N.T.S.: 930/03

016445

Property File
930 039

APPLICATION TO OPEN A QUARRY

MACKENZIE LIMESTONE

55° 10' North; 123° 12' West

930 - 3

Prepared for:
Knox Western Capital Inc.
#780, 521 - 3rd Avenue, S.W.
Calgary, Alberta
T2P 3T3
Phone: (403) 232 - 8757

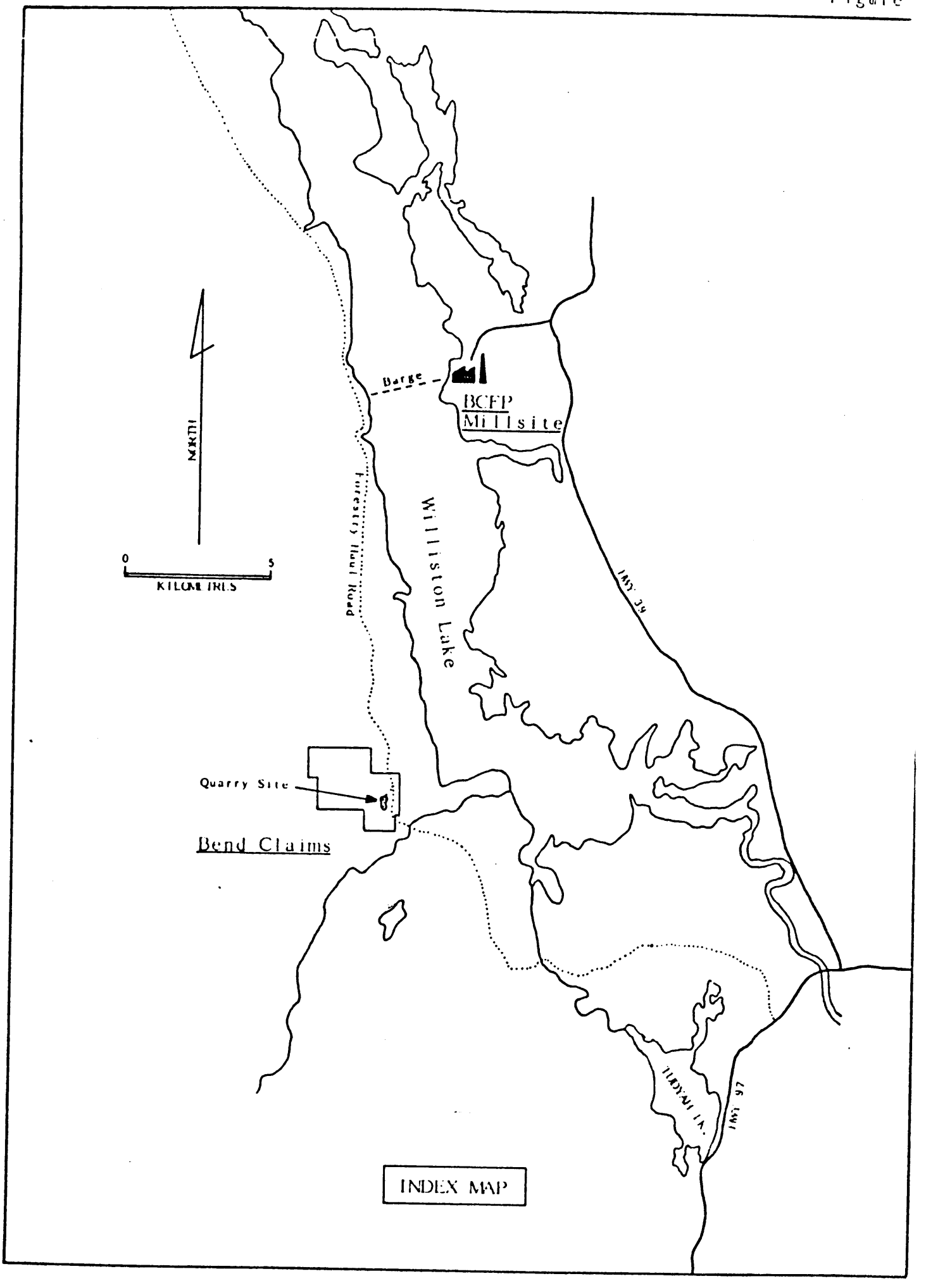
By: 271-6623
W. A. MacLeod; P.Geol.
Kamand Resource Services Limited
March, 1988

