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**GEOLOGIC MAPPING AND SAMPLING OF THE LUCE MINERAL CLAIM
CROWFOOT MOUNTAIN AREA BRITISH COLUMBIA**

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

23,488

PLUESS-STAUER (CALIFORNIA) INC.
Howard Brown
Geologist
August 1, 1994

KAMLOOPS M.D
LAT 50° 01' N
LONG 119° 15' W
N.T.S. 82 M 3

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GEOLOGIC MAPPING AND SAMPLING OF THE LUCE MINERAL CLAIM CROWFOOT MOUNTAIN AREA BRITISH COLUMBIA

SUMMARY

At the request of Industrial Fillers Ltd. geological mapping and sampling was undertaken on the Luce Mineral Claim from July 13-17, 1994. The purpose of the work was to more closely define the white, high calcium limestone deposit which has previously been recognized on the claim. The Luce mineral claim is located on the south slope of Crowfoot Mountain Peak, approximately 6 kilometers north of Magna Bay on the North Arm of Shuswap Lake, and 35 kilometers north of Salmon Arm British Columbia.

The Luce Property is composed of one Modified Grid System mineral claim previously with an area of 9 units, but which has been recently reduced to 6 units.

The deposit is composed of thin to medium bedded, fine grained, white limestone/marble, with light to medium grey streaks and beds which contain finely disseminated pyrite, thin laminated tan to brown weathering dolomitic streaks, and occasional brown weathering siliceous streaks. The "best" quality limestone is up to 65 meters thick, and extends for a distance of about 200 meters north of the blast pit area adjacent to the 4wd access road.

Sampling and drilling indicate that the limestone is of variable quality. Drill core (and outcrop mapping) indicate that the white marble is interbedded with off color and grey marble and purity is variable as well. Tests concluded to date indicate -270 mesh G.F. brightness ranges from about 85 to as high as 94. CaCO_3 ranges from 91->98%. Acid insols range from 0.2% to as much as 7.3%, but are generally less than 2% in most samples. MgCO_3 is also variable ranging from 0.6% to as much as 6.3%. Beneficiation tests (Flotation) have not been done on the samples.

Not enough information on the surface geology, subsurface geology, assay data, beneficiation techniques, access road status, transportation and marketing of the limestone is known at the present time to allow reserves to be defined or stated.

Future work should concentrate on detailed mapping and sampling to more clearly define the best limestone zone, as well as beneficiation tests of the rock, studies of the best access to the deposit, transportation and marketing of the potential limestone products which can be produced from this rock.

GEOLOGIC MAPPING AND SAMPLING OF THE LUCE MINERAL CLAIM CROWFOOT MOUNTAIN AREA BRITISH COLUMBIA

INTRODUCTION

At the request of Industrial Fillers Ltd. geological mapping and sampling was undertaken on the Luce Mineral Claim from July 13-17, 1994. The purpose of the work was to more closely define the previously recognized white, high calcium limestone deposit which has previously been recognized on the claim.

LOCATION AND ACCESS

The Luce mineral claim is located on the south slope of Crowfoot Mountain Peak, approximately 6 kilometers north of Magna Bay on the North Arm of Shuswap Lake, and 35 kilometers north of Salmon Arm British Columbia (Fig. 1). The claim is centered near 51 degrees and 01 minute North Latitude, and 119 degrees and 15 minutes West Longitude, and is located on N.T.S. Map 82 M/3.

Access to the claim is via North Shuswap Highway to Magna Bay, and then 12 kilometers on a deteriorating 4 wd old logging road which switchbacks it's way up the mountain thru the mineral claim, and eventually to Crowfoot Mountain Summit. Old secondary logging roads which access other parts of the claim are heavily overgrown, and presently cannot be driven, but could be upgraded.

TENURE

The Luce Property is composed of one Modified Grid System mineral claim previously with an area of 9 units, but which has been recently reduced to 6 units (Fig. 2). The claim is located in the Kamloops Mining Division and is found on Mineral Title Map 82M 3/W. Property details are shown in Table 1. The claim is owned by Industrial Fillers Ltd. of Montreal

Table 1. Property details Luce Claim

CLAIM NAME	UNITS	RECORD #	EXPIRATION DATE
Luce	6 (reduced from 9)	8768	08/08/98*

*Upon acceptance of this report for assessment credit.

TOPOGRAPHY, VEGETATION AND EXPOSURE

Much of the property is composed of moderate to steep southeast facing slopes below the Peak of Crowfoot Mountain. Elevations on the claim range from 1150 meters to 1600 meters. Steep east facing cliffs occur along the eastern property boundary.

