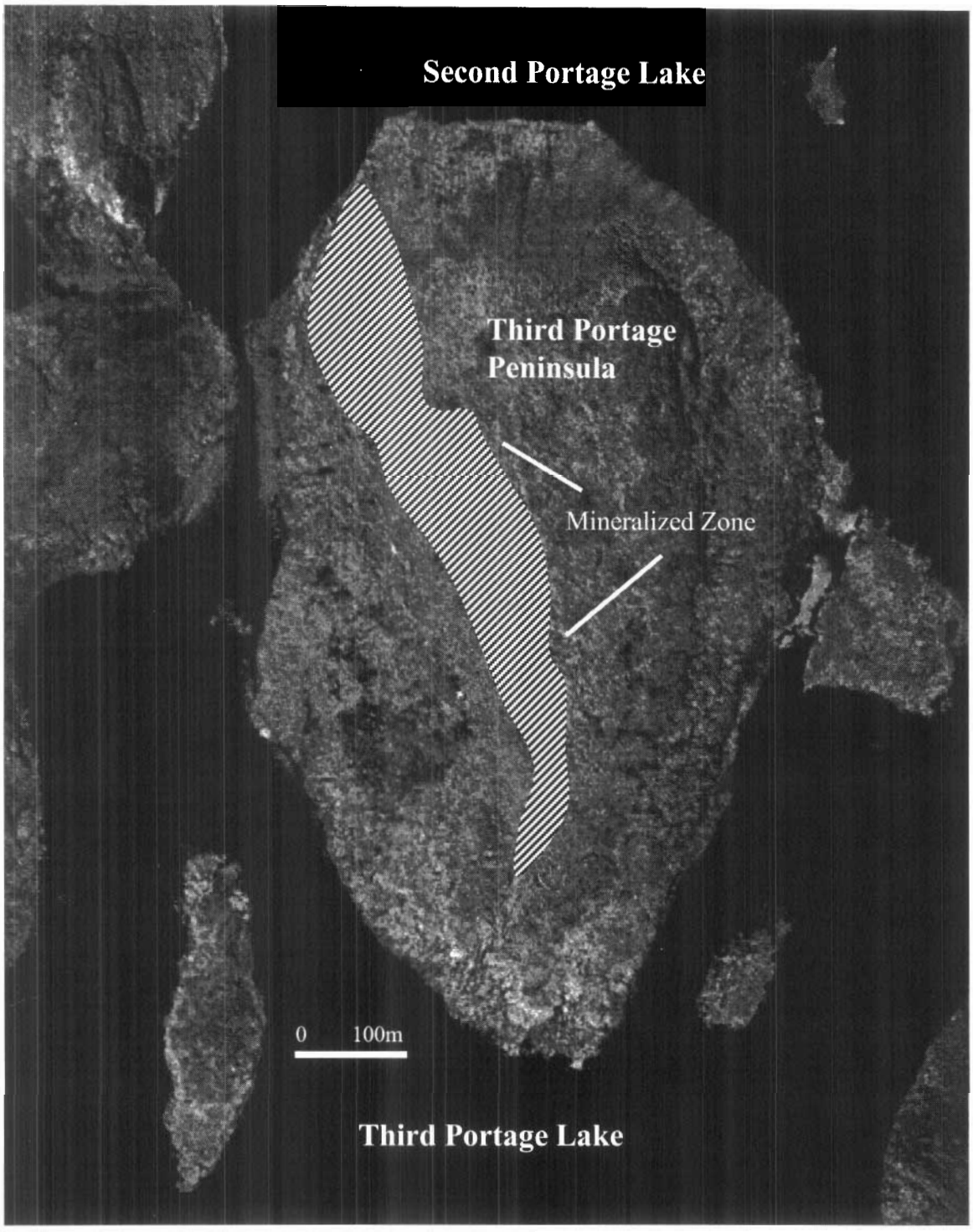


Figure 4

Third Portage Peninsula (1988).
An aerial view from 5000 feet above surface. The mineralized zone lies below a few meters of overburden. Limited surface disturbance is required to expose and sample the mineralization.

