

LOG NO: 92 04 16 RD.

ACTION:

FILE NO:

GEOLOGICAL AND SAMPLING REPORT

LONE TREE 1 TO 4 CLAIMS

NTS 92 I-11

KAMLOOPS MINING DISTRICT

BRITISH COLUMBIA

Latitude: 50° 43' 30" N

Longitude: 121° 20' 0" W

OWNER: G.D. Belik, Kamloops, BC

OPERATOR: CONTINENTAL LIME LTD, RICHMOND, BC

AUTHOR: J.N. Schindler
Consulting Geologist
Schindler Exploration Consultants Ltd
Calgary, Alberta

REPORT DATE: MARCH 31, 1992

REPORT SUBMITTED: APRIL 14, 1992

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

22,278

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1. SUMMARY

The property consists of four two post claims owned by G.D. Belik, Kamloops, which are subject to an option held by Continental Lime Ltd, Richmond, BC.

The claims are excellently located, being close to the Trans Canada Highway and 6.5 km from Ashcroft and both the CN and CP Rail.

The property is situated in the Eastern Belt of the Cache Creek Group which is underlain by volcanic rocks, limestone, chert and minor arenites. Limestones of the Eastern Belt are more limited in extent and are not correlative with limestones of the Marble Canyon Formation which characterizes the Central Belt of the Cache Creek Group.

This report is based on five days of surface fieldwork conducted by the author between June 8 and June 13, 1991. The work consisted of geological mapping and outcrop sampling. Nineteen continuous chip samples of limestone were collected and were analyzed by Loring Laboratories Ltd, Calgary, Alberta for CaO, MgO, and SiO₂.

On the Lone Tree claims, limestone of very good quality is exposed in an area 450 m long x 400 m wide which was sampled by Goudge (1944). Both of his samples were abnormally high in phosphorus. Previously unreported high purity limestone, with grades of 54.55% CaO, 0.20% MgO and 0.50% SiO₂ across 20 metres, occurs 450 metres northwesterly along strike from the main outcrop area. Also, limestone of similar grade, across a width of 30 metres was noted during the 1991 work 800 metres southwest and across strike from the high purity limestone.

The limestone on the property has a cliff-forming tendency and is manifest by two small hills. A 50m wide volcano-sedimentary unit striking northwesterly and dipping about 65° northeast divides the limestone into two zones and occupies a saddle between the limestone hills. Limestones adjacent to the volcano-sedimentary unit have elevated SiO₂ and MgO contents, but high SiO₂ and MgO also occur locally in limestone away from the contact.

Due to fluvo-glacial deposits which cover more than half the property, distribution of the higher purity limestones is not known. A preliminary program of surface geophysics and drilling is recommended to determine the distribution, grade and tonnage of limestone on the property.

2. CONCLUSIONS

Based on the location of the claims, the purity of limestone and the potential for significant tonnage resulting from new information, additional work on the property is warranted.

Accordingly, a program of surface drilling combined with a ground magnetometer - VLF survey is recommended to determine, respectively, the grade, tonnage of quarriable limestone on the property, and the distribution of the volcano-sedimentary unit.

3. CLAIMS

The property consists of four two post claims with a total area of about 99.5 hectares situated in Kamloops Mining District, British Columbia (see Figures 1 and 2, and Table 1).

TABLE 1

SCHEDULE OF CLAIMS

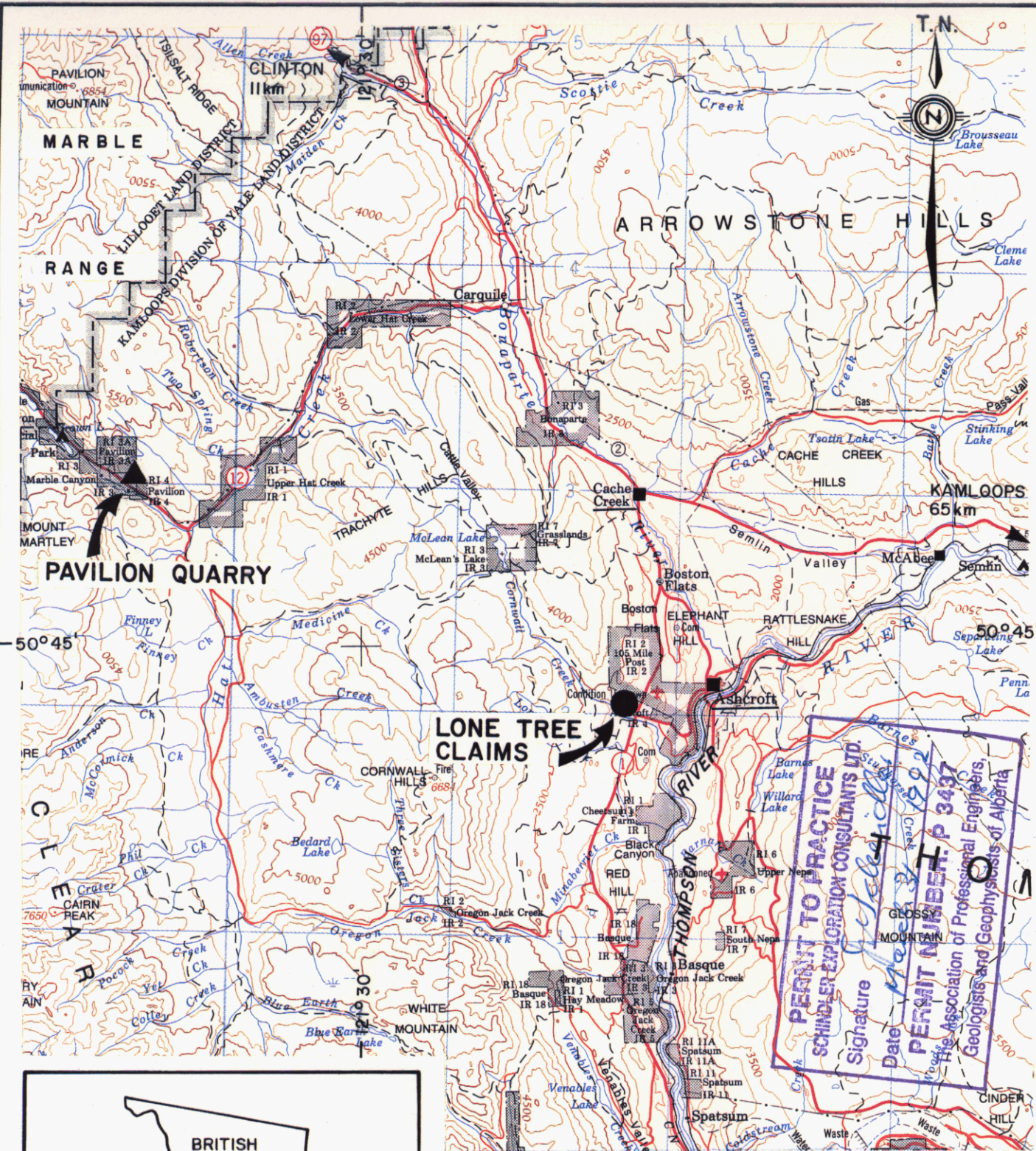
<u>Claim Name</u>	<u>Record Number</u>	<u>Record Date</u>
Lone Tree #1	219850	April 19,1991
Lone Tree #2	219851	April 19,1991
Lone Tree #3	219852	April 19,1991
Lone Tree #4	219853	April 19,1991