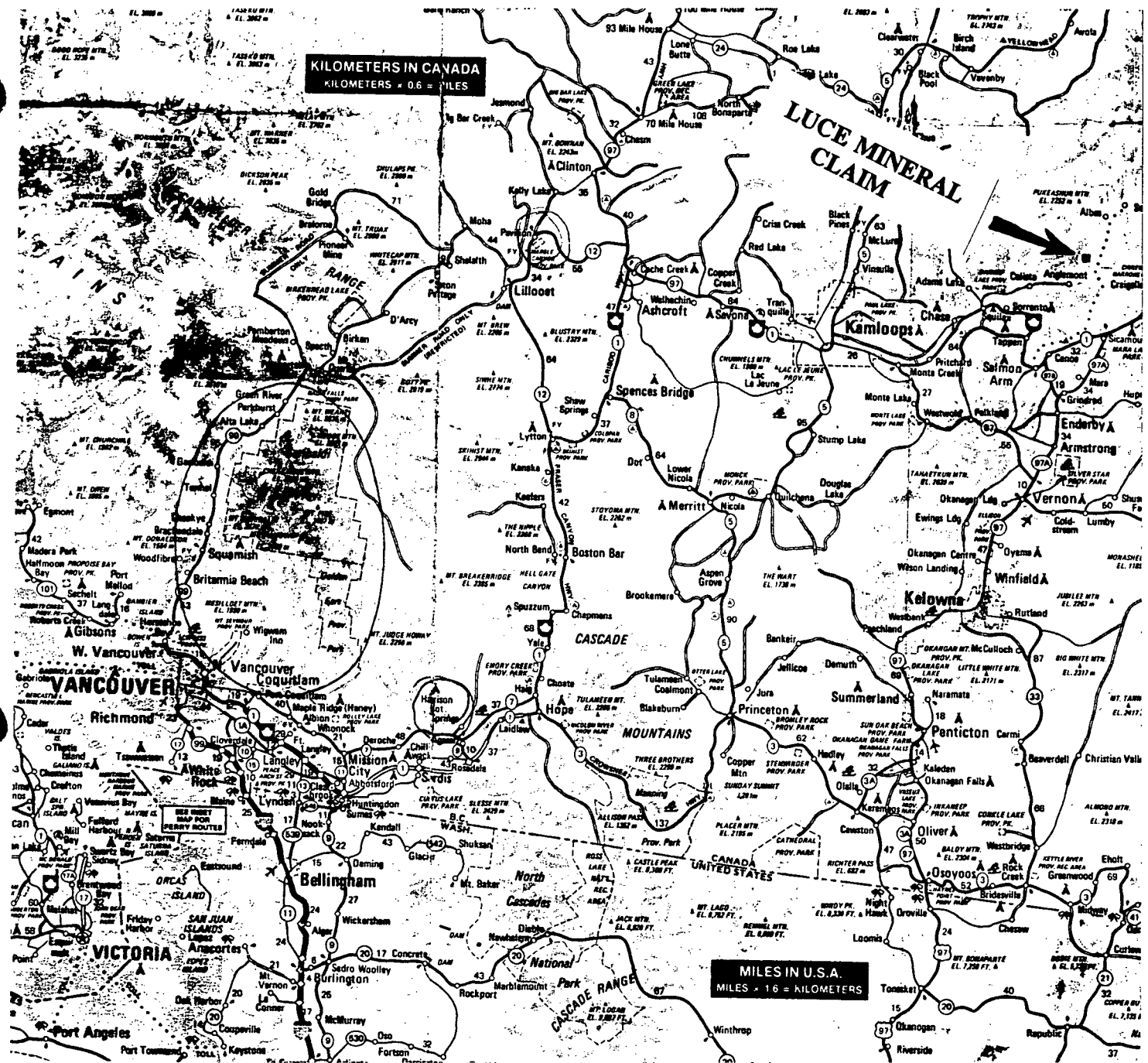
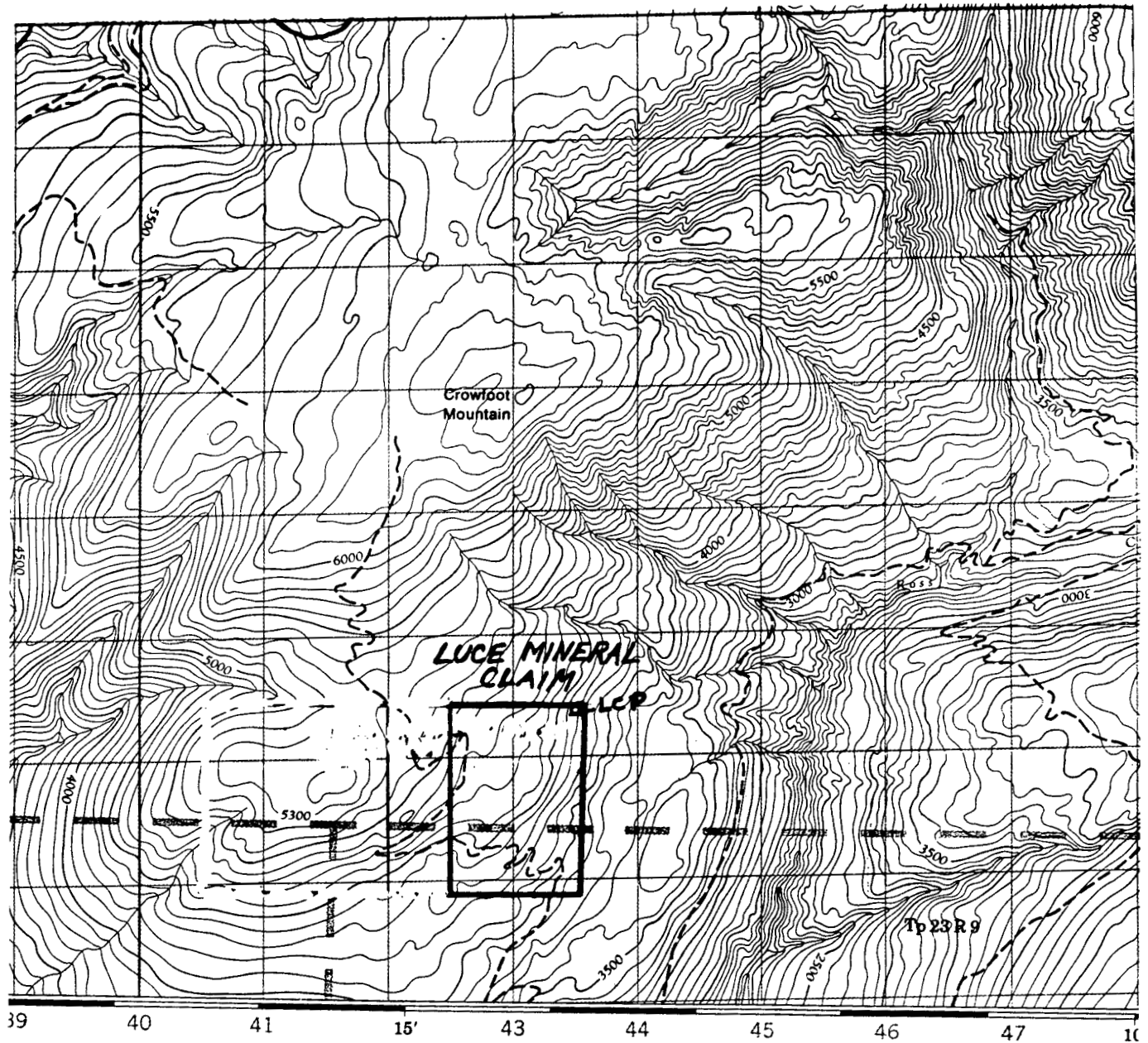


Figure 1. Index map showing location of Luce Mineral Claim.



ALBAS
 KAMLOOPS DIVISION OF YALE LAND DISTRICT
 BRITISH COLUMBIA
 WEST OF SIXTH MERIDIAN - OUEST DU SIXIÈME MÉRIDIEN
 Scale 1:50,000 Échelle

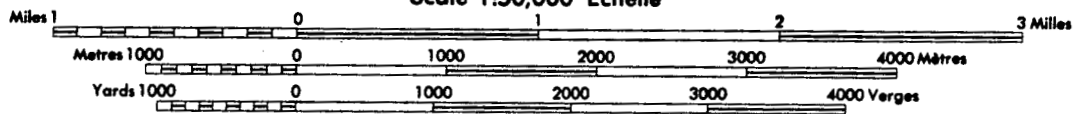


Figure 2. Claim Map of the Luce Mineral Claim.

Most of the claim area has been previously logged or burned off during the last 25 years, and is covered by 15-25 year old second growth spruce, hemlock, alder and thick undergrowth.

Rock outcrops and exposures are generally poor but are variable depending on lithology. Outcrops of schist are generally poor, and restricted to road cuts, and occasional outcrops along ridgecrests and hillsides. The Limestone is better exposed, but also only sporadic, and most common in road cuts, ridgecrests and along a steep east facing ridge slope. Other lithologies are generally restricted to road cuts. Overall exposure is less than 10%, but the limestone may have as much as 20% exposure. In some places areas of frost heave fragments indicate lithology.

MINING AND EXPLORATION HISTORY

The Crowfoot Mountain area was first investigated during the late 1920es for silver, lead, and zinc. Later investigations during the 1960es for the same metals met with little or no success. A potential limestone deposit was recognized in the area during the 1970es and part of the claim area was held as a quarry lot under the Ministry of Lands. Vermont Marble Company (an affiliate of Industrial Fillers Ltd.) undertook limited prospecting and drilling of the deposit area during 1976, and was successful in partly defining a deposit of white, high calcium limestone (Vanguard 1990).

REGIONAL GEOLOGY

The Luce property area has previously not been mapped in detail, although more detailed work has been done at the Adams Plateau area to the west (Campbell 1963), and correlations have been made by several previous authors (Preto 1979, Okulitch 1989). The area around the Luce Claim is composed of Eagle Bay Formation, a metasedimentary and metavolcanic sequence which contains the Tshinakin Limestone. Early work by Preto et. al. (1979), considered the Tshinakin Limestone to be of Carboniferous age. More recent fossil dating in the area by Okulitch (1989) has indicated a Cambrian to Devonian age to the sequence and a lower Cambrian age to the Tshinakin Limestone (Fig. 3).