INTRODUCTION

This application to open a chemical grade limestone quarry in the Mackenzie area, British Columbia has been prepared at the request of Mr. K. Nielsen, President of Knox Western Capital Inc., of Calgary, Alberta.

The proposed five year mining plan will involve the excavation of some 75,000 tonnes of pit-run limerock which will be hauled by truck to Mackenzie, British Columbia for crushing-screening and washing.

All phases of the proposed quarry operations are addressed and a reclamation program proposed.


NORTH
0
5
KILOMETRES
Barge
BCFP
Millsite
Forestry Haul Road
Williston Lake
HWY 39
Quarry Site
Bend Claims
HWY 97
INDEX MAP

LOCATION AND ACCESS

The Mackenzie Limestone property is located some twenty kilometres southwest of Mackenzie, British Columbia within the Cariboo Mining Division at 55° 10' North latitude; 123° 12' West longitude in N.T.S. quadrant 93-0 (Figure 1).

Access to the property is readily gained by high grade all weather forestry our haul road from Provincial Highway 97. Barges on Williston Lake provide direct access from the mainline forestry haul roads to the British Columbia Forestry Products Ltd. plantsite in Mackenzie.

PROPERTY

The limestone property consists of a contiguous group of ten unsurveyed mineral claims entitled Bend No. 1 through Bend No. 10 (inclusive) and are 100% owned by Knox Western Capital Inc., of Calgary, Alberta. Claim details are tabled below:

CLAIM	TAG NUMBER	RECORD NUMBER	EXPIRY
Bend No. 1	547201	8001	October 1990
Bend No. 2	547202	8002	" "
Bend No. 3	547203	8003	" "
Bend No. 4	547204	8004	" "
Bend No. 5	547205	8005	" "
Bend No. 6	547206	8006	" "
Bend No. 7	99369	8306	March 1991
Bend No. 8 Fr.	99370	8308	" "
Bend No. 9	99371	8307	" "
Bend No.10	99373	8862	September 1988

Pursuant to Section 22 of the Provincial Mineral Act, the claims are to be maintained in good standing by application of acceptable assessment work or equivalent cash in lieu to the value of $100.00 per claim per year for each of the first three years, and $200.00 per claim per year each year thereafter.

Knox Western has also been granted a five year License of Occupation for the Crown Lands covered by the Bend No.'s 1 through 6 mineral claims for the purpose of quarrying chemical grade limestone.

DESCRIPTION of the DEPOSIT

The deposit consists of gently dipping faulted limestones of the Mississippian Slide Mountain Group and is exposed in a 30 metre high outcrop within an existing rip rap quarry site. Mapping, surface sampling and diamond drilling has proven some 300,000 tonnes of economically recoverable limestone reserves grading 55.06% CaO, 0.41% MgO, 0.46% Al_2O_3, 0.17% SiO_2, and 0.17% Fe_2O_3. (Figure 2).

As evident in the sectional view of the deposit, the chemical grade material is both over and underlain by variably siliceous and dolomitic limestones. Removal of the ovelying material is of course required at some later point in the mining plan, whereas the footwall material will remain as is.