The claims are owned by G.D. Belik, 664 Sunvalley Drive, Kamloops, BC , V2B 6S4, subject to an option agreement dated February 24, 1992, with Continental Lime Limited, #215, 10451 Shellbridge Way, Richmond, BC. The LONE TREE #1 and #3 claims are terminated along their northern margins by the 105 Mile Post Indian Reserve 2.

Lot 445 Kamloops Division Yale District covers part of the surface of the claims (Figure 2).

4. LOCATION AND ACCESS

The claims are excellently situated and are a short distance from the Trans Canada Highway. The south end of the location



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 SCHINDLER EXPLORATION CONSULTANTS LTD.
 Signature: *[Signature]*
 Date: *March 1992*
PERMIT NUMBER: P 3497
 The Association of Professional Engineers,
 Geologists and Geophysicists of Alberta

Schindler Exploration Consultants Limited

CONTINENTAL LIME LIMITED

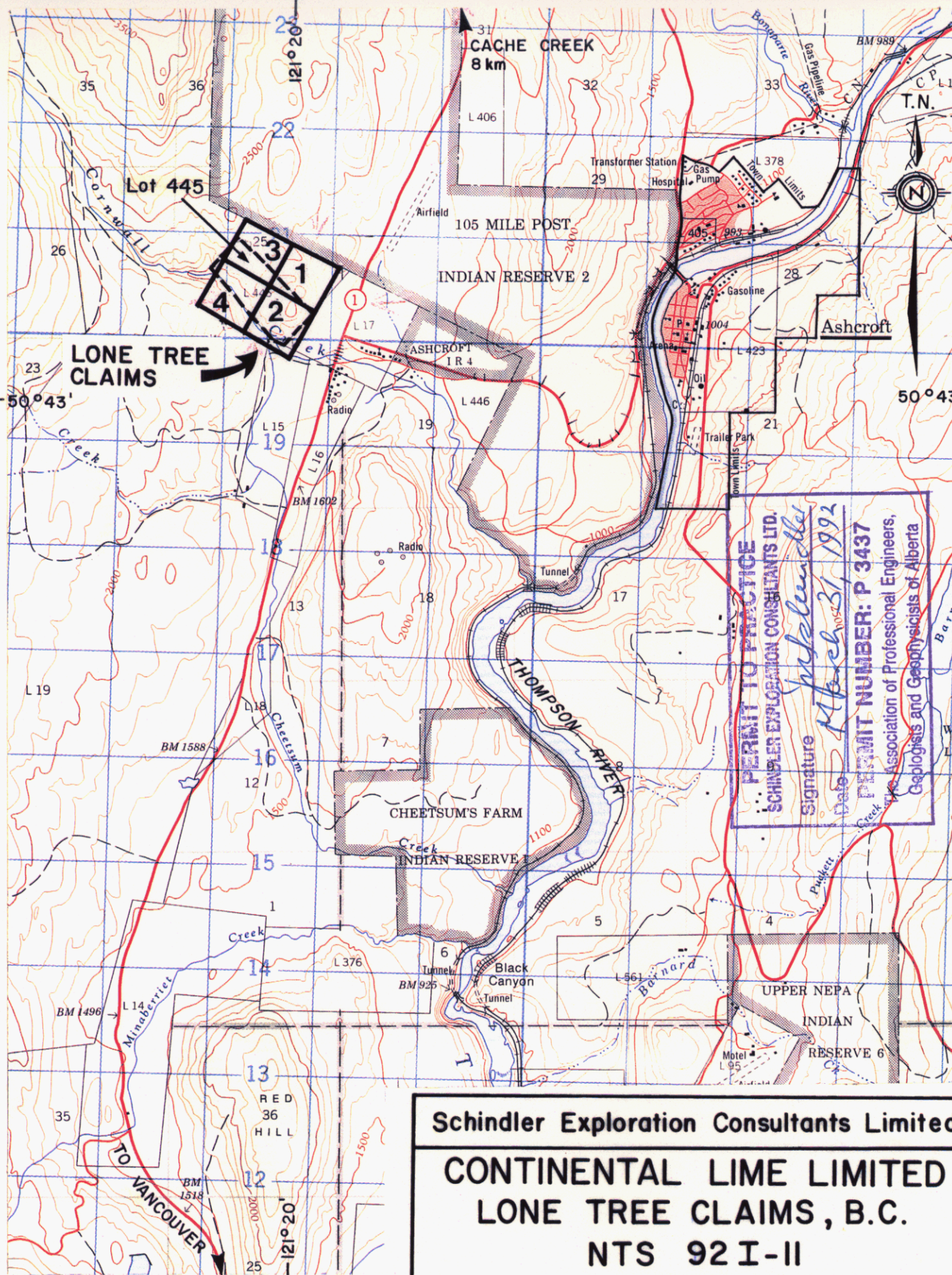
LONE TREE CLAIMS, B.C.