This study suggests that there are two limestone sequences with schist sequences in between. The upper limestone unit is in places fossil rich, and could conceivably be Carboniferous or older in age. The lower limestone unit strongly resembles the Reeves Limestone Member of the Maitlin Formation (also known as the Badshot Formation in the Kootenay arc area of British Columbia, and which may extend into the Revelstoke area).

PROPERTY GEOLOGY

The Geology of the Luce Property is shown on the 1:5000 scale geology map that accompanies this report (Plate 1, in pocket). Geological units are numbered based on inferred age relationships, lower numbers are inferred to be younger rocks Table 2 is a brief description of the various rock units recognized in the claim area. As previously noted outcrops are generally poor, and much of the area is covered by soil, drift, talus, and or slope wash.

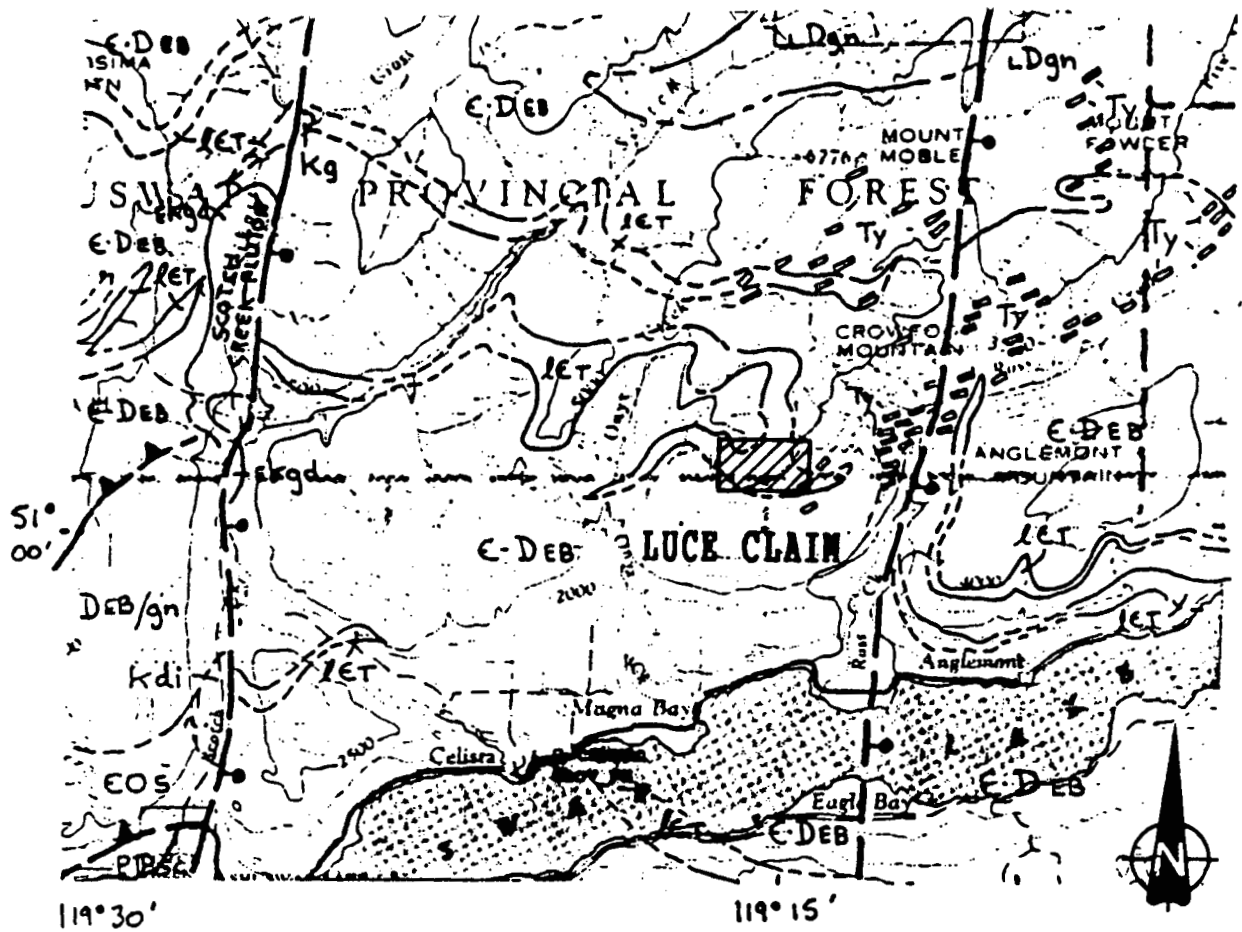


Figure 7. Revisions of geology north of Shuswap Lake near Scotch and Ross creeks. Scale = 1:250 000. See Table 1.

Quaternary	Qv	valley basalt
Tertiary and Quaternary	TQs	breccia and conglomerate
Tertiary		
Miocene	miv	basalt flows
Eocene	e1,v	Kamloops Group volcanic flows and dikes
	e1,s	Kamloops Group sediment
	seT _{ss}	White Lake Formation
	e1gn	mylonite, granitoid gneiss and leucocratic intrusions
Paleocene	p1y	Coryell Suite syenite
Tertiary(?)	ty	syenitic dikes
Cretaceous(?)	,Kgd	granodiorite
	Kd	diorite
	Kg	granite
Jurassic	,Jpd	granodiorite
	,Jd	quartz diorite
	,Jdi	diorite
	,Jy	syenite
Triassic and Jurassic	TnL	Nicola Group
Paleozoic and/or Mesozoic	Phn	Okanagan Complex gneiss and schist
Paleozoic	Pc	limestones
	Pyl	argillite, chert
	Pcg	conglomerate
	Pv	volcanic rocks
	Pub	ultramafic rocks, serpentinite
	P _v	Chaparron Group
Carboniferous and Permian	CP _{ss}	Harper Ranch Group
Carboniferous	C ₁	Millard Group
Devonian	Ln	Mount Fowler Batholith, isolated granite
	D _{u/gn}	Eagle Bay Formation felsic volcanic rocks and gneissic intrusions
Ordovician	,Ogn	Little Shuswap Gneiss
Cambrian to Devonian	E-D _{ss}	Eagle Bay Formation
Cambrian to Ordovician	EO ₁	Sicamous Formation
	EO ₂	Tsalikom Formation
	E ₁	Tshmaln Limestones
Lower Cambrian	PP _{ss}	Silver Creek Formation
Hadrynian(?) and (?)/or (?) Paleozoic(?)		
Geological contacts		
Normal faults		
Thrust faults		

FROM: OKULITCH, A. V.
GSC PAPER 89-1E

INDUSTRIAL FILLERS LTD

LUCE PROPERTY

NORTH SHUSWAP B.C.

REGIONAL GEOLOGY

NTS-82M & 82L

Date: Oct., 1990

Drawn by: P.H.