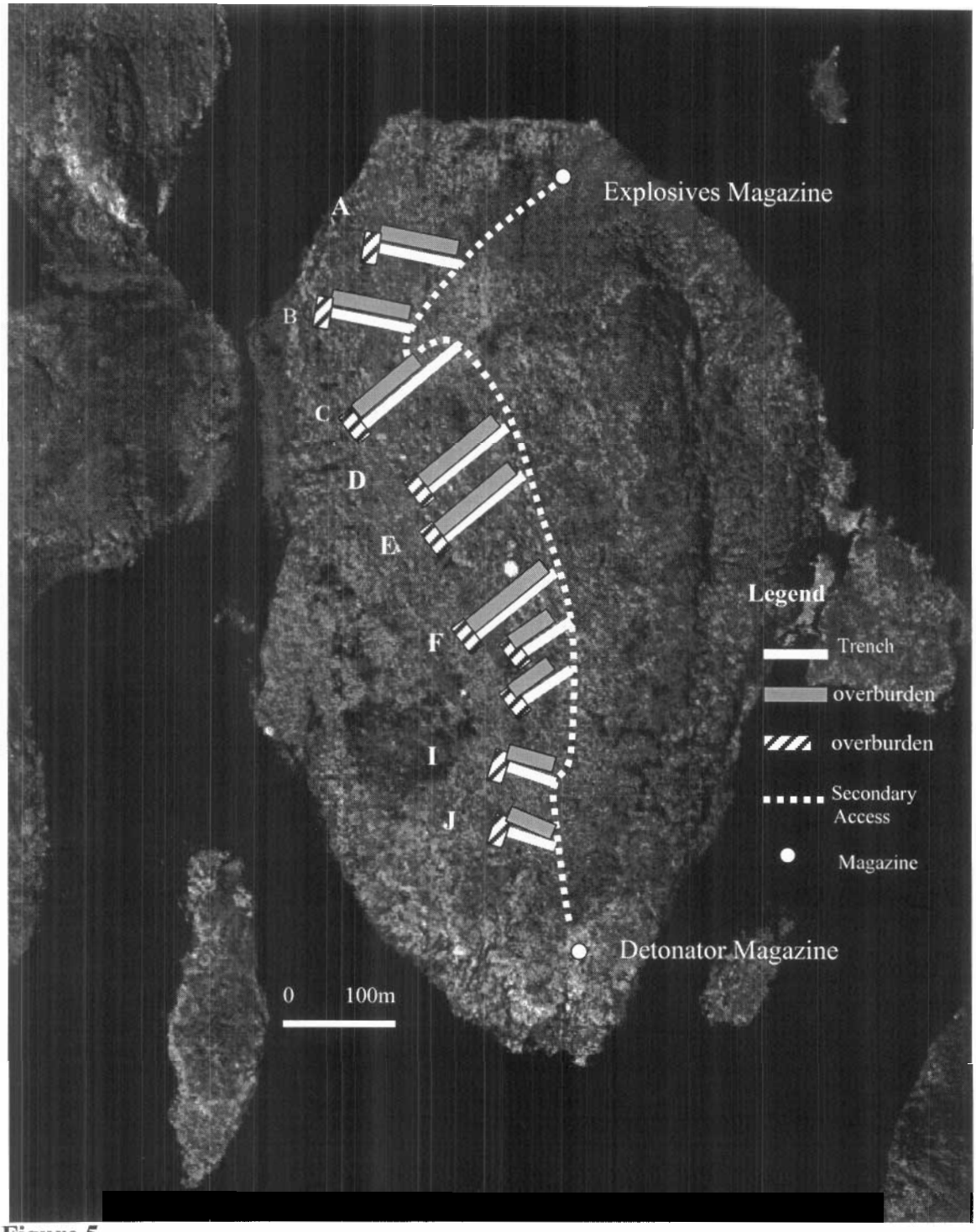


Figure 5
Third Portage Peninsula (1998).

Trenching plans superimposed over aerial photograph. Secondary access routes are limited to immediate area of trenches and for access to magazines.

Table 1 TRENCH AREA AND VOLUME CALCULATIONS

TRENCH ID	LOCATION	LENGTH (m)	AVE O/B DEPTH, m	BOTTOM CUT, m	SURFACE CUT,m	2D AREA m2	Trench M2	VOLUME m3	remaining O/B (m)	2D AREA m2	VOLUME m3	WASTE AREA1	WASTE AREA 2	Vehicle Path
A	3+55 - 3+63N	70	2.50	1.00	8.00	12.00	560.00	840	0.50	0.69	48.3	280	560	
	1+23 - 1+93W													
B	2+66 - 2+74N	62	3.00	1.00	8.00	12.00	496.00	744	1.00	1.75	108.5	248	496	
	1+48 - 2+10W													
C	3+57 - 3+65N	100	3.20	1.00	8.00	12.00	800.00	1200	1.20	2.28	228	400	800	
(3P2)	0+18W- 0+82E													
D	2+70 - 2+78N	80	3.25	1.00	8.00	12.00	640.00	960	1.25	2.42	193.6	320	640	
(3P2)	0+18 - 0+98E													
E	2+28 - 2+36N	67	3.30	1.00	8.00	12.00	536.00	804	1.30	2.57	172.19	268	536	
(3P2)	0+17 - 0+84E													
F	1+62 - 1+70N	72	3.50	1.00	8.00	12.00	576.00	864	1.50	3.19	229.68	288	576	
(3P2)	0+19 - 0+91E													
G	1+25 - 1+33N	41	2.50	1.00	8.00	12.00	328.00	492	0.50	0.69	28.29	164	328	
(3P2)	0+53 - 0+94E													
H	0+95 - 1+03N	30	2.50	1.00	8.00	12.00	240.00	360	0.50	0.69	20.7	120	240	
(3P2)	0+54 - 0+84E													
I	0+44 - 0+52S	35	2.50	1.00	8.00	12.00	280.00	420	0.50	0.69	24.15	140	280	
	0+75 - 1+10E													
J	1+07 - 1+15S	50	3.00	1.00	8.00	12.00	400.00	600	1.00	1.75	87.5	200	400	
	0+72 - 1+22E													
	TOTAL: (m)	**607**				**TOTAL: (m3)**	**4856**	**7284**		**TOTAL: (m3)**	**1140.91**	**2428 (m2)**	**4856 (m2)**	**5000 (m2)**
						to remove first 2m of O/B, put into Waste Area 1				to remove remaining O/B, put into Waste Area 2 & 3				

Explosives magazine: 5+00N, 0+65W

Detonation magazine: 2+60S, 1+85E

TOTAL	Trench Disturbance		4856 m2
	Waste Disturbance	(zones 1 and 2)	4856 m2
	Secondary Disturbance (vehicle access)		5000 m2

peninsula (Figure 5). The magazines will be wood-lined steel containers with shielded locking mechanisms to safely and securely store the materials.

3. Physical Work

Permafrost ground conditions and the size of the planned trenches requires the use of heavy equipment to remove the overburden material and expose the bedrock. Excavation equipment includes a Caterpillar 307 excavator and a Caterpillar D-6 bulldozer on site, as well as a compressor/airtrack drill to drill blastholes in the overburden to set explosive charges (see Plates 1-4).

The trenching will be conducted by a qualified contractor who will supervise and conduct the work, and will be responsible for the handling of all explosive materials.

Initially, the ground will be prepared for trenching using the bulldozer to remove any loose material from the surface.

Once the initial surface material is removed, blastholes will be drilled on 1.5 meter centers using the airtrack drill, approximately 2 meters deep. These holes would then be loaded with explosives and detonated in order to break up and loosen the overburden. This material would then be removed from the trench using the excavator and piled near the edge of the trench for later reclamation. The trenches should be approximately 8 meters wide at surface, with 1-2 meters of exposed bedrock at the bottom. Once the trenches are clear of overburden, geologists will map them, and trenches will be channel sampled to identify distribution of ore grade material, and surveyed.

The explosives to be used will be water resistant Anfo (WRAnFO) which is ammonium nitrate-based. The ammonium is pre-mixed with a low concentration of diesel fuel (approx. 5 to 7%), then packed into the blastholes. Next, a booster consisting of half a stick of dynamite is inserted. Note that the components are not explosive until detonated by attaching a blasting cap (a shock is necessary to start the reaction, otherwise the Anfo and dynamite will just burn). Separate magazines for the explosives and detonators are available for security and to prevent any accidental release. These magazines are constructed from 20-foot steel sea containers, with plywood lining and shielded locks to prevent unauthorized access.

The trenches will remain open until mining begins on the property or economic considerations require Cumberland to pull out and stop work, at which point in time the trenches would be back-filled and reclaimed.