NTS 92 I-II

FIGURE 1

PROPERTY LOCATION MAP

DATE : MARCH 1992	SCALE : 1 : 250 000
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 SCHINDLER EXPLORATION CONSULTANTS LTD.
 Signature: *M. Schindler*
 Date: *March 31, 1992*
PERMIT NUMBER: P 3437
 The Association of Professional Engineers,
 Geologists and Geophysicists of Alberta

Schindler Exploration Consultants Limited

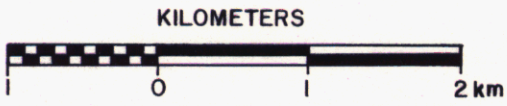
CONTINENTAL LIME LIMITED

LONE TREE CLAIMS, B.C.

NTS 92 I-II

FIGURE 2

LOCATION OF CLAIMS MAP



DATE : MARCH 1992

SCALE : 1 : 50 000

line of the claim group is about 375 metres northwest of the intersection of the Trans Canada Highway (Highway 1) and the south access road to the town of Ashcroft.

At Ashcroft, 6 km from the Trans Canada Highway, the main transcontinental lines for CN and CP Rail transverse, respectively, the north and south banks of the Thompson River.

Cache Creek, on Highway 1 at its junction with Highway 97, is approximately 10 km north of the claims (Figure 2).

5. PHYSIOGRAPHY AND VEGETATION

The south end of the property covers two prominent hills of limestone on the northwest margin of the Thompson Valley at the break of slope between a raised fluvo-glacial terrace and the adjacent mountains. From the break in slope the long axis of the claims extends northwesterly up the grade of the adjoining mountains which form part of the Cornwall Hills.

Cornwall Creek, a southeasterly-flowing tributary of the Thompson River, cuts along the west margin of the claims in a steeply incised valley. In the northeast half of the property a small steep valley extends from the break in slope northwesterly for one claim length. A small southwest-trending gulley which joins this valley and Cornwall Creek separates the areas of most abundant outcrop from those predominantly covered by fluvo-glacial deposits in the northwest half of the claims.

The property is readily amenable to quarrying and has a relief of approximately 120 metres and extends from the 518m elevation to the 640m elevation. The two limestone hills at the south end of the claims are characterized by cliffs and steep slopes.

Most of the property is covered by tufted grass and widely-spaced sagebrush and dwarf cacti. The crests of the hills are characterized by isolated pine trees.

6. REGIONAL GEOLOGY

The property is situated along the east margin of the Cache Creek Group, which is one of the most extensive units in the Canadian Cordillera. The Cache Creek Group ranges in age from early Mississippian to Middle or Late Triassic, and consists of an assemblage of thinly interbedded chert, pelite, basalt and carbonate rocks together with lesser quantities of arenites. The Cache Creek Group has a long and complex history and consequently

TABLE 2

TABLE OF FORMATIONS: LONE TREE CLAIMS AREA
(After Monger, 1989, and Trettin, 1980)

<u>ERA</u>	<u>PERIOD</u>	<u>FORMATION/LITHOLOGY</u>
MESOZOIC TO PALEOZOIC	Jurassic to Carboniferous	Ultramafic rocks, local gabbro
MESOZOIC	Jurassic	ASHCROFT FORMATION Shale, conglomerate, sandstone
	Triassic	CACHE CREEK GROUP (see text for lithologies)
PALEOZOIC	Mississippian	CACHE CREEK GROUP

it is characterized by structural complexity (Trettin, 1980).

In the area between the Fraser and Thompson Rivers the Cache Creek Group has been subdivided into three northwest-trending belts on the basis of lithology and physiography. They are the Western Belt, Central Belt, and Eastern Belt (Figure 3). The Eastern Belt, which contains the type section of the Lower Cache Creek Group, is underlain by volcanic rocks, limestone, chert and lesser quantities of arenite (Duffel and McTaggart, 1952; Campbell and Tipper, 1971). Small conspicuous masses of serpentinized ultramafic rocks occur locally along the Bonaparte River and its tributaries in the Cache Creek area (Table 2).

Limestones of the Eastern Belt are fine to medium grained, locally very pure and occur as small lenses or beds up to several hundred feet thick (Duffel and McTaggart, 1952). In contrast, the extensive, and largely recrystallized limestone sequences of the Marble Canyon Formation in the Central Belt, are areally extensive and characteristically form prominent ridges.