FIGURE 3

LITHOLOGIC UNITS

Table 2. Rock units Luce Claim area geologic map

ROCK UNIT NUMBER	INFERRED AGE	BRIEF LITHOLOGIC DESCRIPTION
1	Mesozoic(?)	Basalt, very dark greenish grey to black vesicular basalt flow.
2	Mesozoic(?)	Intrusive rock, buff mauve and red-brown hornblende quartz monzonite porphyry, with fine grained ground mass. Assumed to be younger and intrusive into the metasedimentary rocks.
3	Upper Limestone Devonian(?)	Thin to medium bedded, medium to dark grey fossiliferous limestone.
4	Upper Schist Cambrian(?)	Schist and phyllite; grey, brown and black quartz mica schist and phyllite, with quartz lenses and gash veins. Schist is thin foliated, with occasional crenulation cleavage.
5	White Limestone Cambrian(?)	White limestone; Thin to medium bedded, fine grained, white limestone/marble, with light to medium grey streaks and beds, thin laminated tan to brown weathering dolomitic streaks, and occasional brown weathering siliceous streaks. Lower part of unit is more commonly grey and dolomitic, but is not differentiated on map.
6	Footwall schist Cambrian(?)	Schist; dark grey to black quartz mica schist.

STRUCTURE

The number of similar rock units, and poor exposures make stratigraphic and structural interpretation difficult. This study suggests a pseudohomoclinal sedimentary sequence of assumed Paleozoic age, which contains two distinct limestone units, which are separated by mica schist, and the lower limestone unit is also underlain by schist. It is assumed that the stratigraphic sequence exposed is upright. Clearly, the rocks have been metamorphosed, and are strongly foliated, show strong evidence of flowage, and are probably folded. The upper schist

unit often displays a crenulation cleavage, suggesting asymmetric second generation folding superimposed on the previous deformation. Intrusive rocks and basalt lack foliation and or cleavage and are therefore interpreted to be younger and intrusive into the previously metamorphosed and deformed sedimentary sequence, and are inferred to be Mesozoic in age.

WHITE LIMESTONE/MARBLE DEPOSIT

The potential white limestone deposit was brought to the attention of the Vermont Marble Company during the 1970es by Roger Young, a Prospector in the area. Investigation of the potential deposit by Vermont Marble Company began in 1976. Some core drilling was accomplished, but no detailed geologic mapping has been undertaken until this study.

The poor condition switchback access road cuts across the south end of the white limestone layers that are exposed in several ridges which rise up to 150 meters above the road. The area had been logged and burned over, but second growth revegetation has been rapid, and the area is now covered with dense underbrush and immature second growth forest.

The white limestone deposit strikes approximately North 25 degrees east, and dips from 15 to 35 degrees to the northwest. The limestone sequence in which the deposit is contained is discontinuously exposed along the north east trending ridges and east facing slopes for over 1100 meters along strike. Total thickness of the limestone sequence is as much as 120 meters. The limestone sequence is exposed over a vertical interval of over 120 meters, and the outcrop width is nearly 400 meters.

White limestone of which the deposit is comprised is thin to medium bedded, fine grained, white limestone/marble, with light to medium grey streaks and beds which contain finely disseminated pyrite, thin laminated tan to brown weathering dolomitic streaks, and occasional brown weathering siliceous streaks. The lower part of unit is more commonly grey and dolomitic, but is not differentiated on map. The rock is recrystallized and highly foliated.

Drilling indicates that within the white limestone sequence are schist layers, or infolds, and which may be as much as 13 meters thick. Drilling also indicates that the limestone is cut by several thin intrusive dikes. Other dikes may also be present, and represented by narrow east west trending depressions along the ridges.

Mapping and drilling indicate that the lower portion of the limestone sequence is dominantly grey siliceous and or dolomitic. Thickness of the sequence in which the whitest limestone occurs is about 65 meters. This mapping and previous work also indicate that exposures to the northeast appear less metamorphosed and generally of a greyer color. More detailed mapping is necessary to better define the gradual increasing greying, silicification, and dolomitization of the rock to the northeast, and more clearly define the stratigraphic boundaries of the best quality rock within the limestone sequence. It appears however that the "best" quality limestone is up to 65 meters thick, and extends for a distance of about 200 meters north of the blast pit area adjacent to the access road.

DRILLING AND SAMPLING RESULTS

As noted two core holes were drilled in 1976. Subsequently, several additional samples and testing of previous drilled core has occurred.

Sampling and drilling indicate that the limestone is of variable quality. Drill core (and outcrop mapping) indicate that the white marble is interbedded with off color and grey marble and purity is variable as well. Tests concluded to date indicate -270 mesh G.F. brightness ranges from about 85 to as high as 94. No fine grind analysis has been done. Chemical analysis also show variability. Samples tested so far indicate that CaCO_3 ranges from 91->98%. Acid insols range from 0.2% to as much as 7.3%, but are generally less than 2% in most samples. MgCO_3 is also variable ranging from 0.6% to as much as 6.3%. High Mg values occur with both high and low brightness.

Beneficiation tests (Flotation) have not been done on the samples. It is expected that flotation would remove much of the acid insoluble material, but would not have much effect on the MgCO_3 content. It would also be expected that flotation and fine grind would produce improved brightness values. Based on review of both field and drilling data, the interbedded nature of the light and medium grey layers and streaks persists through the entire deposit, and that variations in brightness from 85 to 95 can be expected. Flotation would probably remove most of the insoluble materials, and fine grinding would probably improve brightness, however the MgCO_3 values are quite variable, and not necessarily related to color. Therefore much care and control would be necessary to prevent high Mg material from contaminating products in which it could not be tolerated.

POTENTIAL RESERVES AND TONNAGE ESTIMATES

Only 2 core holes have been drilled in the deposit, and detailed mapping is incomplete. For purposes of this report it is concluded that not enough information on the surface geology, subsurface geology, assay data, beneficiation techniques, access road status, transportation and marketing of the limestone is known at the present time to allow any reserves to be defined or stated.

The best quality limestone appears to be up to 65 meters thick and persist on strike for 200 meters or more, and is exposed over a vertical interval of 100 meters or more. Previous workers have suggested that the deposit could easily contain 7.5 million tons of rock (Ogden 1976). This is clearly true, however it is felt that more work needs to be done before rock in the deposit can be defined as reserves.

SUMMARY AND CONCLUSION

At the request of Industrial Fillers Ltd. geological mapping and sampling was undertaken on the Luce Mineral Claim from July 13-17, 1994. The purpose of the work was to more closely define the previously recognized white, high calcium limestone deposit which has previously been recognized on the claim. The Luce mineral claim is located on the south slope of Crowfoot Mountain Peak, approximately 6 kilometers north of Magna Bay on the North Arm of Shuswap Lake, and 35 kilometers north of Salmon Arm British Columbia.

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Future work should concentrate on detailed mapping and sampling to more clearly define the best limestone zone, as well as beneficiation tests of the rock, studies of the best access to the deposit, transportation and marketing of the potential limestone products which can be produced from this rock.

REFERENCES CITED

- Campbell, R.B., 1963; Adams Lake: Geological Survey of Canada, Map 48-163.
- Ogden, D., 1976; Crowfoot Mountain high calcium marble, Shuswap lake British Columbia, Canada: Private Report for Vermont Marble Co.
- Okulitch, A.V., 1989, Revised stratigraphy and structure in the Thompson-Shuswap-Okanagan map area, Southern British Columbia: in Current Research, Part E, Geological Survey of Canada, Paper 89-1E, p. 51-60.
- Preto, V.A., 1979, Barriere Lakes-Adams Plateau Area: B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork 1978, Paper 1979-1, p. 31-37.
- Vanguard Consulting Ltd, 1990, 1990 preliminary mapping and sampling report on the Luce Mineral Claim: Private Report for Industrial Fillers Limited.

