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RECONNAISSANCE PROGRAM REPORT
ON
THE MIKE
THE DAWLEY
AND
THE REDFORD PROPERTIES

SUB-RECORDER
RECEIVED
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VANCOUVER, B.C.

NTS 92F/3W
ALBERNI MINING DIVISION
BRITISH COLUMBIA

BY
D. COFFIN
NOVEMBER, 1992

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,608

Vanguard Consulting Ltd.

Tel.: (604) 681-3234

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1.1 INTRODUCTION

During August of 1991 a reconnaissance program was conducted to locate areas of high purity Quatsino limestone in Kennedy Lake area of west-central Vancouver Island; portions of the Quatsino Formation are mined at other Vancouver Island locations, most notably Texada Island and Benson Lake, for sale to the cement, building and filler/extender markets. As a result of this reconnaissance three discrete blocks of mineral claims were staked to cover areas of white and high calcite limestone to the east of Kennedy Lake, on the western coast of central Vancouver Island.

Preliminary programs were conducted in August and in November 1991 to geologically map accessible portions of the limestone tonnage potential of the limestone blocks and to recognize geological impediments to use of the blocks as source for various high calcite requirements. This report describes the results of these programs.

1.2 MINERAL TENURE

The three discrete blocks of claims are all located within mineral title map **92F/3W** and are recorded in the **Alberni** Mining Division of the Province of British Columbia. All the claims are registered in the name of **David Coffin.** The program described in this report was funded by Canadian West Resources of Vancouver as part of an option to purchase the claims, but the requirements of the option agreement were not fulfilled, the option has lapsed and notification of lapse completed. Not withstanding registration, the claims are owned 50% by David Coffin and 50% by Eric Coffin. Details are as follows:

Name(s)	**Record #(s)**	**Record Date**	**Units**
Dawley	303134	15/Aug/91	12
Redford 1-2	303141-42	12/Aug/91	1 x2
Redford 3-6	303143-46	13/Aug/91	1 x4
Mike 1-4	303147-50	12/Aug/91	1 x4

The Redford 1-6 and the Mike 1-4 are groups of contiguous 2 post claims and the Dawley is a single 4 post mineral claim. The Redford 1-6 are grouped as the **Redford Group** (No 3023506) and the Mike 1-4 are grouped as the **Mike Group** (No 3023515).

1.3 LOCATION and ACCESS

The claims are located in the area east of Kennedy Lake and west of Toquart Bay, around but not including the site of the former Brynor magnetite mine pit and waste piles. Kennedy Lake is a large fresh water pool collecting drainage year round from the Kennedy River system and emptying via a short channel into the Pacific Ocean north of Tofino, while Toquart Bay is a sheltered ocean bay opening into the north side of Barkley Sound. The paved Port Alberni-Tofino highway (B.C. Highway 4) and BC Hydro high voltage electrical lines both pass through the Dawley claim and within 3 km of the other two groups. Port Alberni is a regional government and forest products centre, 70 road km from the claims, which can accommodate most exploration and light production needs while Tofino and Ucluelet are capable of providing road side needs for exploration programs.

From Ucluelet, which has the closest accommodations, the **Dawley** claim is reached by following Highway 4 east for 18 km until reaching the Toquart Bay Road. The claim lies immediately south of the Toquart Bay Road and is accessed through its east side by an overgrown and washed out logging road which leaves the Highway 4 about 300 metres south of the Toquart Bay Road. The Toquart Bay Road is a 14 km long access route built as part of the Brynor Mine development which provides access between Highway 4 and to former dock sites on the Bay which are currently used by MacMillan Bloedel as log loading facilities and for launching pleasure boats.

The **Mike** claims are reached by following the Toquart Bay Road for 1 km from the highway then turning north onto a logging road which begins to traverse through the southwestern and central portions of the claims 1 km from the junction.

The **Redford** claims are reached by following the Toquart Bay Road from Highway 4 for 4.5 km, crossing the bridge over Draw Creek

and then turning north onto the Redford Creek logging road and continuing for 1.5 km at which point roads traverse the southern and central portions of the claims.

1.4 TOPOGRAPHY and PHYSIOGRAPHY

West central Vancouver Island is an area of high relief and steeply incised stream channels. The Dawley claim is typical in that slopes on the property average about 45°, and are particularly steep where limestone is exposed. The Mike and Redford claims are atypical of the area in that both underlie portions of a shallow trough running between Kennedy Lake and Toquart Bay, and as a result slopes rarely exceed 30° for other than short distances. Elevations vary from 00 to 1400 metres above sea level.