7. PREVIOUS WORK

Two samples were collected from the limestone hills at the south end of the property by Goudge (1944, p. 183). Goudge's sample 47 consists of random chips from the whole deposit and his sample 47A is from magnesium-rich areas within the deposit. The analytical results for Goudge's samples, which have a much higher than usual phosphorus content, are given below:

SAMPLE	SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	Ca ₃ (PO ₄) ₂	CaCO ₃	MgCO ₃	CaO	MgO
47	1.98	0.10	0.48	1.27	95.84	0.29	54.36	0.14
47A	8.20	1.67	2.95	2.01	54.18	32.79	31.43	15.68

8. 1991 PROGRAM

a) Methods:

Surface fieldwork was conducted on the property by the author for 5 work days during the period June 8 to June 13, 1991. The field program consisted of prospecting, geological mapping, and rock chip sampling. Geological mapping was conducted at a scale of 1:2,500 and was tied into the location line using an uncontrolled tape and compass survey. Nineteen rockchip samples were collected on the property and were subjected to multi-element analysis by

Loring Laboratories Ltd., Calgary, Alberta.

b) Geology:

Limestone is exposed mainly in the Lone Tree #1 and #2 claims in an area 450 m long x 400 m wide, and forms two hills each about 100 m high on its southern edge. The limestone hills are separated by a band of volcano-sedimentary rocks about 50 m wide which, due to differential weathering, occupies a saddle between the two hills.

In addition to the limestone exposed in the Lone Tree #1 and #2 claims, previously unreported high purity limestone occurs along strike and about 450 m northwest of the main area of limestone outcrop (samples 3040, 3041, 3042 - Figure 4). Bedrock in the intervening area is obscured by fluvo-glacial deposits.

c) Lithology:

The limestone is fine to medium grained, light to medium grey and generally reacts strongly with dilute hydrochloric acid. Also, though the biogenic nature of the rock is recognizable in outcrop, identification of its fossil content is generally obscured by recrystallization. In some areas the limestone has a large bioclastic component (sample #3048 - Figure 4). The weathered surface of the limestone is frequently pocked and in some areas it has a rilling tendency along joint planes.

Dolomitization of the limestones is concentrated mainly along or near the margins of the volcano-sedimentary bed located in the centre of the claims. The most extensive area of dolomitization noted in the course of the fieldwork is in the limestones on the west side of the saddle separating the two limestone knolls (sample #3054).

The volcano-sedimentary band exposed in the Lone Tree #1 and #2 claims consists mainly of argillaceous rocks and minor amygdaloidal andesite. A large block of limestone and chert was noted east of Monument #4 on the location line but this may be a slump block.

d) Structure:

The limestone and the enclosed bed of volcano-sedimentary rocks strike northwesterly. At the boundary of the Lone Tree #1 and #3 claims, bedding in the limestone dips 67° northeasterly whereas north of Monument 3, limestone bedding dips 85° southwest. East of Monument 4 bedding of the large chert-limestone block (outcrop?) strikes 282° and

dips 75° north (Figure 4).

The volcano-sedimentary bed was traced intermittently northwestwards 520 m from the vicinity of the Lone Tree #1 and #2 final post. However, due to fluvo-glacial cover in the Lone Tree #3 and #4 claims the limits of the volcano-sedimentary bed are not known.

Thickening of the volcano-sedimentary bed or local folding is suggested by a small embayment of the volcano-sedimentary bed in the area north of Monument #2 on the location line (Figure 4).

e) Sampling and Results:

i) Introduction

The locations, assay results and sample intervals of nineteen rock samples collected from limestone outcrops on the property are given in Figure 4 and Appendix 1.

All rock samples were collected as ^{semi}continuous chip samples and were analyzed for CaO, MgO and SiO₂ by Loring Laboratories, Calgary, Alberta.

Sample descriptions and analytical results are given in Appendix 1. The assay sheets and analytical methods are given in Appendix 2 and Appendix 3 respectively.

ii) Discussion

Very good quality limestone is exposed in several areas on the claims. The best grades were returned by samples 3040, 3041 and 3042 manifest across 20 m with weighted averages of 54.55% CaO, 0.20% MgO and 0.50% SiO₂. Approximately 800 m southwest of samples 3040 to 3042, sample #3057 returned values of 54.00% CaO, 0.28% MgO and 0.32% SiO₂ across 30 m. The strike extent of these beds is not known.

Generally, samples from the main area of limestone outcrop in the Lone Tree #1 claim (#'s 3049, 3050, 3051 and 3053) have low MgO and SiO₂ contents (Appendix 1 & Figure 4). Consequently, the CaO content of these samples is low for the indicated level of MgO and SiO₂ impurities. High SiO₂ and MgO are manifest in samples 3048 and 3052.

Hanging wall limestones contiguous with the volcano-sedimentary bed exhibit increased SiO₂ and MgO levels (samples 3043 and 3044), probably as a result of groundwater circulating along the contact. Also, dolomitization is notable in limestone on the west side of the saddle (sample 3054, Figure 4).

9. REFERENCES

- Campbell, R.B and Tipper, H.W. 1971. Geology of the Bonaparte Lake Map-Area, British Columbia, GSC Memoir 363.
- Duffel, S. and McTaggart, K.C. 1952. Ashcroft Map Area, British Columbia, GSC Memoir 262.
- Goudge, M.F. 1944. Limestones of Canada, Their Occurrence and Characteristics, Part V. Western Canada Mines and Geology Branch, Department of Mines and Resources, Canada.
- Monger, J.W.H. 1989. Geology of Hope and Ashcroft Map Areas, British Columbia, GSC Map 42-189, Sheet 1.
- Trettin, H.P. 1980. Permian Rocks of the Cache Creek Group in the Marble Range, Clinton Area, British Columbia. GSC Paper 79-17.