**APPENDIX 1
CORE LOGS**

CROWFOOT MOUNTAIN

CORE READINGS

CORE #76 - 1

Location and Direction: 45° below horiz. Directed approx true East or N65° E. Mag.

- 0 - 3' = Space casing
- 3' - 12' = White but badly broken up - Core in small pieces & buttoned
- 12' - 32' = White with some blue-gray markings & brown lines
 *Sample #1 @ 25'
 Color - 92.8, tint - 1.8, Insol. - .378
 CaCO_3 - 98.6 MgO_3 - .243
- 32' - 45' = White with a lot of brown lines - staining. Some blue-gray marking at end
 *Sample #2 @ 37'
 Color - 90.2, Tint - 6.3, Insol. - .528
 CaCO_3 - 93.6 MgO_3 - 6.366
- 45' - 55' = Heavy bands of blue-gray markings - pyrite finely disseminated
 *Sample taken for bedding angle and pyrite inspection
- 55' - 59' = White with some brown lines and some blue-gray markings
- 59' - 88' = White with a lot of brown lines. Some blue-gray markings
 *Sample @ 82' (same as at 37')
- 88' - 104' = Intrusive dike mostly - one section of brecciated dike in white marble. Core appears to be running with dike. No clear contact, indicating faulting. Could be flowage of marble after dike emplacement.
- 104' - 206' = White with some brown lines and blue-gray color & markings
 White appears more fine grained, brittle and fractured.
 6" of dike material at 116' - again irregular, angular contact indicating faulting & stopping of chunks of marble in dike material.
 *Sample #3 @ 151' - blue-gray color
 Color - 92.5, Tint - .4, Insol. - .265
 CaCO_3 - 97.52 MgO_3 - .972
- 206' - 226' = Poor section - mostly dark blue-gray color & markings. Dolomitic?
- 226' - 241' = White with quite a bit of blue-gray color and markings
 *Sample #4 @ 238'
 Color - 90.8, Tint - 2.0, Insol. - .214
 CaCO_3 - 98.16 MgCO_3 - .631
- 241' - 273' = Heavy blue-gray markings, Some white with blue-gray markings but over all a poor section
- 273' - 286' = White with a lot of brown lines and some blue-gray markings.
 *This section of questionable value.
- 286' - 315' = Poor section. Heavy blue-gray color & markings. Dolomitic?
- 315' - 322' = Poor section. Blue-gray Dolomitic?
 Some shaley to phylitic beds. The last 1' is a shaley, fractured (mylonite?), brecciated section with some mineralization
 End of core because of poor color

The poor blue-gray section at the end of the core from 286' - 322' similar to the north outcrops seen on the East face of the high outcropping East ridge. Would appear to be same as original grab sample #3 (8-5-76)

Color - 63.1, Tint - .0, Insol. - 2.29
CaCo₃ - 60.8 Mg Co₃ - 28.8

0' - 121' - 3' ...
71' - 6' ...

Ex core - Read by D. C. Ogden 11-3-76

Core drilling arranged and supervised by Howard Mobley, Tappan, B. C.
During end of September - early October 1976

- 77' - 35' - Harry blue-gray ...
- 85' - 92' - White ...
- 92' - 102' - Harry blue ...
- 102' - 130' - White ...
- 130' - 150' - Harry ...
- 150' - 156' - Light ...
- 160' - 237' - ...

Core ...

Read by D. C. Ogden ...

Core drilling ... supervised by Howard Mobley, Tappan, B. C.

During end of September - early October, 1976.

CROWFOOT MOUNTAIN

CORE READINGS

CORE #76 - 2

Location and Direction: 45° below horiz. Directed approx true East or $N65^{\circ}$ E. Mag.

- 0' - 42' = Casing. Pieces of rounded white and plutonic (dike) stone.
42' - 66' = Dark green chlorite schist (phylite). Banded with white.
Attitude of layers: appears to be 40° dip
6" of dike at 66' with dip of schist
66' - 77' = White with some blue-gray and lot of brown. Poor.
77' - 85' = Heavy blue-gray color and banding. Poor.
85' - 92' = White with a lot of blue-gray color. Poor.
92' - 102' = Heavy blue-gray color and banding. Poor
102' - 120' = White with a lot of brown color and blue-gray at end. Poor.
120' - 158' = Dark green banded chlorite schist (phylite).
158' - 166' = Light blue-gray color but generally poor.
166' - 233' = White with some blue-gray marking. Very little brown

*Sample #5 @ 193' = (bedding across core)

Some blue-gray markings

Color - 88.2, Tint - .4,, Insol. - .631

CaCo₃ - 97.68 Mg O₃ - 1.409

Core stopped at good stone

Ex core read by D. G. Ogden 11/3/76

Core drilling arranged and supervised by Howard Mobley,
Tappen, B. C.

During end of September - early October, 1976.

**APPENDIX 2
SAMPLE RESULTS**

From OMYA LABORATORYLocation CROWFOOT, B.C. CORE 78-4Date 6-19-78

#78-4

Sample	Color	Tint	Insols	CaCO ₃ 600 %	MgCO ₃ MgO %	Remarks
CORE #78-4 21'	79.4	0.3	0.98	97.16	98.82 TOTAL 2.18 <1.00	COLOR: (N6) MED. LT. GRAY W/ FEW IRON STAIN BLEBS. V. FINE CRYSTALLINE TEXTURE. FRACTURE UNEVEN. HARDNESS 4.
CORE #78-4 33'	85.1	6.0	0.61	93.31	97.22 TOTAL 5.30	COLOR: (N8) V. LT. GRAY W/ MUCH (10YR 8/6) PINK YELLOWISH ORANGE (IRON) STAIN, ESPECIALLY ALONG FRACTURES. FINE X-LINE TEXTURE. FRACTURE UNEVEN. HARDNESS 3 1/2 TO 4.
CORE #78-4 37'	-	SAMPLE NOT CONSERVED	GROUND FOR AS HAND S	TESTING; AMPLE -		COLOR: (N9) WHITE W/ FEW IRON STAINS FROM DEGRADED PYRITE. FINE X-LINE TEXTURE. FRACTURE UNEVEN. HARDNESS 3 1/2 TO 4.
CORE #78-4 81'	91.9	1.8	7.35	92.26	99.61 TOTAL <1.00	COLOR: (N8) V. LT. GRAY (ALMOST WHITE) W/ SOME FRINT (5Y 8/4) GRAYISH YELLOW STAINS. FINE CRYSTALLINE TEXTURE. FRACTURE UNEVEN. HARDNESS 3 1/2 TO 4.
CORE 78-4 94'	90.3	4.8	0.94	96.68	98.54 TOTAL 0.92	COLOR: (N9) WHITE W/ FEW STREAKS (10YR 7/4) GRAYISH ORANGE (IRON STAINING). V. FINE TO MEDIUM X-LINE TEXTURE. FRACTURE UNEVEN. HARDNESS 3 1/2 TO 4.

Form WP 15

FROM: T. B. STAFFORD & D. G. OGDEN

LOCATION: CROWFOOT MT. B.C.