Plate 2

Channel sampling with a diamond saw, at Meliadine East Project. *Small amounts of water are used as lubricant (spray can). Saw cuts from mineralization are usually 10 cm wide and several meters long.*

4. Community Consultation

Representatives of the Community Land and Resources Council (CLARC), Hunters and Trappers Organization (HTO) and Hamlet Council of Baker Lake were informed of the proposed trenching program at a joint meeting on Monday, April 12, 1999 in Baker Lake.

6. Water Quality/Acid Base Accounting

The proposed trenching activities do not effect any existing surface water bodies. As shown in Figure 5, all trenches and associated secondary disturbance from tracked machinery will be located at least 30 meters from the lake. Trenches will be bermed to minimize surface runoff into the trenches and prevent downslope runoff. The berms will also provide a settling area in each trench for any water used to clean bedrock exposures or for the diamond hand saw used for channel sampling. In addition, burlap screens will be placed around berms.

All activities related to water use and water management will be consistent with the regulatory guidelines and requirements. Baseline water chemistry and preliminary field tests of exposed mineralized rock indicate that there are no

concerns associated with oxidation and metal leaching of rock exposed during the trenching program (see Appendix III). Field tests of leaching potential will be done during the trenching program. Rock samples will also be collected for evaluation of acid generation and metal leaching potential as part of the feasibility study program.

7. Reclamation

By locating the excavated material in close proximity to the trenches, any reclamation work can be performed quickly and effectively. The application of sphagnum mosses will accelerate re-vegetation of the trench sites. Fuel spill kits will be positioned throughout the work area in the event of a diesel spill while refueling equipment.

Plate 3-Caterpillar 307 Excavator: A light excavator is required to work within the trench

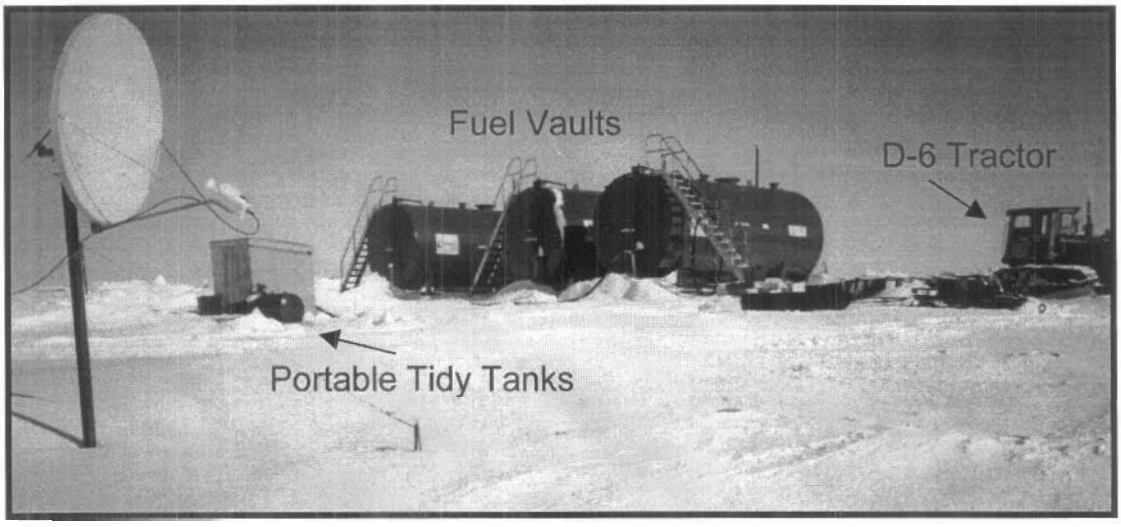


Plate 4 - Meadowbank Fuel Storage and Equipment. A D-6 Bulldozer will perform initial removal of overburden

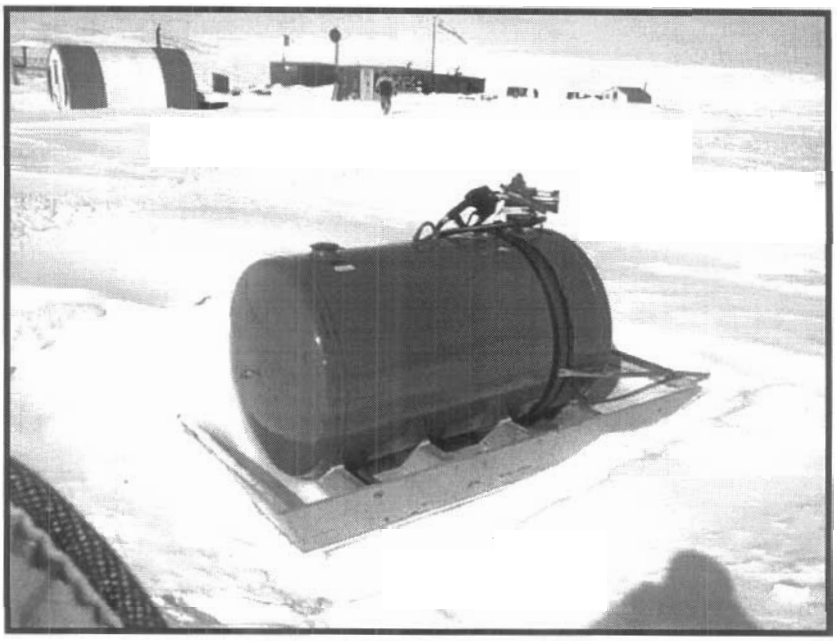


Plate 5 - Fuel Transportation: In the summer months tidy tanks will be flown to the trenching program from camp, a distance of 750 meters

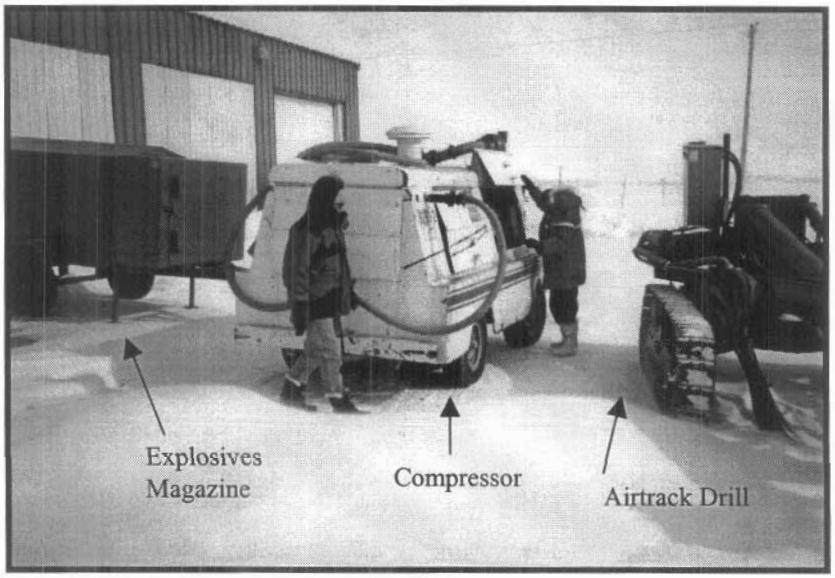


Plate 6 - Trenching Equipment. Explosive Magazine, Compressor and Airtrack Drill in Baker Lake

EXECUTIVE SUMMARY

Cumberland Resources Ltd. has been operating exploration activities at the Meadowbank Gold Project, located approximately 70 km north of Baker Lake, since 1995. The project has seen steady advancement and activity over this period including approximately $10 million in exploration expenditures. It is anticipated that activity levels will continue and possibly increase over the next several years, subject to results of ongoing pre-feasibility studies.