10. STATEMENT OF EXPENDITURES: JUNE 1991
GEOLOGICAL MAPPING AND SAMPLING:
LONE TREE #1 TO #4 CLAIMS, KAMLOOPS M.D.

1)	Labour: J.N. Schindler		\$2,400.00
	i) Fieldwork; June 9 to 13, 1991		
	5.0 days x \$400.00/day	2,000.00	
	ii) Mob/Demob		
	1.0 days x \$400.00/day	400.00	
2)	Assays:		646.00
	i) Sample preparation:		
	19 samples x \$3.75/sample	71.25	
	ii) Analyses (CaO: \$9.25; MgO:		
	\$10.00; SiO ₂ : \$11.00)		
	19 samples x \$30.25/sample	574.75	
3)	Room & Board:		258.40
	Motel: 5 days x \$32.20/day	161.00	
	Food: 5 days	97.40	
4)	Travel*:		569.60
	4 x 4 rental: 6 days x		
	\$40.00/day	240.00	
	942 km x \$0.35/km	329.60	
5)	Report Preparation:		645.00
	Professional fees, typing,		
	drafting, photocopying and		
	binding		

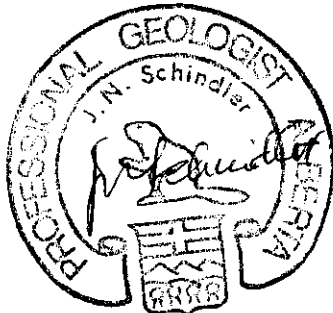
			\$4,519.00

* Mileage in BC only

11. CERTIFICATION

I, John Norman Schindler, of the City of Calgary, in the Province of Alberta, do hereby declare that:

- 1) I am registered as a Professional Geologist in the Province of Alberta (No. #30227).
- 2) I am a practising consulting geologist, and my office is located at 22 Lake Christina Close SE, Calgary, Alberta T2J 2R9.
- 3) I hold the following degrees: (1960) B.Sc. (Hons) Geology, McGill University, Montreal, Quebec; (1963) M.Sc., Mining Geology, University of London, England; (1975) Ph.D. Geology, McMaster University, Hamilton, Ontario.
- 4) I have practised my profession since graduation and have held permanent positions with the Iron Ore Company of Canada Ltd., Amax Exploration Inc., Western Mines Ltd. (now Westmin Resources Ltd.) and Union Oil Company of Canada (now Unocal Canada Limited). I have practised as a consulting geologist since 1981.
- 5) I have no financial interest in either the property discussed in this report or in Continental Lime Ltd.
- 6) This report is based on field work conducted by me and on a review of the references cited.



PERMIT TO PRACTICE J.N. Schindler	
SCHINDLER EXPLORATION CONSULTANTS LTD.	
Signature	<i>J.N. Schindler</i>
Date	March 31, 1992
PERMIT NUMBER: P 3437	
The Association of Professional Engineers, Geologists and Geophysicists of Alberta	

APPENDIX 1

SAMPLE DESCRIPTIONS AND ASSAY RESULTS

Property: Lone Tree Claims
 Location: Ashcroft, B.C. NTS 92I/11
 Owner : G. Belik; Kamloops, B.C.

Date : June 8 - 12, 1991
 Sampled By : J.N. Schindler
 Assayed By : Loring Labs., Calgary

Sample	Location	Width	Formation	Observations	CaO (%)	MgO (%)	SiO ₂ (%)
No. 3039	Cliff 100M Northwesterly from Final Posts	6.5 Ft.	Cache Crk. Group Lower Permian	Fine grained, medium grey LMS. Strongly reactive. Locally cut by 1/4" to 1" quartz. Veins overlain by chert.	45.16	2.16	9.70
3040	550 Ft. from Final Post #3 & 4.	7.0 M (0 to 7M)	"	Weathered surface pocked with tendency to rill. Medium grey and white fossilif. LMS. Recrystallised, fine grained.	54.60	0.18	0.64
3041	"	7.0 M (7 to 14M)	"	LMS Similar to 3040	54.56	0.20	0.40
3042	"	6.0 M (14.0 to 20.0M)	"	LMS Similar to 3040, 3041	54.48	0.23	0.44
3043	Outcrop to perpen- dicular and East of Initial Post (I.P.)	7.0 M (60 to 67M)	"	Weathered surface pocked thin dolomite beds from 61.2 to 63.4M. LMS strongly reactive fine to medium grained, med. grey. Bedding; Strike 308° Dip 67°E	53.40	0.68	1.32
3044	Outcrop. Approx. East of I.P.	1.0 M	"	West margin of outcrop. Medium grey, strongly reactive LMS. Medium to fine grained with thin 1/8" to 1/2" dolomite beds. Some dolomitic fractures.	52.46	1.58	0.66
3045	Outcrop. "A" East of I.P.	10 M	Cache Crk. Group Lower Permian	Weathered surface pocked. Mottled brown and grey (grey due to lichen). Massive medium grained LMS, strongly reactive.	53.80	0.30	0.94
3046	Outcrop. "B" Southwest of I.P.	20 M	"	Light to medium grey. Medium grained strongly reactive LMS. Weathered surface shows rilling tendency. Pocked.	53.70	0.27	0.30

Property: Lone Tree Claims
 Location: Ashcroft, B.C. NTS 921/11
 Owner : G. Belik, Kamloops, B.C.