DATE: NOVEMBER 3, 1976

Sample	Weight	Size	Color	Tint	Insols	%CaCO ₃	%MgCO ₃	Remarks
I	CORE # 76-1 25 FEET		92.8	1.8	0.378	98.8	.243	White with some Blue-Gray and Brown lines
II	CORE # 76-1 37 FEET		90.2	6.3	0.528	93.60	6.3666	White with a lot of brown lines staining
III	CORE # 76-1 151 FEET		92.5	.4	0.265	97.52	.972	Blue-Gray color some brown lines
IV	CORE # 76-1 238 FEET		90.8	2.0	0.214	98.16	.6318	White with quite a bit of blue-gray color
V	CORE # 76-2 193 FEET		88.2	.4	0.631	97.68	1.4094	White with some blue-gray color and markings

Form WP 15

FROM: T. B. STAFFORD

LOCATION: CROWFOOT MOUNTAIN (SOUTH)

DATE: AUGUST 23-1976

Sample	Weight	Size	Color	Tint	Insols	%CaCO ₃	%MgCO ₃	Remarks
Grab	15 lbs.		91.5	1.1	.231	99.155	.632	

(HOLE # 1)

Sample	Color	Tint	Insols	CaO %	MgO %	Remarks
CROWFOOT HOLE #1 124'	91.6	2.0	0.34	97.29	2.37	FINE GRAINED TEXTURE. MANY CRYSTAL FACES EVIDENT (<1mm). COLOR: (NB) V. LT. GRAY W/SOME STREAKS OF (NT) LT. GRAY. YELLOW (IRON?) STAINS ALONG FRACTURES IN CORE. FRACTURE UNEVEN.
CROWFOOT HOLE #1 160'	94.5	1.6	0.14	99.32	0.54	MEDIUM GRAIN TEXTURE. MANY XAL FACES EVIDENT (~1mm). COLOR: (NB) V. LT. GRAY. SOME (RARE) V. FINE BLACKS (PYRITE?) SPECKS AND OCCASIONAL YELLOW (IRON?) STAINS. FRACTURE UNEVEN.
CROWFOOT HOLE #1 173'	94.2	1.1	0.12	97.44	2.44	FINE TO MED. GRAIN TEXTURE. MANY XAL FACES EVIDENT (UP TO 1mm). COLOR: (NB TO NB) WHITE TO V. LT. GRAY. FRACTURE UNEVEN.
CROWFOOT HOLE #1 183'	93.3	2.2	0.10	98.42	1.48	FINE TO MED. GRAIN TEXTURE. MANY XAL FACES EVIDENT (UP TO 1mm). COLOR: (NB) V. LT. GRAY. YELLOW (IRON?) STAINING ALONG FRACTURES IN THE CORE. FRACTURE UNEVEN.
CROWFOOT HOLE #1 198'	86.8	4.6	0.50	95.72	3.78	FINE GRAINED TEXTURE. FEW XAL FACES EVIDENT (<1mm). COLOR: (NT) LT. GRAY W/SOME (NB) MED. LT. GRAY STREAKS.
CROWFOOT HOLE #1 207'	86.2	1.2	0.50	97.68	1.82	FINE GRAINED TEXTURE. MANY XAL FACES EVIDENT (<1mm). COLOR: (NB TO NT) V. LT. TO LT. GRAY W/MANY STREAKS OF (NB) MED. LT. GRAY. SOME PYRITE XALS ASSOCIATED (<1mm) IRON STAINED ON FRACTURE.

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Sample	Color	Tint	Insols	CaO %	MgO %	Remarks
CROWFOOT HOLE #2 176'	90.1	0.8	0.10	98.17	1.83	FINE GRAINED TEXTURE. MANY XAL FACES EVIDENT (<1mm). COLOR: (N9 TO N8) WHITE TO V.LT. GRAY. SOME YELLOW (IRON?) STAINS.
CROWFOOT HOLE #2 189'	92.7	0.9	0.68	97.09	2.23	FINE GRAINED TEXTURE. SOME XAL FACES EVIDENT (<1mm). COLOR: (N9 TO N8) WHITE TO V.LT. GRAY. FAINT YELLOW CAST TO ROCK W/ SOME (SYB/i) YELLOWISH GRAY MATL AND V. FINE PYRITE XALS.
CROWFOOT HOLE #2 212'	85.3	-0-	2.10	91.81	6.09	FINE GRAINED TEXTURE. MANY XAL FACES EVIDENT (<1mm). COLOR: (N8 TO N6) LT. TO MED. LT GRAY. SOME DESSEMINATED (SYB/i) YELLOWISH GRAY MATERIAL.
CROWFOOT HOLE #2 220'	91.4	0.2	1.10	92.87	6.03	VERY FINE GRAINED TEXTURE. FEW VERY SMALL XAL FACES EVIDENT (<1mm). COLOR: (N8 TO N7) V.LT. TO LT. GRAY. MANY V. THIN LAYERS OF (SYB/i) YELLOWISH GRAY MATERIAL.
CROWFOOT HOLE #2 225'	87.9	-0.3	0.62	97.85	1.53	VERY FINE GRAINED TEXTURE. COLOR: (N7 TO N6) ^{MED LT.} TO LT. GRAY. MUCH V. FINE (SYB/i) YELLOWISH GRAY MATERIAL. OCCASIONAL V. FINE PYRITE XALS.

*Samples ground to Dural 5
fineness for testing.*

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From OMYA LABORATORYLocation CROWFOOT, B.C. CORESDate 6-19-78

#78-1 and #78-2

Sample	Color	Tint	Insols	CaCO ₃ CaO %	CaCO ₃ H ₂ O %	Remarks
CORE #78-1 33'	88.4	6.3	0.81	98.21	99.02 TOTAL < 1.00	COLOR: (NB) V. LT. GRAY W/SOME LT YELLOWISH STAINING ALONG FRACTURES. MUCH DISSEMINATED DEGRADED PYRITE. FINE X ALINE TEXTURE. HARDNESS 3 1/2 TO 4.
CORE #78-1 58'	90.9	2.8	0.03	98.85	98.88 TOTAL < 1.00	COLOR: (NB) V. LT. GRAY W/LITTLE IRON STAINING AND DEGRADED PYRITE. MEDIUM TO FINE CRYSTALLINE TEXTURE. FRACTURE UNEVEN. HARDNESS 3 1/2 TO 4.
CORE #78-1 63'	82.3	2.9	0.06	98.93	98.99 TOTAL < 1.00	COLOR: (N7 TO N8) LT. TO V. LT. GRAY W/MUCH IRON STAINING AND DEGRADED PYRITE. V. FINE CRYSTALLINE TEXTURE. FRACTURE UNEVEN. HARDNESS 4+.
CORE #78-2 54'	90.6	7.0	1.59	97.89	99.48 TOTAL < 1.00	COLOR: (NB) V. LT. GRAY W/MUCH (10YR 6/6) DARK YELLOWISH ORANGE PATCHES AND STREAKS. FINE CRYSTALLINE TEXTURE. FRACTURE UNEVEN. HARDNESS 3 1/2 TO 4.
CORE #78-2 64'	85.9	13.0	3.02	94.03	99.53 TOTAL 2.48	COLOR: (NB) V. LT. GRAY W/MUCH (10YR 6/6) DARK YELLOWISH ORANGE BANDING AND STREAKS. V. FINE TO ADPHANTIC CRYSTALLINE TEXTURE. FRACTURE UNEVEN. HARDNESS 3 1/2 TO 4.

APPENDIX 3
AUTHORS PROFESSIONAL EXPERIENCE

**HOWARD J. BROWN PLUESS-STAUFER (CALIFORNIA) INC.
SUMMARY OF PROFESSIONAL EXPERIENCE**

June 25, 1994

Graduate of California State University, Northridge, receiving a Bachelor of Science Degree in Geology.