Most of the flatter areas were logged some time ago and are now covered with maturing stands of hemlock, fir and coastal red cedar while much of the upland areas on the Mike and Redford claim groups were clear-cut more recently and are still in the very early stages of regeneration. The latter areas provide excellent outcrop exposure. Some portions of the Redford and Dawley claims which are still in the relatively early stages of re-growth (~20 years old) contain areas of extremely thick bush which are difficult to move about in.

2.1 REGIONAL GEOLOGY

The oldest formations in the area are Pennsylvanian Nitinat and Buttle Lake members of the Sicker Group which have been mapped by Muller on the west side of Kennedy Lake. In contact with these batholithic intrusions are the massive basaltic flows of the Triassic Karmutsen Formation. These flows are conformably overlain by Triassic Quatsino formation limestone and Parson's Bay siltstone, which are in turn may be overlain by Upper Jurassic units of the Vancouver Group in some areas south of Kennedy lake. The eastern and southern portions of the area are dominated by rocks of the Jurassic Westcoast Crystalline Complex. Numerous smaller dykes and stocks of probable Tertiary age intrude all the above formations.

2.2 REGIONAL and PROPERTIES HISTORY

The region underwent exploration for, and minor production of, gold from placer deposits and small high grade quartz veins during the early part of the twentieth century; government reporting indicates some placer gold was found in creeks draining the property area, but no evidence of this activity was seen. The nearest well documented hard rock gold occurrences are narrow, quartz and minor sulphides veins cutting Karmutsen volcanics at the Tommy-Golden Gate property located 10 km north of the Redford claims; drilling and some underground work outlined tonnage on this property during the mid-1980's. Similar high grade veins have been explored and seen some production at various locations on Vancouver Island and their emplacement has generally been related to Jurassic and/or Tertiary intrusive events.

The Brynnor magnetite Mine, located 1 km south of the Redford claims, had about five million tonnes of ore extracted through an open pit operation by a subsidiary of Noranda Mines Ltd during 1962-68; final mill treatment and shipping facilities were located on Toquart Bay about 12 road-km from the mine site. The skarn mineralization formed along a Quatsino limestone-siltstone contact sitting in a southwesterly plunging anticline. West of the mine small areas of copper-gold skarn and replacement veins are found in Quatsino limestone near its contact with intrusive which has previously been classified as both Jurassic Island and Tertiary,

more recently as the latter.

In 1981 BP Minerals Ltd staked and did preliminary exploration of the Mowgli claims, including the Mowgli 4-5 which covered the area of Redford and part of the Mike groups. The claims were staked based on gold in stream silt anomalies, and preliminary geology and geochemistry were done to search for bulk tonnage, Tertiary-shear controlled deposits; the work on the Mowgli 4-5 claims indicated low level and only local anomalies for gold and its tracer elements, and indicated that silver, copper, nickel, arsenic and mercury were enhanced only along the Karmutsen-Quatsino contact contained by the Mike claims.

Several programs have been done around a small skarn exposure on the Karmutsen-Quatsino contact in centre of the Mike group. Variable levels of gold have been returned from pods of massive pyrrhotite-pyrite within a 4 metre by 0.75 metre road side exposure of pyroxene-garnet-magnetite skarn. Treatment of a sample by Grove (1986) using a "metallics" preparation indicates that gold may be in coarse grains and that values had therefore been previously understated using standard sample preparation. However, the exposed skarn is not of itself large enough to be of economic interest.

3.1 1991 FIELD WORK

In 1991 existing roads, in various states of repair, where traversed and mapped in some detail, and short off-road traverses were made to tie limestone areas together. Samples of limestone were collected and treated to whole rock analysis, with emphasis given to sections of white coloured exposures which might be useable in the fillers market. The property work was done in conjunction with regional traverses, the main focus being to relate colour changes and alteration patterns within the limestone to stratigraphy and intrusive activity. Diorite is used to indicate intrusive rock as no attempt was made to differentiate the unit, though some outcrops were granodiorite.

3.2 MIKE CLAIMS

Limestone in the Mike claims is located in a roughly north-south trending section between a depositional contact on the west with Karmutsen volcanics and an intrusive contact on the east with diorite to granodiorite of probable Tertiary age. Narrow sill like bodies of intermediate composition near the Karmutsen contact, which were also seen in the Dawley claim, appear to be either late flows or intrusive sills relating to the volcanism. More felsic dykes which clearly cross-cut bedding near the intrusive contact are felt to relate to the intrusive activity and are, from a mining perspective, random waste which would adversely affect operating costs.