Pg 2 of 3 .
 Date : June 8 - 12, 1991
 Sampled By : J.N. Schindler
 Assayed By : Loring Labs., Calgary

Sample	Location	Width	Formation	Observations	CaO(%)	MgO(%)	SiO ₂ (%)
3047	Outcrop. "C" Southeast of I.P.	3.0 M	Cache Crk. Group Lower Permian	Medium grey, med. grained LMS recrystallized fossilif. Forms scarp 15 to 20 ft. high.	52.80	0.32	0.98
3048	Outcrop. "D"	"	"	Fine to medium grained, med. grey, massive bio-clastic LMS. Strongly reactive. Weathered surface, pocked, local solution cavities.	53.00	0.17	2.50
3049	Northeast of TP 4	14 M	"	Med. grey, medium grained fossilif lms. Strongly reactive.	52.80	0.33	0.12
3050	Adjacent to TP 4	23 M	"	Similar to 3051. Dolomitic fragments for two meters adjacent to #3051. Small fold. Trace grey chert.	53.20	0.32	0.38
3051	Southwest & adjacent to T.P. 4.	19.8 M	"	Med. grey, fossilif (coral) LMS. Dolomitic fossil fragments (in Eastern most 2 metres) stand out in relief.	51.46	0.35	0.22
3052	East Zone, East Margin	18.5 M	"	Med. grained, med. grey LMS. Weathered surface pocked. Minor weathering only. Trace (isolated) chert replacing fossil in one location. Rilling tendency along joint planes.	51.70	1.41	0.84
3053	East Zone West of TP 6 South side of gully.	19.5 M	"	Med. to light grey LMS. More weathered than LMS on top of hill. FeOx minor on fractures and disseminated (Sl dolomitic?) Strongly reactive.	52.46	0.25	0.12

Property: Lone Tree Claims
 Location: Ashcroft, B.C. NTS 92I/11
 Owner : G. Belik; Kamloops, B.C.

3 of 3

Date : June 8 - 12, 1991
 Sampled By : J.N. Schindler
 Assayed By : Loring Labs., Calgary

Sample	Location	Width	Formation	Observations	CaO(%)	MgO(%)	SiO ₂ (%)
3054	West Zone Near East contact in saddle (pass).	21.1 M	Cache Creek Group Lower Permian	Med. grained, med. grey. Strongly reactive LMS. Weakly dolomitic at West end outcrop. Sampled as outcrop allows. Minor FeO _x probably due to dolomite. Strongly reactive.	47.40	1.58	8.56
3055	West Zone Immediately West of saddle (pass).	19.7 M	"	Med. to light grey medium grained LMS. Pocked weathered surface. Minor weathering. Tendency to rill along joints. Strongly reactive.	53.42	0.27	0.76
3056	West end,	23 M	"	Med. to coarse grained, med. grey fossilif, strongly reactive LMS.	49.56	0.23	8.28
3057	West Zone. 0 to 30 M East of #3056.	30 M	"	Med. to coarse grained, grey, strongly reactive LMS (fossilif). Locally minor FeO _x due to incipient weathering.	54.00	0.28	0.32
3058	West Zone 46 to 97 M East of #3056	51 M	"	Med. to coarse grained grey, strongly reactive fossilif LMS. Reticulating networks FeO _x (dolomite ?) Sampled as outcrop allows.	53.06	1.16	0.48

Key:

LMS = Limestone
 FeO_x = Iron Oxides

APPENDIX 2

ASSAY SHEET

CONTINENTAL EXPL. LTD.
 215, 10451 Shelbridge Way,
 Richmond, B.C. V6X 2W8
 ATTN: Wayne Wagner
 cc: J. Schindler - Calgary
 W. Seymour - Utah



PTG NO. 34475
 Date July 11, 1991
 Samples Rock

Certificate of Assay

LORING LABORATORIES LTD.

Page # 1

SAMPLE NO.	% CaO	% MgO	% SiO ₂
"Assay Analysis"			
3039	45.16	2.16	9.70 ✓
3040	54.60	0.18	0.64
3041	54.56	0.20	0.40
3042	54.48	0.23	0.44
3043	53.40	0.68	1.32
3044	52.46	1.58	0.86
3045	53.80	0.30	0.94
3046	53.70	0.27	0.30
3047	52.80	0.32	0.98
3048	53.00	0.17	2.50
3049	52.80	0.33	0.12
3050	53.20	0.32	0.38
3051	51.46	0.35	0.22
3052	51.70	1.41	0.84
3053	52.46	0.25	0.12
3054	47.40	1.58	8.56
3055	53.42	0.27	0.76
3056	49.56	0.23	8.28
3057	54.00	0.28	0.32
3058	53.06	1.16	0.48 ✓

I Hereby Certify that the above results are those assays made by me upon the herein described samples....

Re. acts retained one month.
 Pulps retained one month
 unless specific arrangements
 are made in advance.


 Assayer

APPENDIX 3

SAMPLE PREPARATION AND ANALYTICAL METHODS

AS USED BY

LORING LABORATORIES, CALGARY, ALBERTA

SAMPLE PREPARATION

- 1) Crush the sample in a jaw crusher to minus 16 mesh.
- 2) The minus 16 mesh sample is riffled in a Jones Splitter and 250 to 300 g split is retained.
- 3) The retained split is pulverized in a ring pulverizer to minus 140 mesh.
- 4) The minus 140 mesh sample is homogenized by rolling on a plastic sheet.
- 5) The homogenized sample is analyzed as per the methods which follow.