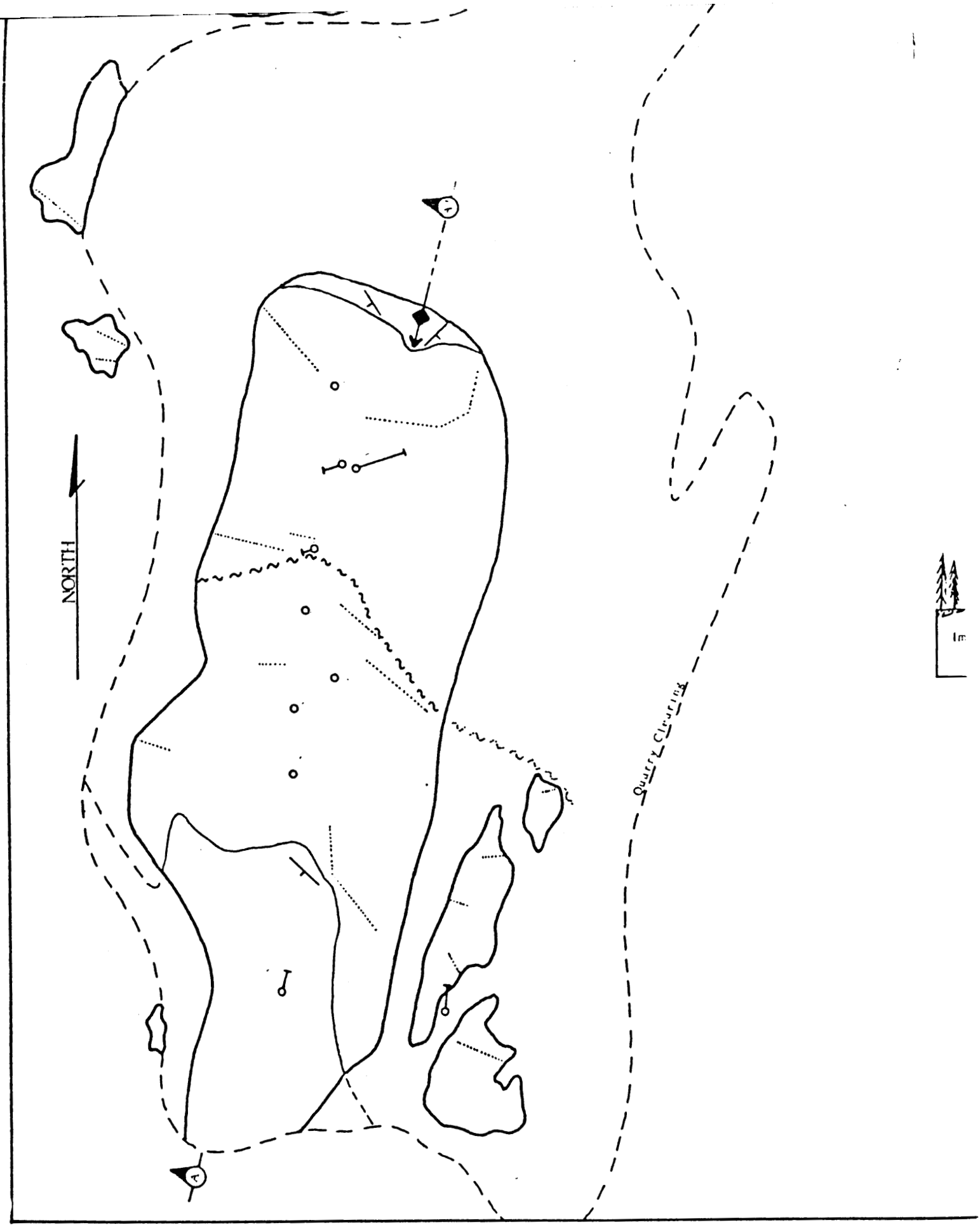
MARKETING

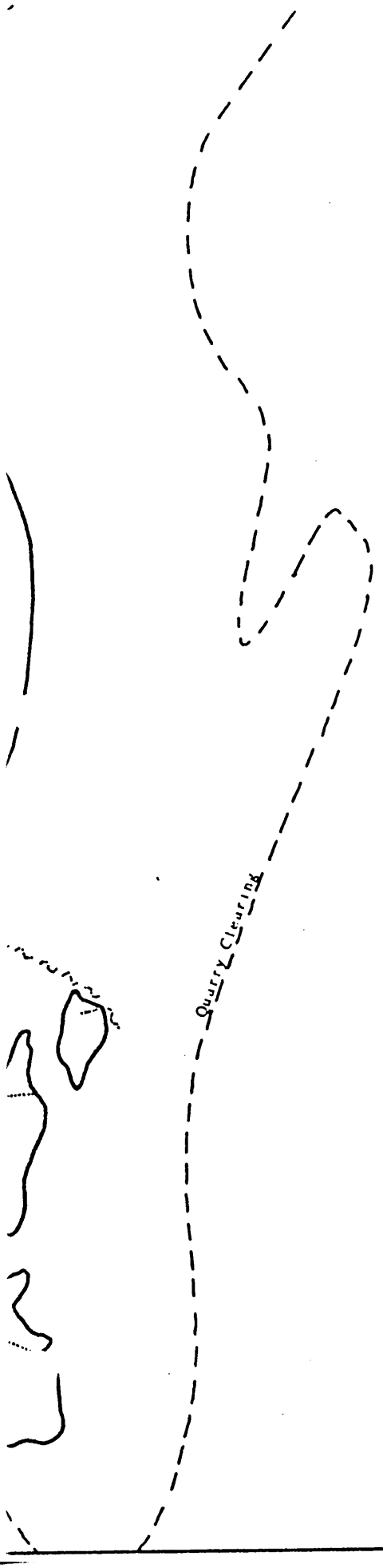
Knox Western Capital is planning to market a washed sized chemical limestone product to the various kraft pulp mills in East Central British Columbia. By-product fines are to be marketed into the agricultural sector.

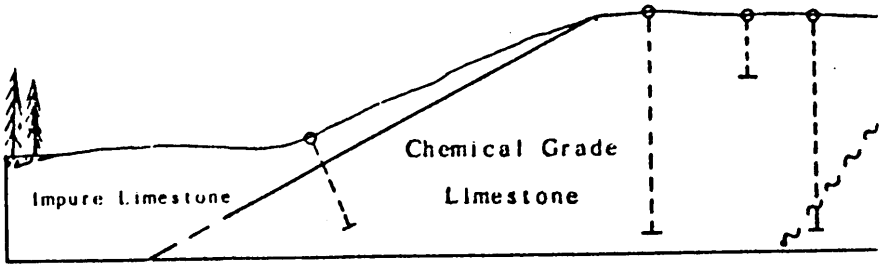
Towards these ends, the company has signed an agreement to supply the British Columbia Products Ltd. mill in Mackenzie with its 1988 limestone requirements.

SITE PREPARATION

As mentioned above, the chemical grade limestone is located within an existing quarry site. Previous site preparation included the clearing of the area, stripping of most of the overburden mantle from the quarry outcrop, and levelling the top of the outcrop at the 832 metre elevation contour to facilitate access for drilling and blasting.