In addition to the dykes small sections of garnet+/-pyroxene+/-epidote replacement and of pyrite development are found near the intrusive contact. While this intrusive related contamination represents a physical constraint on mining, samples of limestone taken near dykes indicates that little or no chemical alteration of the limestone occurred away from the inclusions. A sample (CMR 005) of quartz filling bedding planes leading away from the road exposed skarn, and analyzed for both whole rock and ICP trace elements, indicates nearly pure silica and a low background content of heavy metals.

The limestone on the Mike claims is generally light grey, fine to medium grained and partially recrystallized. In places, 0.1 to 1 mm thick dark bands are seen in finer grained portions of the unit, usually close to intrusive contacts. The bands cross bedding and may represent weak thermal alteration resulting from the intrusion. From preliminary sampling (and sampling in other parts of the Quatsino) the banding does not appear to affect the chemistry of the limestone; its affect on brightness has not yet been tested. Low grade calc-silicate alteration, including dolomitization and quartz eyes development in one outcrop, were seen along the main road in Mike 4 claim, in a 100 metre wide band adjacent to the diorite contact; similar alteration bands were seen at several locations during regional traverses in locations near the lower contact with the Karmutsen Formation and on or very near intrusive contacts.

Bedding planes, more recognizable in the Mike claims limestone than in other parts of the survey, generally trend north-

northwesterly to northwesterly and dip moderately to the east; in several outcrops near the lower contact small open folds could be seen. Banding and dyke trends are more variable than bedding planes, but tend locally to be sub-parallel to each other.

3.3 DAWLEY CLAIM

The Dawley claim contains the southerly extension of the section seen in the Mike claims. Outcrops were examined in the northwest part of the claim along Highway 4, and along the lower portions of Dawley Creek and a logging road which parallels the Creek to the south. The limestone appears to sit in broad colour bands which vary from white to light grey and is typically finer grained than in Mike. Lighter bands predominate near the lower contact and appear to be 20-30 metres thick in places. Sampling does not indicate a chemical difference related to colour. The limestone section is much thicker here than in Mike but is similarly bounded on the east, and off-claim to the south, by dioritic intrusion. Replacement zones are less frequent but one dolomitic area (sample WRC 106) seen near the Karmutsen contact may be a replacement zone. A small brucite occurrence related to steeply northeast dipping shears was seen near the western claim boundary.

The limestone is generally massive and no measurable bedding planes were seen. The inferred lower contact, with the Karmutsen volcanics, has a northeasterly trend. The fine dark bands felt to relate to intrusive activity at Mike were not seen in the Dawley claim.

3.4 REDFORD CLAIMS

The Redford claims contain a portion of the Quatsino limestone bounded by upper contact Parson's Bay(?) sedimentary rock to the east and dioritic intrusive to the north, west and southeast. Near the centre of the claims and along the upper limestone-siltstone contact is an area of silica replacement with 5-10% pyrite and variable amounts of chlorite and garnet. The Parson's Bay(?) unit seen to the east of the contact is a strongly banded siliceous unit with 5-20% disseminated pyrite which was mapped in the field as

quartzite, with intervening sections of mudstone. The "quartzite" appears to be a silica replacement of the Parson's Bay mudstone.

Topographically higher outcrops of limestone in the northern end of the claims tend to be finer grained and somewhat darker in colour than lower exposures. White or translucent coarse, recrystallized limestone with grains to 5 mm, was seen along Redford Creek and near the southern claim boundary, both locations being near the diorite contact. Other than the alteration noted along the Quatsino-Parson's Bay contact little skarn replacement was noted. Several small dykes were seen near Redford creek but not elsewhere.

Bedding in Parson's Bay mudstone in the centre of claims was striking northwesterly and dipping very steeply easterly to sub-vertical. Mudstone outcropping southwest of the claims dips westerly. No measurable bedding planes were seen in the limestone. Banding was seen in several places, typically adjacent to areas of coarse crystalline limestone.

4.1 CONCLUSIONS and RECOMMENDATIONS

Quatsino limestone in the properties is generally high calcite, averaging about 95% calcite. Iron content is quite low, rarely exceeding 0.3% Fe_2O_3 and typically being 0.15% Fe_2O_3. Silica content varies from about 0.5 to 1.5% except where the limestone is obviously altered. Magnesium content in general varies from 0.5% to 2% MgO in apparently unaltered limestone; magnesium (dolomite) content will be the main chemical constraint on high calcite uses for the stone.