The Meadowbank Gold Project consists of four separate gold deposits along a 3-kilometer trend: Goose Island, Third Portage, Bay Zone and North Portage. In order to continue advancement of the project, Cumberland Resources is proposing to excavate a series of ditches across the ore zones at the Third Portage deposit. This excavation project, called trenching, is proposed to commence in early July of 1999 and continue for approximately 8 weeks. The process of trenching mineralization is one step in the advanced evaluation of the mineralization and is a fundamental step in a feasibility study.

The Meadowbank project is currently the focus of a pre-feasibility level study, scheduled for completion in the spring of 1999. As resource studies advance, further definition of the near surface gold resources is required. The trenching program will allow confirmation of gold mineralization in the near surface portion of the deposit. Bulk sampling of the mineralized material may also be required in the future depending on the results of future metallurgical testing.

The area of surface disturbance would cover approximately 0.97 hectares of trenching and a further 0.5 hectares of secondary disturbance for tracked vehicle access. All disturbance is contained within the proposed boundaries of the potential Third Portage open pit. The work will require the use of heavy equipment (bulldozer and excavator) a compressor and airtrack drill and explosives to help break up the frozen overburden and expose the bedrock. All activities related to this work will be conducted by licensed, experienced contractors following all safety guidelines and regulations established by the N.W.T. Mines Safety Act.

The protection of the environment is one of Cumberland's foremost concerns in any exploration program. Therefore, every effort will be made to insure that the proposed work is conducted with as little impact on the local environment as possible. Activities at the Meadowbank project are currently approved and regulated under a K.I.A land use permit and a Nunavut Water Board Permit. Cumberland has been fully compliant with all permits and inspections since 1995.

ᐊᖓᔪᖅᑲᐅᑎᑉ ᑎᑎᖅᑕᖓ

ᑕᒃᑯᐊ ᑲᒻᐸᓂᖓᑦ ᓯᒥᑎᖕᒥᑦ ᐱᕙᓪᓕᐊᔪᒪᐃᓐᓇᖅᒪᑕ ᖃᐅᔨᓴᐃᕐᓗᑎᒃ ᐅᔭᖅᖠᓂᐊᕐᕕᒃᓴᖏᑦ ᑕᐃᑲᓂ ᖃᒪᓂᕐᑐᐊᑉ ᐅᐊᖓᓇᖓᓂ ᑭᕙᓪᓕᕐᒃ, ᑕᐃᒪᖓᓂᑦ 1995, ᑕᒪᓐᓇ ᐱᕙᓪᓕᐊᓂᐅᔪᖅ ᑕᐃᒪᖓᓂᑦ ᖃᐅᔨᓴᐃᓕᖅᒪᑕ ᐊᑐᖅᓯᒪᓕᖅᑐᖅ ᑖᓐᓂᑦ ᐃᒪᖄ $10 ᒥᓕᐊᓐᓂᒃ ᑮᓇᐅᔭᖅᓂᑦ ᐃᓱᒪᒋᔭᐅᕙᓂ ᑕᒪᓐᓇ ᑲᔪᓯᓂᖅᑲᖅᓂᐊᖅᓂᖓᓂᑦ ᐊᒻᒪ ᐃᒪᖄ ᐊᖏᓂᖅᓴᐅᓕᖅᓂᐊᖅᑐᓂ ᓯᕗᓂᒃᓴᒥ, ᑕᒪᓐᓇ ᖃᐅᔨᓴᖅᑕᐅᓕᒫᖅᓂᖓᓂ.

ᑖᓐᓇ ᖃᐅᔨᓴᕐᕕᐅᔪᖅ ᑭᓐᖓᓕᕐᒥ ᐊᕕᒃᓯᒪᔪᓂᑦ ᓯᑕᒪᐅᔪᓂᑦ ᑲᓇᒃᓴ ᒎᓕᑎᓂᒃ ᐱᑕᖃᕈᒥᔭᐅᖕᒪᑦ ᓇᓂᓯᕙᐅᓯᒪᓇᓱᒋᔭᐅᖕᒪᑦ ᐅᖓᓯᖕᓂᖅᑲᓐᓂ 3 ᑭᓪᓕᒧᒥᑦ: Goose Island, Third Portage, Bay Zone ᐊᒻᒪᓗ North Portage - ᒥ. ᑕᒪᓐᓇ ᑲᔪᓯᖕᓇᖅᑯᓪᓗᒍ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᑲᒻᐸᓂᖓᑦ ᐃᓱᒪᒋᔭᖅᓯᒪᔪᑦ ᐃᓗᑦᑐᖅᑎᓇᔪᒪᓪᓗᑎᒃ ᑕᐃᑲᓂ Third Deposit -ᒥ. ᑕᒪᓐᓇ ᐃᓗᑦᑐᖅᑎᓇᓂᖅ [illegible] 1999 ᐊᒻᒪᓗ ᑲᔪᓯᓂᖅᑲᓂᐊᖅᑐᓂ ᐃᒪᖄ ᐱᓇᓱᐊᕈᑏᑦ ᐊᕙᑎᑦ ᑕᒪᓐᓇ ᐱᕙᓪᓕᐊᓂᐅᓂᐊᖅᑐᖅ ᖃᐅᔨᓴᖅᑕᐅᖃᐅᔾᔨᓂᐊᖅᑐᖅ ᐅᔭᖅᓴᑎᐊᕙᖅᑲᓂᐊᖓᓂᑦ.