NORTH
Quarry Clearing

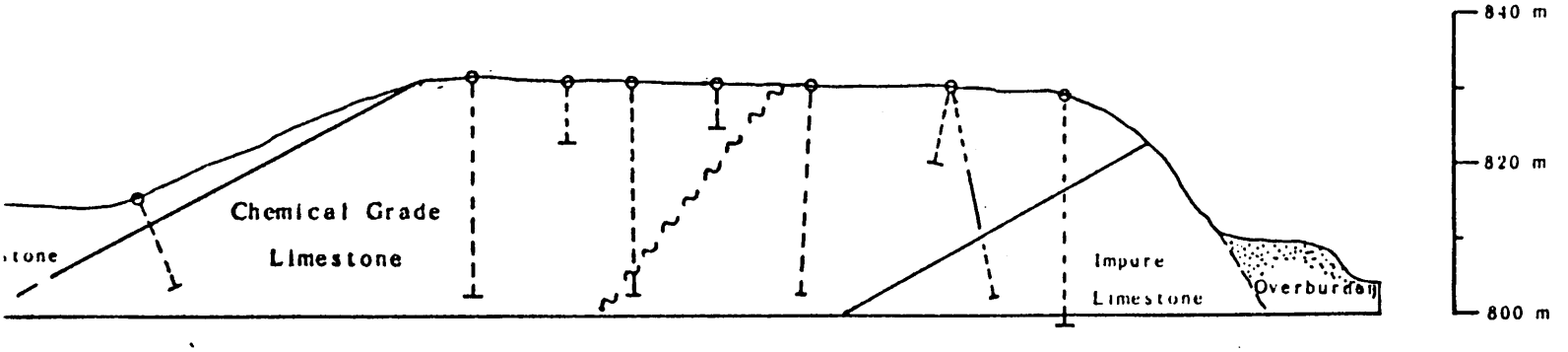




SECTION A -

Diamond Drill Hole

Surface Sample Location



SECTION A - A'

Diamond Drill Hole

Surface Sample Location

KNOX WESTERN CAPITAL INC.

GENERAL GEOLOGY

PROJECT: MACKENZIE LIMESTONE

SCALE: 1:1000	NTS: 93 O/3E	FIGURE: 2
AUTHOR: W.A. MacLeod; P.Geol.	DATE: 1988-03	

by: KAMAND RESOURCE SERVICES LIMITED Calgary, Alberta

Further removal of brush and gravel mantle material will be ongoing during the year by year mining operations. All brush will be piled and burned in accordance with Provincial regulations. Overburden sands and gravels will be evenly spread across the existing quarry floor in a manner to facilitate mining operations and eventual reclamation by reseeding.

The original forest soils were removed during the previous site preparation and incorporated into the quarry floor gravels. Natural regeneration of grasses, shrubs, and trees was evident after an extended period of inactivity at the site.

QUARRY PLAN

The accompanying Quarry Plan (Figure 3) illustrates the excavation of some 75,000 tonnes of chemical limerock reserves required for a 5 year production period. Annual mining activity will be restricted to the snowfree summer months.

The Quarry Plan is based upon an outcrop contour map produced from level and altimeter surveys completed by the author during the exploration of the property.

The initial mining scheme will remove material to the 808 metre level (essentially equal to the present quarry floor elevation).

Two working benches at 820m. and 832m. elevations are proposed with the mining to proceed from the north and eastern faces of the outcrop.

The benches are to be used for drilling and blasting operations only and will not be required for haulage.

Access to the benches is gained via the existing levelled ramp on the southern end of the outcrop.

The 820 bench and the initial production cut at the foot of the outcrop will be developed by drilling both vertical and inclined shot holes and blasting the limestone to the existing quarry floor to establish the working faces. Reclamation of the shotrock will be by 4 cubic metre front-end loader. Where required, shotrock will be bull-dozed with a D-7 tracked dozer from the 820m. bench onto the quarry floor.

EQUIPMENT

Drilling will be carried out by an air driven track-mounted unit capable of drilling 60-80mm holes with compressed air provided by a 25 m^3/min. portable compressor.

A Caterpillar D-7 dozer and a 980 wheeled loader will handle the removal and loading of the shotrock into 35 tonne belly-dump rock trucks for transporting the quarry-run material directly to a contracted crushing-screening and wash plant located in Mackenzie.

Ancilliary pit equipment will be limited to a pick-up truck used by the site management.

BLASTING

All blasting will be supervised and carried out by qualified contractor personnel in full accordance with the Provincial Mines Regulations Act. All blasting will occur on a scheduled "as needed" basis at various times during a given production cycle. Packaged explosives will therefore be transported to the site for each blast thereby eliminating the need for an on-site explosives magazine.

Hole spacing will likely be on the order of 1½ to 2 metre centers with an on-site optimized powder factor designed to attain a 90% minus 40cm shotrock size.

SURFACE WATER

There are no running water courses located within the quarry site. At the present, rain and snow meltwater simply percolates into the permeable gravel and fractured bedrock quarry floor.