Both colour and texture appear to be affected by proximity to stratigraphic and intrusive contacts. Some bleaching and most coarse recrystallization appears to result from the thermal affects of the diorite emplacement; banding in the limestone also appears related to the intrusion. More light coloured stone is seen near the lower contact with the Karmutsen volcanics than in the centre of the limestone section. The stone below the contact with the Parson's Bay siltstone seen on the Redford claims is also white, but this may result from proximity to diorite.

The Mike claims contain several small blocks of light grey limestone which are too dark for filler uses but which might be easily mined for construction. Skarn alteration is also a problem on the Mike claims. Since the limestone areas in Mike 1-2 are recently clear-cut they should be mapped in detail while still exposed, but the shallow diorite contact underlying the limestone in that area limits tonnage potential and these claims should be given lower priority than the other two blocks.

The Dawley claim contains several sections of white stone near the base of the Quatsino, and a large amount of darker stone in the upper section. The extent and location of the white sections should be mapped in detail, with particular regard to locating "dip-slope" sections away from Highway 4 sight lines. Much of the limestone in this claim overhangs the Highway, and this is the chief practical impediment to its development.

The Redford claims contain the best combination of accessible white stone and lack of skarn or dyke impurities, away from other activities. Much of the white stone is in recently logged areas. Detailed mapping of this stone, with particular regard to the cause of the bleaching, and sampling for brightness testing should be a priority. The darker stone in the north end of the claims is well placed for construction or possibly cement uses, but regeneration in this area is about 25 years old and this will need to be considered as part of costing.

4.2 REFERENCES

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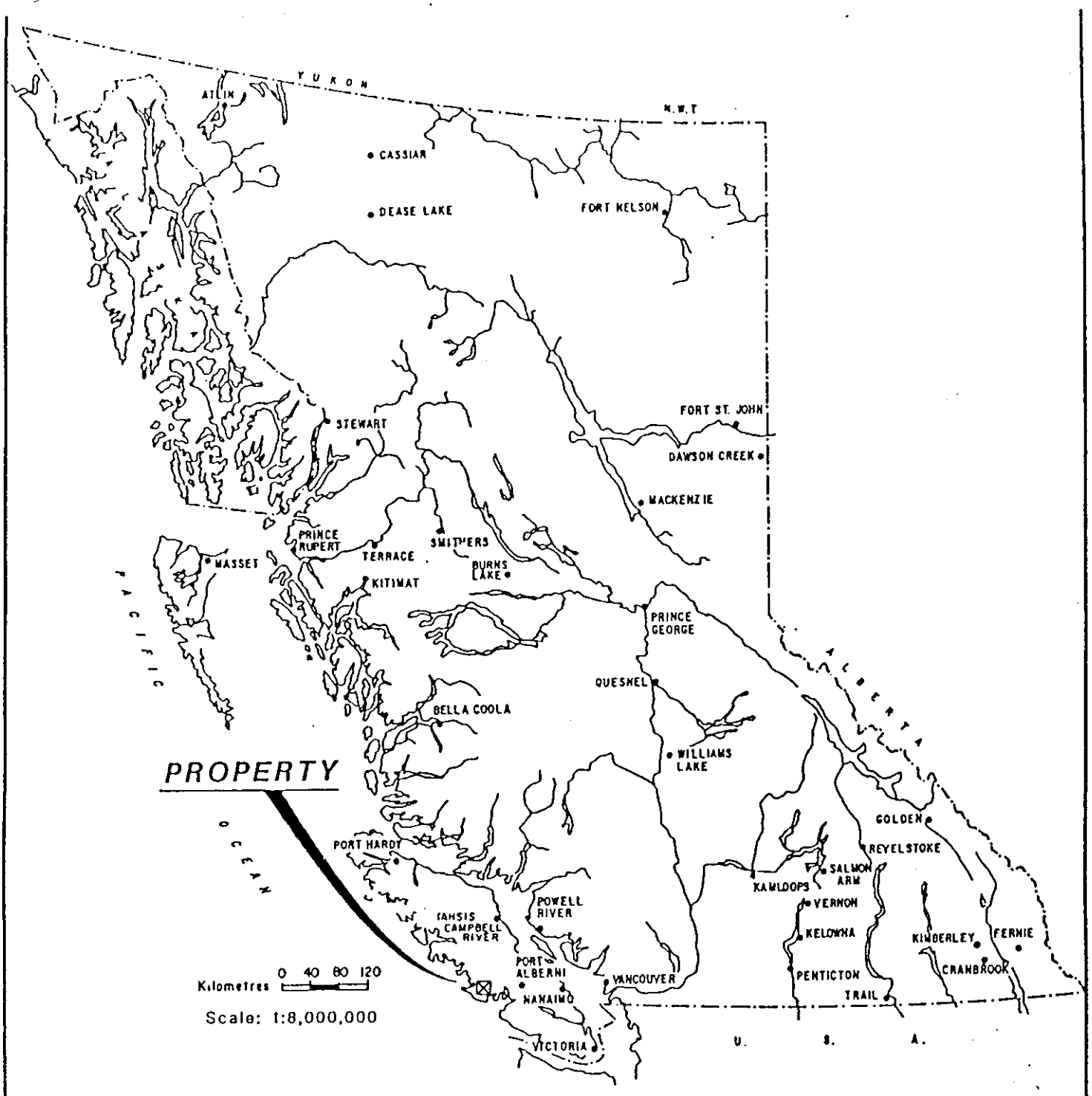
APPENDIX A