More than 17 years professional experience in positions of responsibility as an Exploration and Mining Geologist/Mining Engineer in the mining industry in Western North America. Experience includes Uranium, Gold, and a large variety of Industrial Minerals.

Currently employed by Pluess-Staufer (California) Inc. since 1979. Previously employed by Noranda Exploration, and Freeport Gold Co. (FMC).

I have participated in well over 100 mineral evaluation and exploration projects in western North America, ranging from local to regional in extent from British Columbia to Southern Mexico. Projects have included all phases of conceptual model development thru discovery and orebody delineation, of both metallic and a large number of industrial mineral deposits.

Mine permitting experiences include preparation and approval of applications and permitting for several large scale currently active industrial mineral mines, and preparation and approval of comprehensive phased reclamation plans for large scale multi-mine operations.

Mine design and engineering experience includes all development aspects of seven (7) operational mines including; compliance with regulations, geo-technical analysis, geology and reserve definition, conceptual and detailed short and long term engineering design, equipment selection, economics, and reclamation planning.

Mine management and production experience includes long and short term production and development planning, scheduling, mine mapping, equipment selection, cost analysis, and budget preparation.

Author of more than 20 published papers and abstracts on a variety of geological and economic geology topics for various professional societies.

APPENDIX "A"
COST BREAKDOWN
LUCE PROPERTY

COSTS ARE NOTED ON THE INVOICES ON THE FOLLOWING PAGES.

PLEASE NOTE:

Costs shown on the invoices from Pluess Staufer Industries Inc. to Industrial Fillers Ltd are in U.S. Dollars. Amounts shown were translated into Canadian dollars at a rate of 1.38 for the purposes of assessment filing.

The analyses of old drill core was included for information purposes only. No costs associated with the drilling were included in the following invoices.

PLUESS-STAUFER (CALIFORNIA) INC.

P.O. Box 825
 Lucerne Valley, CA 92356
 Tel: (619) 248-7306
 Toll Free (800) 222-0120
 Fax: (619) 248-9115

A PLUESS-STAUFER COMPANY

SOLD TO

Industrial Fillers
 2020 University Street
 Suite 1255
 Montreal, Quebec H3A 2A5

SHIPPED TO

CUSTOMER NO.

OUR REF.

INVOICE NO. 358

DATE

June 22, 1994

YOUR ORDER NO.

SHIPPED VIA

ON

B/L NO.

PRODUCT NO.	QUANTITY SHIPPED	UNIT OF MEAS.	TYPE OF SHIPMENT	PALLETS		PRODUCT DESCRIPTION	UNIT PRICE	TOTAL
					QTY.			
						Luce Claims		\$ 2,505.00

SUB-TOTAL	PALLETS	FREIGHT	TAX

US \$ 2,505.00

Purchases are subject to the terms and conditions on the reverse side hereof.

Terms: Net 30 days. 1% interest (18% p.y.) plus collection costs will be charged on all overdue amounts. PLUESS-STAUFER (California) INC. certifies that all goods have been produced in compliance with the requirements of the "Fair Labor Standards Act of 1938" as amended.

TOTAL P.03

PLUESS-STAUFER INDUSTRIES, INC.

61 Main Street
 Proctor, Vermont 05765
 Tel: (802) 459-3311
 Telex: 95 46 58 VMCO PRTR
 Fax: (802) 459-3617

INVOICE # 942021

Industrial Fillers, Ltd.
 2020 University Street
 Suite 1255
 Montreal, Quebec H3A 2A5

Attention: Mike Pawlowsky

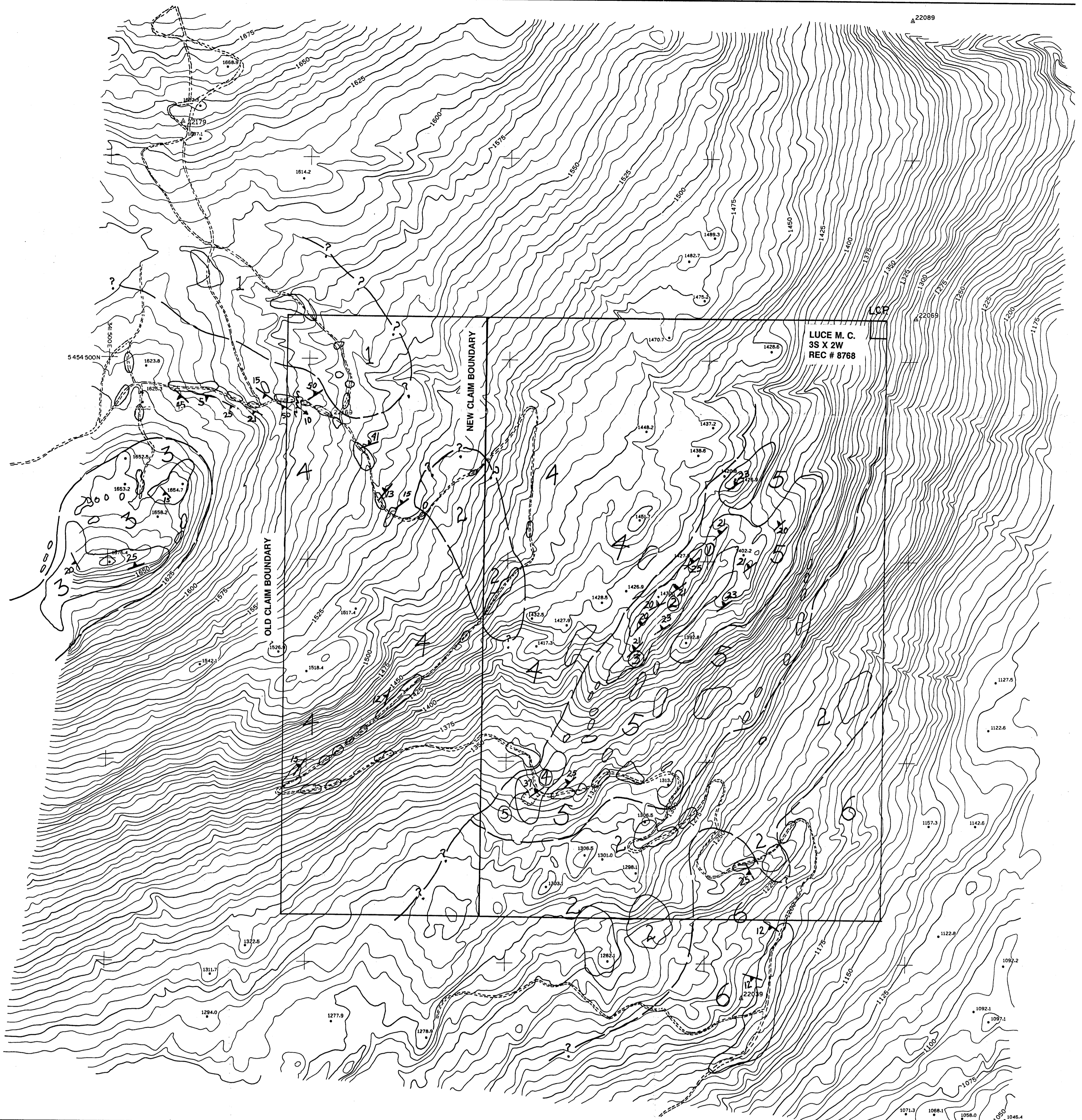
Date: 21-Jul-94

Description	Amount US \$
Invoice for Assessment Work Expenses incurred by Hans Achermann for "LUCE" Claim Crowfoot Mountain British Columbia from July 13, 1994 through July 16, 1994. Accommodations, Car rental, Gasoline and Meals	\$771.73
TOTAL AMOUNT DUE - U. S. Dollars	\$771.73

Please send Payment to:

Pluess Staufier Industries
 61 Main Street
 Proctor, Vermont 05765

Attention: C. J. Smith

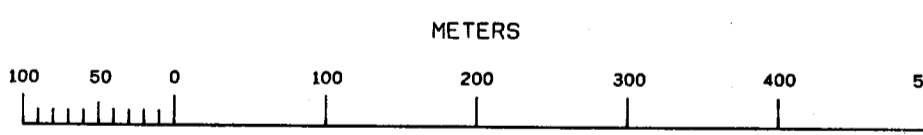


INDUSTRIAL FILLERS LTD.