ᑖᓐᓇ ᑭᓪᓕᕐᒃ ᐱᕙᓪᓕᐊᓂᐅᔪᖅ ᖃᐅᔨᓴᖅᑕᐅᑦᓯᐊᒪᓂᖕᒪᑦ ᐊᒻᒪᓗ ᐱᐊᓂᖕᓂᐊᕈᒥᔪᑦ ᐅᐱᕐᖔᖓᓂ 1999. ᑕᐃᒪ ᖃᐅᔨᓴᖅᑎᑦᑐᒥᑦ ᐱᖃᑕᐅᖃᑕᐅᒥᔪᑦ ᑲᓇᒃᓴᖅ ᒎᓕᑎ ᓇᓗᓇᐃᖅᓯᒪᑦᓯᐊᑕᐅᖃᑦᑕᖅᑐᓂ ᑕᐃᑲᓂ. ᐅᔭᖅᑲᓂᒃ ᖃᐅᔨᓴᐃᓗᑎᒃ ᐱᔭᑕᐃᓕᑦ ᓇᓗᓇᐃᖅᓯᒪᓕᓗᐊᕕᒃᑯᑎᒃ ᓯᕗᓂᒃᓴᐅᓂᐊᖅᑐᒧᑦ ᑕᒃᑯᓂᖓᑦ ᖃᐅᔨᓴᐃᓂᒃᑯᑦ.

ᑕᒪᓇᓂ ᐃᓚᖓ ᖃᐅᔨᓴᖅᐱᐅᓂᐊᖅᑐᖅ ᐃᒪᓐᓇ ᐊᖏᓂᖅᑲᓗᐊᖅᑕᖅᑐᖅ ᐃᒪᖄ 0.97 ᐅᓐᓄᖅᑕᐅᑦ ᐊᑐᖅᓗᒍ ᐊᒻᒪᓗᒃᑲᓐᓂᖅ ᐃᓕᖅᑲᒥᓗᓂ ᐃᒪᓐᓇ 0.5 ᐅᓐᓄᖅᑕᐅᖅ ᒪᓕᒃᓗᒍ ᐊᑐᕐᕕᐅᓇᔭᖅᓗᓂ ᑕᒃᑯᐊ ᐊᓯᐅᔪᐃᓪᓚᑦ ᐊᑦᑯᑎᖓᓄᑦ. ᑕᐃᒪᓕ ᐊᑐᓇᖅᑲᖅᔭᖅᑐᑦ ᑕᒃᑯᓂᖓ ᔭᐊᓇ ᑎᓕᓐᓂᑦ ᐊᒻᒪᓗ ᐃᑯᒪᓐᓂᖅᑐᓂᑦ ᐃᓗᑦᑐᖅᑎᕆᑎᓂᑦ, ᐊᓯᖏᓐᓂᓪᓗ ᐅᖅᑯᒪᐃᑦᑐᓂᑦ, ᖃᖅᑎᓇᒃᔪᑎᓂᒃᓗ ᐊᑐᓇᖅᑲᖅᔭᕈᑎᒃ. ᑕᐃᒪᓕ ᑕᒪᓐᓇ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᖅ [illegible] ᐱᖃᑕᐅᖃᑕᐅᓂᐊᖅᑐᑦ ᓚᐃᓴᓐᒃ, ᐊᔪᖏᓐᓂᖅᑲᖅᑐᖅᑐᒥᑦ ᐱᓕᕆᔪᓂᐊᖅᑐᒥᑦ ᑳᖑᓖᑎᐅᔪᓂᑦ ᒪᓕᒐᖓᓯᐊᖅᑐᒥᑦ ᐱᖁᔭᓂᑦ ᐊᑐᖁᔭᐅᔪᓂᓗ ᐊᑭᒃᑕᐅᓯᒪᔪᑦ ᒪᓕᒡᓗᒥᑦ ᑕᑯᓗᖓ ᓄᓇᑦᓯᐊᖅᒥ ᐋᓐᓂᖅᑕᐅᓕᒪᑎᑦᓯᓈᑦ ᒪᓕᒐᖏᑦ ᐊᑐᖅᓗᒥᑦ.

ᑕᒪᓐᓇᑦᑕᐅᖅ ᓱᖁᐃᑦᑕᐃᓕᒪᓂᖅ ᓄᓇᒥᒃ ᐊᒃᓯᐊᓗᒃ ᐃᒃᐱᒋᔭᐅᖕᒪᑦ ᑕᒃᑯᓇᖓ ᑲᒻᐸᓂᒃᑯᑦ ᓯᒥᑎᖕᒥᓄᑦ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᑕᒪᓐᓇ ᐊᒃᓯᐊᓗᒃ ᐅᒃᐱᖅᓱᖅᑕᐅᓗᓂ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᖅ ᐊᕙᑎᓕᕆᓂᖅᑯᑦ. ᐱᕙᓪᓕᐊᓂᕆᔪᑦ [illegible] ᑯᑲᒪᔪᑦᓯᐊᖅᓂᐊᖅᑐᓂ ᑕᒃᑯᓇᖓ ᑭᕙᓪᓕᕐᒥ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᒃᑯᑦ ᓄᓇᕗᑦᒥᒃᑯᓐᓂᕐᒥᐅᑦ ᓄᓇᒥᑦ ᐊᑐᖅᑕᐅᓂᖅᑯᑦ ᐱᔪᓇᐅᑎᑎᒍᑦ ᐊᒻᒪᓗ ᓄᓇᐅᑦ ᐃᒪᖅᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂᕐᒥᐅᑦ ᐱᔪᓇᐅᑎᖏᑦᑎᒍᑦ. ᑕᒃᑯᐊ ᑲᒻᐸᓂᖓᑦ ᒪᓕᑦᓯᐊᖅᓯᒪᐃᓐᓇᖅᑐᑦ ᑕᒃᑯᐊ ᐱᔪᓇᐅᑎᑦ ᑎᑎᖅᓯᒪᓂᖓ ᒪᓕᒃᓗᒍ ᐊᒻᒪᓗ ᖃᐅᔨᓴᐃᑦᓯᐊᖅᓯᒪᐃᓐᓇᐅᔭᖅᑐᑦ ᑕᐃᒪᖓᓂᑦ 1995-ᒥᑦ.

APPENDIX I

CUMBERLAND
RESOURCES LTD

Suite 906 - 595 Howe Street
Vancouver, B.C. V6C 2T5

Tel: 604/608-2557
Fax: 604/608-2559
E-mail: info@goldmin.com

April 1, 1999

Workers Compensation Board
Prevention Services
Mine Safety Division
P.O. Box 8888
Yellowknife, NT X1A 2R3

Attention: Sylvester Wong, P.Eng.
Chief Inspector of Mines

Dear Sir,

Enclosed are applications for both explosive and detonator magazine permits for Cumberland Resources Meadowbank Project. The project is located approximately 70 km north of the hamlet of Baker Lake, and our base camp is at 65°01' N and 96°04' W.