MAPS



MIKE, REDFORD & DAWLEY CLAIMS

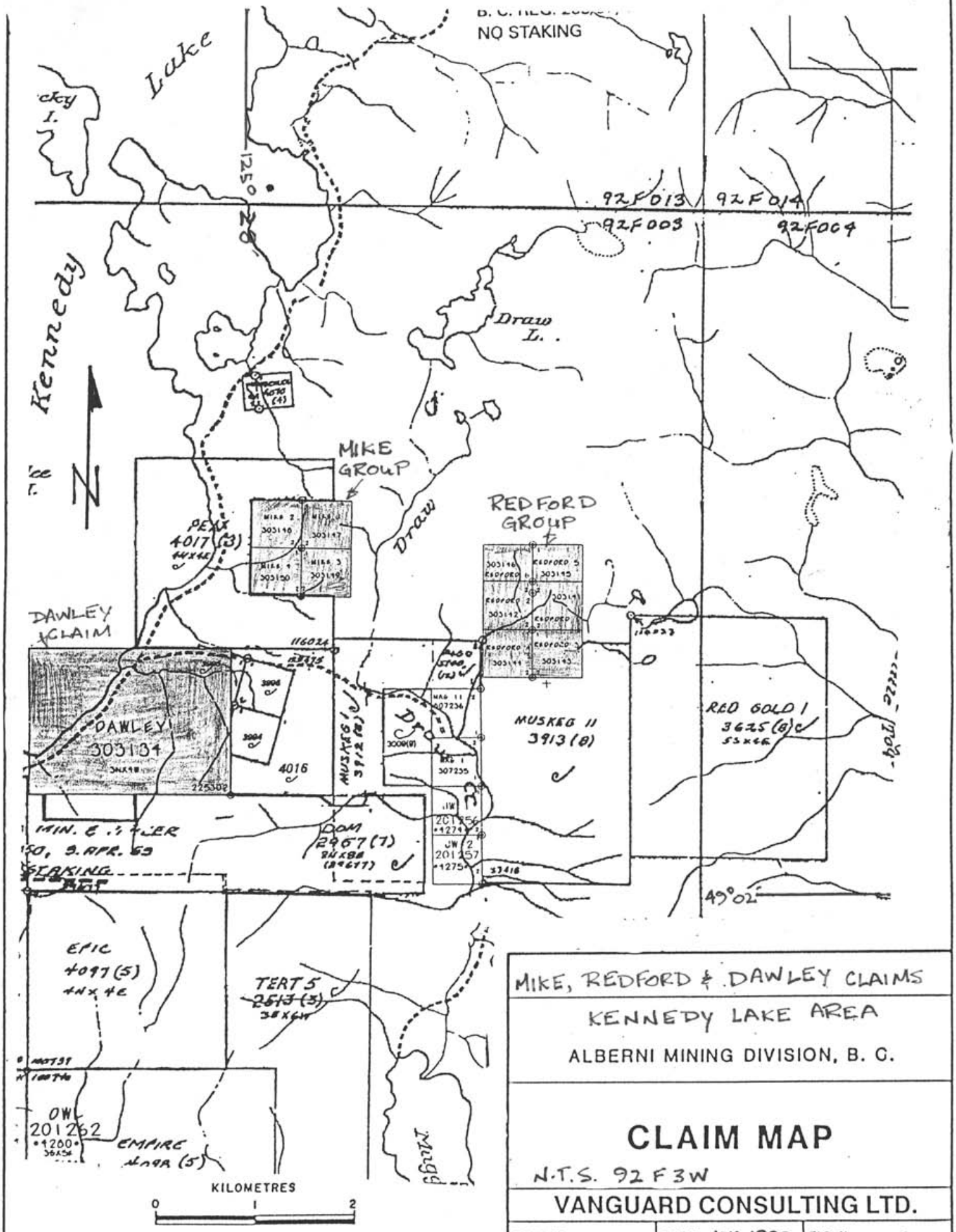
KENNEDY LAKE AREA

ALBERNI MINING DIVISION, B. C.