CaO, (Lime)

- 1) WEIGH .5 gm IN 250 ml BEAKER (RINSED IN DIST H₂O).
- 2) ADD 10 ml H₂O, 10 ml HCl AND 5 ml HNO₃, BOIL OFF NITRIC.
- 3) ADD 1 gm NH₄Cl, 5 ml HCl, BULK TO 75 ml.
- 4) NEUTRALIZE WITH NH₄OH, (litmus), 20 ml EXCESS + 5 ml H₂O₂, 3%.
- 5) ^{Bring to} BOIL, FILTER THRU #2 SLOWFOLD INTO 400 ml BEAKER.
- 6) DISCARD PAPER, AFTER 8 WASHES WITH WARM AMMONIAWASH.
- 7) ADD 1 gm AMMONIUM OXALATE, BOIL FOR 1 min.
- 8) LET PRECIPITATE SETTLE, WARM, OVERNITE.
- 9) FILTER THRU #1 AND WASH 8x WITH WARM AMMONIAWASH.
- 10) TEAR FILTER, PUT BACK IN ORIGINAL BEAKER, CONTAINING 200 ml H₂O + 20 ml OF 1:1 H₂SO₄, BOILING.
- 11) RUN STANDARD: .6000 gm SODIUMOXALATE INTO 400 ml BEAKER, ADD FILTER. BOIL IN 200 ml H₂O + 20 ml H₂SO₄, 1:1. TITRATION SHOULD READ 25.1 ml.
- 12) TITRATE SAMPLES ONE BY ONE WITH KMnO₄ UNTILL PERMANENTLY PINK. (.01 N)

MAGNESIUM & IRON ANALYSIS IN LIMESTONE.
(Atomic Absorption Method)

- 1) Weigh 1.0 gm sample into 150 ml Teflon beaker.
- 2) Wet with dist.H₂O and add 10 ml of Hydrofluoric Acid.
- 3) Take to dryness on a low heat hotplate overnight.
- 4) When dry, add Aqua Regia and Perchloric Acid.
- 5) Boil to attain complete dissolution. (Perchloric fumes).
Do not fume dry.
- 6) Remove from hotplate, cool, add 10 ml HCl + 10 ml dist H₂O.
- 7) Bring to a boil and filter through #40 Whatmann filterpaper
into a 200 ml volumetric flask.
- 8) When *room* temperature is attained, take the necessary aliquots
for MgO and Fe₂O₃, to be read on atomic absorption.*
- 9) Please note that total Iron would be converted to Fe₂O₃.
- 10) Appropriate standards depending upon the amounts of MgO and Fe
would be applied.

* A VARIAN 1275 atomic absorption detector burning a nitrous
oxide oxyacetylene flame was used.

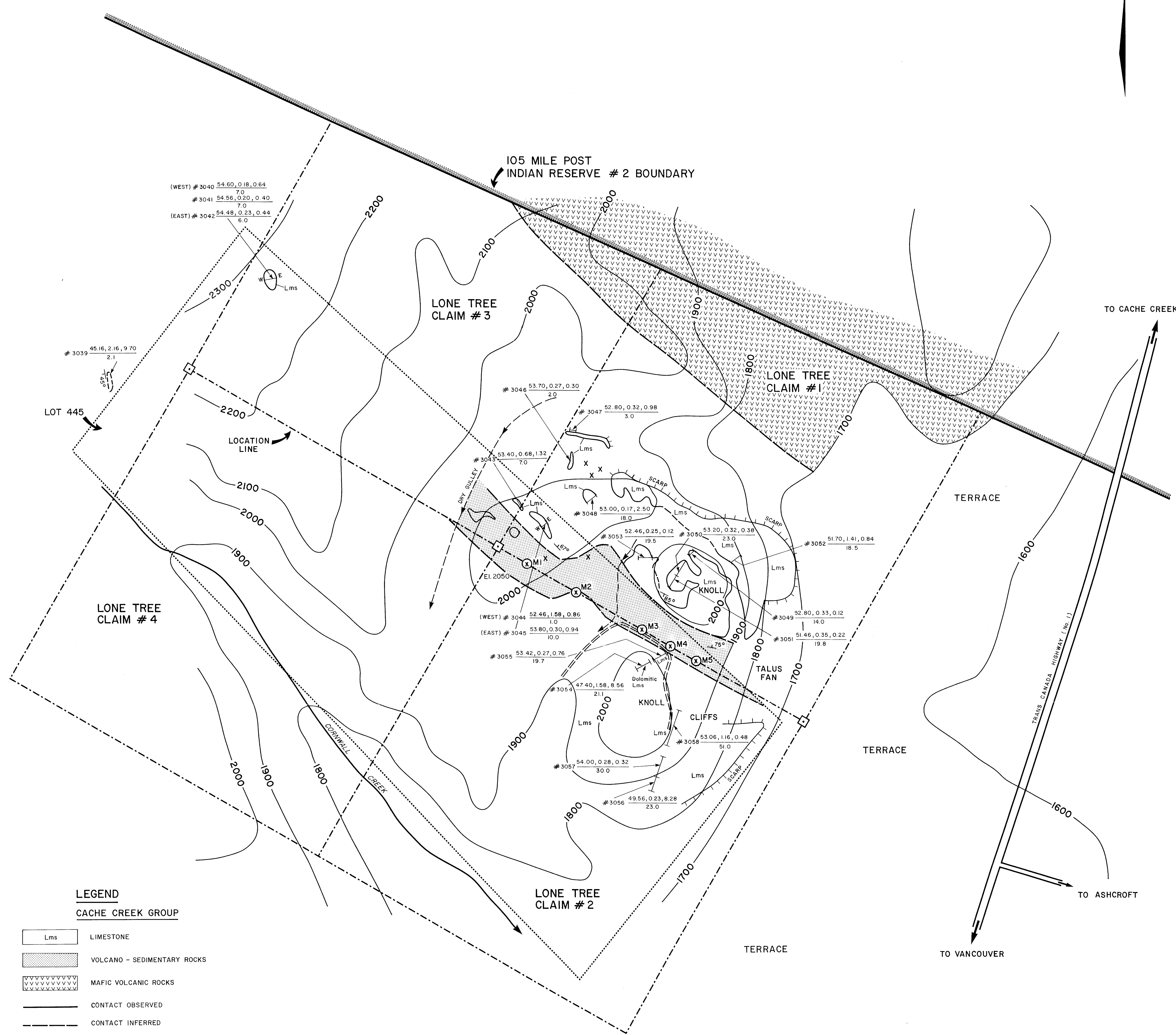
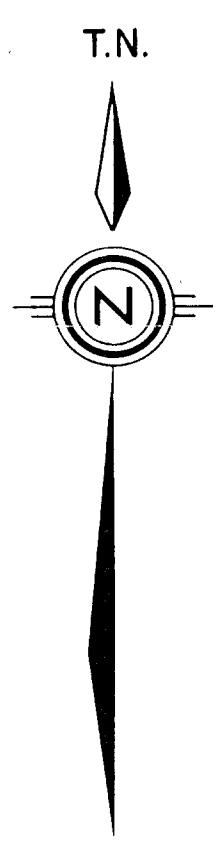
Iron is read at 285.2 nanometers