Due to availability of First Air's Hercules aircraft, which will be out of service after April 8, we are pressed for time to get these supplies transported to Baker Lake before the end of our overland freighting season. Therefore, the above permits are required by April 6, 1999, so that the materials can be transferred from the supplier for shipment to Baker Lake. Both magazines are being obtained through Gary Fandrick of Explosives Limited in Yellowknife (867) 873-3423.

Unfortunately, I will be out of town for the next ten days. However if you have any questions or require more information you can contact Mr. Kerry Curtis, Senior Vice President at our Vancouver office or Mr. Brian Alexander, Project Manager in camp at (604) 632-0346 or (604) 632-0358 (fax). Thank you in advance for expediting these permits through the system.

Yours truly,

CUMBERLAND RESOURCES LTD.

Roger March
Senior Project Geologist

Northwest Territories

Application for an Explosive Magazine

APPLICANT'S NAME	(Please check one)
CUMBERLAND RESOURCES LTD.	SURFACE ☒ UNDERGROUND ☐
ADDRESS	LOCATION
906 - 595 HOWE ST., VANCOUVER, B.C. V6C 2T5	65° 01' 30" N lat. / 96° 01' 20" W Long.

1. MAXIMUM AMOUNT TO BE STORED 11 625 kg. EXPLOSIVES (70 km north of Baker Lake, NT.)

TYPE OF EXPLOSIVE	QUANTITY
1. WR ANFO	375 BAGS.
2. UNIMAX	90 CASES.
3.	
4.	
5.	

2. DESCRIBE TYPE OF CONSTRUCTION AND SIZE OF BUILDING, TYPE OF LOCKING DEVICE, ETC.
(Attach all plans, drawings, etc.)

EXPLOSIVES MAGAZINE (SEA-CAN) MADE FROM 1/4" STEEL; 19 ft. 11 inches Long, 96" wide and 102 inches high. THE MAGAZINE WEIGHS 6200 lbs AND IS PLYWOOD LINED WITH SHEILDED LOCK FOR SECURITY.

3. (A) SURFACE:
ATTACH PLAN (MAP) SHOWING PROPOSED MAGAZINE LOCATION, LOCATION OF OTHER BUILDINGS, ROADS, INSTALLATIONS AND TOPOGRAPHICAL FEATURES.

(B) UNDERGROUND:
ATTACH LEVEL PLAN OF APPROPRIATE SCALE SHOWING PROPOSED MAGAZINE LOCATION AND OTHER INSTALLATIONS.

SIGNATURE OF OFFICER	TITLE	DATE OF APPLICATION
Roger Mark	SENIOR PROJECT GEOLOGIST	APRIL 1, 1999.

FOR SURFACE MAGAZINE APPLICATIONS SEE BACK FOR "QUANTITY-DISTANCE TABLE FOR BLASTING EXPLOSIVES."

(DO NOT WRITE IN THIS AREA)

NWT2500-80/048Z

Northwest Territories

Application for an Explosive Magazine

APPLICANT'S NAME	(Please check one)
CUMBERLAND RESOURCES LTD.	SURFACE ☒ UNDERGROUND ☐
ADDRESS	LOCATION
906 - 595 HOWE ST., VANCOUVER, B.C. V6C 2T5	65° 01' 30" N lat. / 96° 04' 20" W. long (70 km north of Baker Lake, NT.)

1. MAXIMUM AMOUNT TO BE STORED 300 kg. ~~EXPLOSIVES~~ DETONATORS

TYPE OF ~~EXPLOSIVE~~ DETONATORS	QUANTITY
1. SNAPDET (4.5m 120/cs)	20 cases
2. SNAPDET (7m 90/cs)	9 cases
3. ELECTRIC BLASTING CAPS	100 caps.
4.	
5.	

2. DESCRIBE TYPE OF CONSTRUCTION AND SIZE OF BUILDING, TYPE OF LOCKING DEVICE, ETC.
(Attach all plans, drawings, etc.)

DETONATOR MAGAZINE MADE OF 1/4" STEEL; 13 ft. 8 inches long; 80 inches WIDE and 80" high. THE MAGAZINE WEIGHS 3500 lbs. and has 15" WHEELS. THE MAGAZINE WILL BE PLYWOOD LINED WITH A SHIELDED LOCK FOR SECURITY.

3. (A) SURFACE:
ATTACH PLAN (MAP) SHOWING PROPOSED MAGAZINE LOCATION, LOCATION OF OTHER BUILDINGS, ROADS, INSTALLATIONS AND TOPOGRAPHICAL FEATURES.

(B) UNDERGROUND:
ATTACH LEVEL PLAN OF APPROPRIATE SCALE SHOWING PROPOSED MAGAZINE LOCATION AND OTHER INSTALLATIONS.