LOCATION MAP

VANGUARD CONSULTING LTD.

SCALE: 1:8,000,000	DATE: NOV, 1992	FIG. No. 1



MIKE, REDFORD & DAWLEY CLAIMS

KENNEDY LAKE AREA

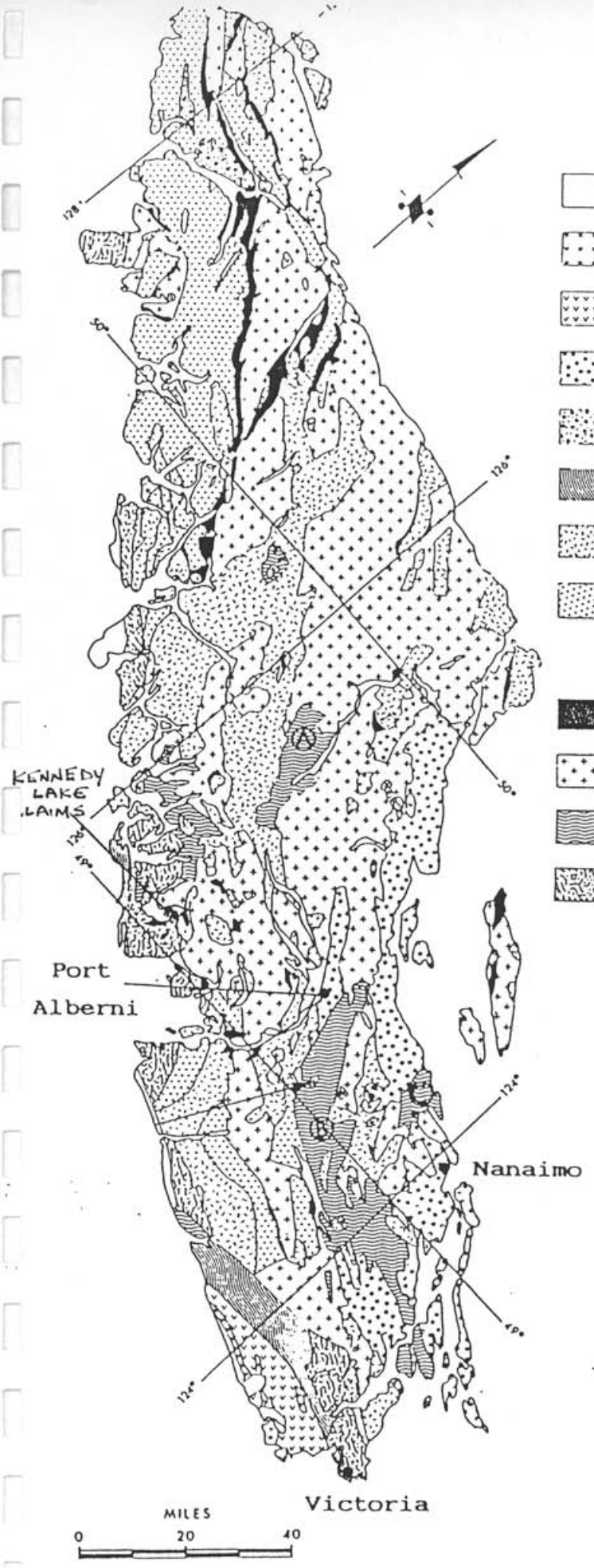
ALBERNI MINING DIVISION, B. C.

CLAIM MAP

N.T.S. 92 F 3W

VANGUARD CONSULTING LTD.

SCALE: 1:50,000	DATE: NOV, 1992	FIG. No. 2



Geological sketch map of Vancouver Island.