Magnesium is read at 248.3 nanometers

SiO₂ (Silica)

- 1) WEIGH .5000 gm IN 150 ml BEAKER (POLICED)
- 2) ADD 10 ml H₂O, 10 ml HCl AND 5 ml HNO₃, BOIL OFF NITRIC.
- 3) WASH LIDS AND SIDES, LET GO TO DRYNESS OVERNIGHT.
- 4) WASH SIDES, GIVE A SHOT OF HCl (5 ml).
- 5) LET GO TO DRYNESS AND REPEAT STEP #4
- 6) BRING UP IN 15 ml. HCl, (HEAT TO DISSOLVE).
- 7) FILTER THRU #40 FAST FOLD (+PAPERPULP) (19 AT A TIME).
- 8) WASH IN BEAKERS WITH HOT 30% HCl.
- 9) POLICE BEAKERS AND WASH IN WITH HOT DIST.H₂O.
- 10) WASH 8 x WITH HOT DIST. H₂O; SAVE FILTERS AND FILTRATE.
- 11) PUT FILTERPAPERS IN PLATINUM CRUCIBLES AND DRY.
PUT IN MUFFLE @ 300 C., TURN UP TO 800 C.,
BURN OFF FILTERPAPER AND WEIGH CRUCIBLES WHEN COOL.
- 12) ADD 4 DROPS OF H₂O AND 4 DROPS OF H₂SO₄, THEN FILL
CRUCIBLES WITH HF, LET GO TO DRYNESS OVERNIGHT.
- 13) IN A.M. PUT CRUCIBLES ON 3 SWITCH PLATE TO FUME OFF
THE H₂SO₄, THEN IN 800 C. MUFFLE (3-4min), FOR SAME.
- 14) WEIGH CRUCIBLES (GIVES WEIGHT OF SiO₂)
SAVE CRUCIBLES FOR TiO₂ - DIGESTION.

121°20'

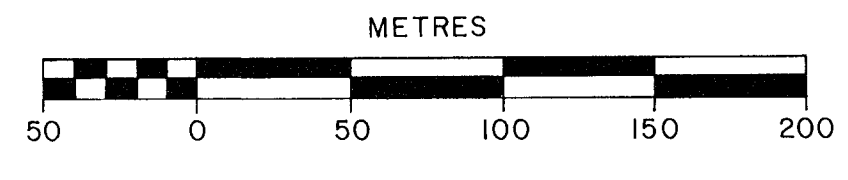


LEGEND

CACHE CREEK GROUP

- Lms LIMESTONE
- VOLCANO - SEDIMENTARY ROCKS
- MAFIC VOLCANIC ROCKS
- CONTACT OBSERVED
- - - CONTACT INFERRED
- OUTCROP AREA
- X SMALL OUTCROP
- 67° STRIKE AND DIP OF BEDDING
- - - CLAIM BOUNDARY
- CLAIM POST
- XMI LOCATION LINE MONUMENT AND NUMBER
- BOUNDARY : SURFACE LOT 445
- ===== BOUNDARY : INDIAN RESERVE
- 1800— CONTOUR LINE
- | | | | | SCARP
- - - DRY GULLEY
- ==== PAVED HIGHWAY
- == == == FOUR WHEEL DRIVE ROAD
- SAMPLE LINE

3057 $\frac{54.00, 0.28, 0.32}{30.0}$ SAMPLE NUMBER $\frac{\text{CaO}(\%), \text{MgO}(\%), \text{SiO}_2(\%)}{\text{INTERVAL (metres)}}$
 SAMPLES ANALYZED BY : LORING LABORATORIES
 CALGARY, ALBERTA



GEOLOGICAL BRANCH ASSESSMENT REPORT

PERMIT TO PRACTICE
 SCHINDLER EXPLORATION CONSULTANTS LTD.
 Signature: *[Signature]*
 Date: *March 31, 1992*
 REGISTRY NUMBER: P 3437
 The Association of Professional Engineers,
 Chartered and Incorporated in Alberta

22,278

Schindler Exploration Consultants Limited

CONTINENTAL LIME LIMITED
LONE TREE CLAIMS, ASHCROFT, B.C.
 N.T.S. 92 I-II
 FIGURE 4

GEOLOGY AND SAMPLE LOCATION MAP

CONTOUR INTERVAL : 100 feet
 DATE : MARCH, 1992 SCALE : 1 : 2 500