Roger Marcil — SIGNATURE OF OFFICER

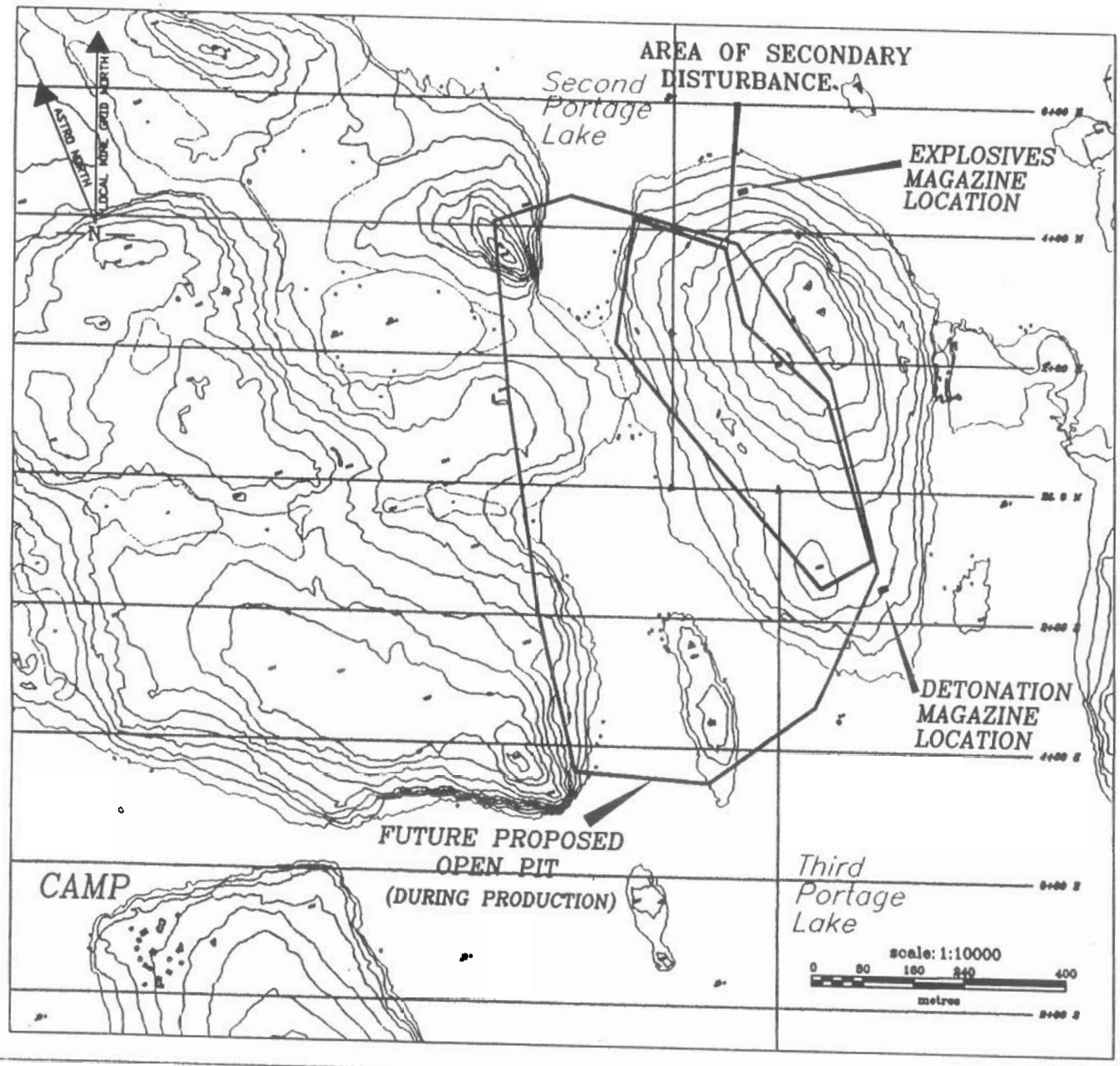
SENIOR PROJECT GEOLOGIST — TITLE

APRIL 1, 1999. — DATE OF APPLICATION

FOR SURFACE MAGAZINE APPLICATIONS SEE BACK FOR "QUANTITY-DISTANCE TABLE FOR BLASTING EXPLOSIVES."

(DO NOT WRITE IN THIS AREA)

NWT2500-80/0482



CUMBERLAND RESOURCES LTD

MEADOWBANK
Nunavut / NWT

MEADOWBANK PROJECT

MAGAZINE STORAGE LOCATION MAP

Scale: 1:10000	N.T.S. 66A,H	Date: March 1999
Revised by: bkj	L.O.L.	Map No.
Filename:	Datum:	

Approval No: 99001

Expiry Date: 12/31/99

MINE HEALTH AND SAFETY ACT

EXPLOSIVES MAGAZINE PERMIT

Name of permit holder:

CUMBERLAND RESOURCES

(Mine)

Location of magazine on surface:

MEADOWBANK PROJECT

Amount of explosives:

11625 KG

Dated at Yellowknife

this 6 day of April , 19 99

Chief Inspector of Mines

NWT 4414-0296

Approval No: 99002

Expiry Date: 12/31/99

MINE HEALTH AND SAFETY ACT

DETONATOR STORAGE PERMIT

Name of permit holder:

CUMBERLAND RESOURCES

(Mine)

Location of storage area underground:

MEADOWBANK PROJECT

Amount of detonators:

2500 DETONATORS

Dated at Yellowknife

this 6 day of April , 19 99

Chief Inspector of Mines

NWT 4413/0296

APPENDIX II

P.O. Box 119
Gjoa Haven, NT XOE 1JO
Tel: (867) 360-6338
Fax: (867) 360-6369

ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI

APPROVAL FOR WATER USE AND WASTE DISPOSAL

Pursuant to Article 13 of the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to Cumberland Resources Ltd. approval to use water and dispose of waste in conjunction with exploratory drilling for the Meadowbank Project, subject to the terms and conditions outlined herewith and in Kivalliq Inuit Association Permit No. KE97PO92.

APPLICATION NO:	**NWB2MEA9899**
PERMITTEE:	**Cumberland Resources Ltd. #906 -595 Howe Street Vancouver, B. C., V6C 2T5 Telephone: (604) 608-2557; Facsimile: (604) 608-2559**
START DATE:	**June 22 , 1998**
EXPIRY DATE:	**December 31, 1999**
PURPOSE:	**Water Use and Waste disposal associated with Exploration Drilling**
LOCATION:	**Meadowbank River, Northwest Territories General Latitude: 65°00' N; Longitude: 96°00' W**

This approval issued and recorded at Gjoa Haven includes and is subject to the annexed conditions.

Approved by,

Philippe di Pizzo
Executive Director

APPENDIX III

Watermark Consulting Inc.

MEMORANDUM

To:	**Kerry Curtis**	**Date: 19 May 1999**
Company:	**Cumberland**	
From:	**Linda Broughton**	
RE:	**Surficial soil/rock samples**	

Kerry

We have done a series of static tests on the surficial soil and rock samples that you provided from the Meadowbank project. The objective of these tests was to provide information on potential environmental management requirements for the Meadowbank trenching program by characterizing the geochemical characteristics of these samples.

Two samples were received; a soil sample containing some vegetation and a bag of rock samples containing three larger (3 inch) pieces and smaller fragments. The rock samples were grey with a rusty orange/brown coating of iron oxide on the exposed surface which appears typical of the area. I understand that these samples were collected by hand from surface from the Meadowbank Third Portage area – the area of the proposed trenching program. The soil sample was tested as received. The rock sample was partially crushed for the extraction testing.

Three types of tests were done on these samples:

- Acid-base accounting on two samples of the rock to evaluate the potential for net acid generation.
- Metal analysis by ICP on two samples of the rock.
- Short-term extraction testing on both the soil sample and two of the rock samples. In this test, the sample is gently agitated in distilled water at a 2:1 (w/w) liquid to solid ratio for 20 hours. The objective of this test is to evaluate the readily soluble component of the sample and thereby identify any potential for acidity or metal leaching.