LEGEND

	CARMANAH GROUP	MIDDLE TERTIARY
	CATFACE INTRUSIONS	EARLY TO MIDDLE TERTIARY
	METCHOSIN VOLCANICS	EARLY TERTIARY
	NANAIMO GROUP	LATE CRETACEOUS
	QUEEN CHARLOTTE GROUP KYUQUOT GROUP	LATE JURASSIC TO EARLY CRETACEOUS
	LEECH RIVER FORMATION PACIFIC RIM COMPLEX	
	ISLAND INTRUSIONS	EARLY AND (?) MIDDLE JURASSIC
	BONANZA GROUP	EARLY JURASSIC
	VANCOUVER GROUP PARSON BAY FORMATION QUATSINO FORMATION KARMUTSEN FORMATION	LATE AND (?) MIDDLE TRIASSIC
	SICKER GROUP	PALEOZOIC
	METAMORPHIC COMPLEXES	JURASSIC AND OLDER

FROM MULLER, GSC, 1980

MIKE, REDFORD & DAWLEY CLAIMS

KENNEDY LAKE AREA

REGIONAL GEOLOGY

NTS-92F/3 | NOV 1992

FIGURE 3

APPENDIX B

ANALYTICAL RESULTS and SAMPLE DESCRIPTIONS

MIKE CLAIMS:

CMR-001 20 metre random grab sample taken along the north trending logging road, just north of the junction near the northern claim boundary. White to light grey medium to large grained limestone. Some dykes visible in this area which may be the cause of the bleaching.

CMR-002 10 metre random grab on the western trending logging road coming off the junction described in CMR-001. Light to medium grey limestone in an outcrop area with considerable amount of volcanics and skarn development.

CMR-003 20 metre intermittent random grab sample taken along the first long straightaway on the property. The rock is light to medium grey. Grain size varies from fine to large sugary and interlocking grains. Some small sub parallel dykes seen in outcrop, approximately 30 metres apart.

CMR-004 Taken on the "main" road approximately 35 metres east of the main skarn zone. Sample area contains a ?shear zone trending 080/sub vertical which may be related to regional fault structures.

CMR-005 Non limestone sample. Taken 15 metres north of the centre claim post. Massive to crystalline and vuggy milk white quartz. Voids and limonite/goethite filling voids in to 1 cm. Very little apparent sulphides, probable 2-3 fluid injections involved. Apparent width of 40-60 cm, trending 010/vertical, changing to 040/sub vertical to SW as one nears the road cut. A second, similar structure occurs 4 metres to the west, trending ~030. Parts of the zone made up of small (1cm) stringers, very little alteration to the surrounding rock.

CMR-006 Taken from the most southerly outcrop on the main road, near the southern claim boundary. 15 metre intermittent grab sample of medium to dark grey fine grained limestone. North end of the sample zone is a dyke/skarn surrounded by low grade skarn/limestone.

WKD-101 10 metre chip sample taken on the west side of a south trending logging road near the north end of Mike 4. The road itself approximates the limestone - granodiorite contact in this area. Medium grained light to medium grained limestone. Some of the lighter areas have a brownish weathering pattern and smell slightly sulphurous when struck.

WKC-105 Taken along the north side of the Mike claim main road on the eastern portion of the upper straightaway, 50 to 60 metres west of the intrusive contact. Large chip panel sample from an area of limestone in the road cut approximately 6 metres high and 26 metres wide. Very light to white coarse crystalline limestone. A couple of minor alteration zones with garnet and chlorite, roughly following the bedding, can be seen near the bottom of the outcrop.

DAWLEY CLAIM:

CDR-001 Taken on the Mt. Dawley road at an elevation of 180 metres. Light to medium grey fine grained limestone.

CDR-002 Taken on the road at an elevation of 140 metres. Light to medium grey fine grained limestone with some darker streaks. The stone contains some flare textures reminiscent of skarn developments, though no skarn is evident in outcrop.

CDR-003 Taken along 20 metres of outcrop on the road at an elevation of 100 metres. Medium grained very light grey limestone. There is an intrusive dyke in the centre of the outcrop.

CDR-004 Taken on the road at an elevation of 70 metres. Very light grey to white large grained limestone. Looks very pure.

The white zone is approximately 15 metres thick in outcrop. May correspond to the white stone found in the creek bed on the northern claim line near post 3N2W.

WKE-107 Taken on the Mt Dawley road 50 metres above the washed out bridge. 10 metre chip sample of a large area of very light grey limestone with some small areas of light grey mottling. Rare limonite staining and slight sulphurous odour when struck.

WKC-106 Taken from outcrop on the southeastern side of Hwy 4, 900 metres along the highway from the creek that marks the western boundary of the Dawley claim. 10 metre section of white heavily dolomitic and siliceous rock. Taken as a test for chemistry and rock typing.

WKC-107 Taken beside Hwy 4, 585 metres east of the creek that marks the western boundary of the dawley claim. 10 metre chip sample of white and dark grey mottled limestone. Large interlocking crystals with rare limonite staining on fractures. Slight sulphurous odour when struck.