LUCE PROPERTY
NORTH SHUSWAP B.C.

Scale: 1:5000	Date: JUNE 1992
N.T.S.: 82M/3W	Drawn by: Hugh Hamilton Ltd.

CONTOUR INTERVAL 5 METERS
PHOTO FLOWN JULY, 1984



GEOLOGIC MAP OF THE LUCE MINERAL CLAIM AREA CROWFOOT MOUNTAIN AREA

GEOLOGIC MAPPING AND DRAFTING BY H. J. BROWN, PSC, 7-94

LEGEND

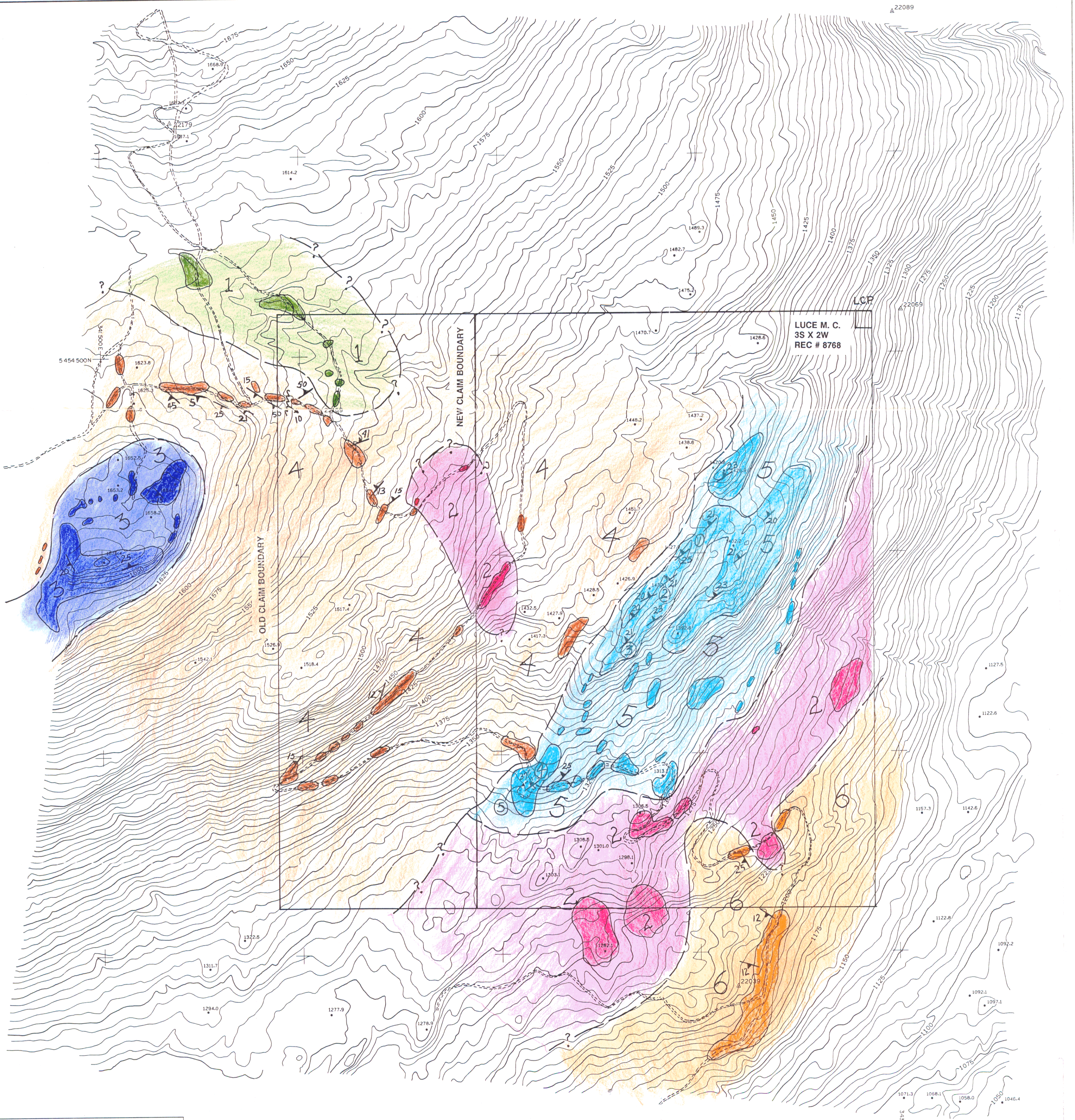
ROCK UNIT NUMBER	DESCRIPTION
1	BASALT Very dark greenish grey to black vesicular basalt.
2	INTRUSIVE ROCK Buff to Mauve hornblende quartz monzonite porphyry, with fine grained ground mass.
3	LIMESTONE Thin to medium bedded medium to dark grey fossiliferous limestone.
4	SCHIST Grey, brown and black quartz mica schist with quartz lenses and gash veins.
5	WHITE LIMESTONE (MARBLE) Thin to medium bedded, fine grained white limestone/marble, with light to medium grey streaks and beds, tan to brown dolomitic streaks, and occasional siliceous streaks. Lower part of unit more commonly grey and dolomitic, but not differentiated on map.
6	SCHIST Dark grey to black quartz mica schist.

SYMBOLS

	ROCK OUTCROP
	APPROXIMATE CONTACT
	STRIKE AND DIP OF FOLIATION
	PLUNGE OF SMALL SCALE FOLDS
	LOGGING ROADS AND SKID TRAILS (May be overgrown)
	SAMPLE LOCATION
	BLAST PIT

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,488

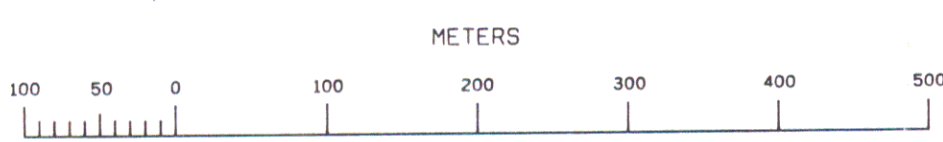


INDUSTRIAL FILLERS LTD.

LUCE PROPERTY
NORTH SHUSWAP B.C.

Scale: 1:5000 Date: JUNE 1992
N.T.S.: 82M/3W Drawn by: Hugh Hamilton Ltd.

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ASSESSMENT REPORT

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