The acid base account results shown in Table 1 indicate that the surficial rock samples are essentially inert with very low sulphide sulphur and no neutralization potential. The sulphur present is in the oxidized sulphate form, consistent with the observations of iron staining and the shake flask extraction results. The slightly negative NP reflects a small amount of contained acidity, probably from oxidation products. These results indicate that there are no significant ARD concerns associated with rock from the trenching program as represented by these samples.

335 East 26th Street. North Vancouver. B.C. V7N 1A9
Tel. (604) 990-9070 Fax (604) 990-9071

Watermark Consulting Inc.

Table 1 Acid Base Account Results

Sample	PASTE pH	S(T) %	$S(SO_4)$ %	S(S) %	AP	NP	NET NP	NP/AP
Rock 1	5.4	0.11	0.09	0.02	0.6	-0.6	-1.3	<0.1
Rock 2	5.2	0.19	0.17	0.02	0.6	-1.0	-1.6	<0.1

AP = acid potential in kg CaCO3 equivalent per tonne of material
NP = neutralization potential in kg CaCO3 equivalent per tonne of material
Net NP = NP - AP

These two rock samples were also analyzed by ICP to characterize the metal content with results as shown in Table 2. These results are consistent with other samples from the Iron Formation, containing high iron content (typically in the form of magnetite rather than as a sulphide), minor to trace base metals and minor to trace sulphide. There was no arsenopyrite observed or detected in these samples.

Table 2 Rock Sample Metal Analysis by ICP

SAMPLE Element		Rock 1	Rock 2
Ag	ppm	<0.2	<0.2
Al	%	0.22	0.22
As	ppm	<5	<5
Ba	ppm	10	10
Be	ppm	<0.5	<0.5
Bi	ppm	20	20
Ca	%	0.11	0.24
Cd	ppm	<1	<1
Co	ppm	5	4
Cr	ppm	162	306
Cu	ppm	<1	<1
Fe	%	>15.00	>15.00
Mg	%	0.12	0.13
Mn	ppm	60	65
Mo	ppm	<2	<2

SAMPLE Element (cont'd)		Rock 1	Rock 2
Na	%	<0.01	<0.01
Ni	ppm	13	14
P	ppm	950	1120
Pb	ppm	20	8
Sb	ppm	10	10
Sc	ppm	<1	<1
Sn	ppm	<10	<10
Sr	ppm	32	36
Ti	%	0.01	0.01
V	ppm	72	71
W	ppm	<10	<10
Y	ppm	1	1
Zn	ppm	44	28

The results of the extraction tests are shown in Table 3 (major ions) and Table 4 (metals by ICP). These results show that the soil sample is essentially inert although there is a small amount of copper from the drilling materials used nearby. The rock sample leachate also shows low metals in the leachate, with some calcium in solution. The solution is slightly acidic, probably due to the dissolved aluminum and iron. Sulphate

analysis is still in progress however the conductivity values also indicate that there are some dissolved oxidation products (sulphate, iron) associated with the rusty coating on the rock sample.

It is expected that the addition of a small amount of lime would remove the dissolved metals and acidity detected in these leachate samples.

Table 3 Extraction Test Leachate Chemistry

SAMPLE	SAMPLE WEIGHT (g)	20 Hour Filtered Leachate VOLUME H2O (mL)	pH	CONDUCTIVITY (µS/cm)	ACIDITY pH 8.3 (mg/L CaCO3)	ALKALINITY pH 4.5 (mg/L CaCO3)	SULPHATE (mg/L)
Soil	166	350	5.56	46	11	3.5	IP
Rock 1	250	500	N/A	212			
Rock 2	250	500	N/A	1023			
Rock 1 + 2*			3.83	643	20	0	IP

* The leachates from Rock 1 and Rock 2 were combined for the analyses after the 20 hour extraction period.
N/A = Not Analyzed
IP = In Progress

Table 4 Extraction Test Leachate ICP Analysis

Dissolved Metals		Soil Sample	Rock Sample
Al	mg/L	0.9	0.9
Sb	mg/L	<0.2	<0.2
As	mg/L	<0.2	<0.2
Ba	mg/L	0.01	<0.01
Be	mg/L	<0.005	<0.005
Bi	mg/L	<0.1	<0.1
B	mg/L	0.3	<0.1
Cd	mg/L	<0.01	<0.01
Ca	mg/L	2.34	114
Cr	mg/L	<0.01	<0.01
Co	mg/L	<0.01	<0.01
Cu	mg/L	0.34	0.05
Fe	mg/L	0.61	0.82
Pb	mg/L	<0.05	<0.05
Li	mg/L	0.01	<0.01

Dissolved Metals (cont.)		Soil Sample	Rock Sample
Mg	mg/L	0.5	0.6
Mn	mg/L	0.145	0.043
Mo	mg/L	<0.03	<0.03
Ni	mg/L	<0.05	<0.05
P	mg/L	<0.3	<0.3
K	mg/L	6	<2
Se	mg/L	<0.2	<0.2
Si	mg/L	5.36	0.87
Ag	mg/L	<0.01	<0.01
Na	mg/L	5	<2
Sr	mg/L	0.008	0.067
Tl	mg/L	<0.2	<0.2
Sn	mg/L	<0.03	<0.03
Ti	mg/L	0.03	<0.01
V	mg/L	<0.03	<0.03
Zn	mg/L	0.015	0.110

It is interesting to note that despite the natural oxidation in the field and the presence of some metal in the rock samples, there is very little soluble metal measured in the extraction test. This suggests that metal leaching should not be a concern during the

trenching problem, however, due care should be taken to manage the water during the washing phase of the trenching program.

In summary, the results of the testing program on the surficial soil and rock samples from the Meadowbank Third Portage site indicate that there are no significant concerns with respect to acid generation or metal leaching from the rock that will be excavated during the trenching program. This is based on the test results presented herein for the samples provided. There is some minor acidity and soluble metal resulting from the natural oxidation of the rock samples in the field. This is probably limited to the exposed surface rock and therefore should not be significantly increased from the natural conditions during trenching. However, it would be prudent to control the water draining from the each trench during the active trenching period, particularly for the control of suspended solids. If there were to be any discharge of the water to a surface water course, it would be prudent to first determine the chemistry of the water.

Please give me a call if you would like to discuss these comments.

Regards,

Linda Broughton