REDFORD CLAIMS:

CRR-001 Taken on the north side of the logging road just above the switchback on Redford 5&6 where the centre line cuts the switchback at an elevation of 310 m. 8 metre grab sample from an outcrop of grey, fine to medium grained limestone. Crystals are interlocking, stone appears quite uniform here with no bedding or other rock types visible.

CRR-002 Taken at an elevation of 270 metres on the north side of the logging road near the nose of an eastern facing switchback. Grab sample from a 4 metre wide outcrop of coarse crystalline (2-5 mm) light grey to opaque limestone.

CRR-003 Taken from the west side of the road just south of the redford creek bridge. Large limestone outcrop with NE dipping intrusive dykes running through it. Dykes trend 335/40NE. Not an area amenable to mining. Sample taken to gauge the effect on the limestone of proximity to the intrusives.

CRR-004 Taken just west of the first southerly trending road that comes off the eastern property road. Grab sample taken across a 10 metre well eroded mound of limestone just west of the diorite contact. The stone is very light to medium grey, with sugary to very large (5 mm-1cm) interlocking crystals and contains some limonite. A large low-grade skarn is found just east of this area.

CRR-005 Taken on the east side of the main road 600 metres south, by road, from the Redford 1&2 north post. Very light grey to transparent marble with very large interlocking crystals. Heavy accumulation of black secondary alteration products on surface. Stone appears to lighten with depth from surface. Probably near the lower limestone contact near the southern claim boundary.

WRC-102 10 metre chip from the south side of a limestone ridge approximately 40 metres west of the end of the south trending logging road off Branch 407 on the Redford 2 claim.

WKC-103 15 metre chip sample taken on the south side of the Branch 407 road 150 metres from the junction with the Redford Main. Opaque to light grey very large grained limestone with rare darker streaks.

WKE-105 Taken 20 metres west of the end of the south trending road off "Branch 407" on the Redford 2 claim. 5 metre chip across a well eroded limestone face near the limestone - diorite contact. The rock gets lighter and larger grained as you move away from the contact and is generally large grained and light. A dark grey alteration zone with disseminated pyrite can be seen below (NW) of the sample site. Some sections of the sample site smell sulphurous when struck.

NOTE: OTHER SAMPLES RESULTS SHOWN ON THE ANALYSIS SHEETS ARE FROM AREAS OFF THE PROPERTIES COVERED IN THIS REPORT

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
V7P 2R5
(604) 985-0681 Telex 04-352667

BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

VANGUARD CONSULTING LTD.
#404-1166 PENDRELL STREET
VANCOUVER, B.C.
V6G 1S9

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
V7P 2R5
(604) 985-0681 Telex 04-352667

BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

REPORT: V91-01177.0 (COMPLETE)

REFERENCE INFO:

CLIENT: VANGUARD CONSULTING LTD.
PROJECT: KEN

SUBMITTED BY: D. COFFIN
DATE PRINTED: 13-SEP-91

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold - Fire Assay	1	5 PPB	Fire-Assay	Fire Assay AA
2	Al203	Alumina	15	0.01 PCT	Borate Fusion	DC Plasma Emission
3	CaO	Calcium Oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
4	Fe203	Total Iron	15	0.01 PCT	Borate Fusion	DC Plasma Emission
5	K20	Potassium	15	0.10 PCT	Borate Fusion	DC Plasma Emission
6	LOI	Loss on Ignition	15	0.01 PCT		Gravimetric
7	MgO	Magnesium Oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
8	MnO	Manganese Oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
9	Na20	Sodium Di-oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
10	P205	Phosphorous Oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
11	Si02	Silica Di-oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
12	Ti02	Titanium Di-oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
13	Total	Whole Rock Total	15	0.01 PCT		
14	BaO	Barium Oxide	15	0.001 PCT	Borate Fusion	DC Plasma Emission
15	Cr203	Chromium Oxide	15	0.01 PCT	Borate Fusion	DC Plasma Emission
16	S Tot	Sulphur (Total)	15	0.02 PCT		Leco
17	Ag	Silver	1	0.5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
18	Cu	Copper	1	1 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
19	Pb	Lead	1	2 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
20	Zn	Zinc	1	2 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
21	Mo	Molybdenum	1	1 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
22	Ni	Nickel	1	1 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
23	Co	Cobalt	1	1 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
24	Cd	Cadmium	1	2.0 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
25	Bi	Bismuth	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
26	As	Arsenic	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
27	Sb	Antimony	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
28	Fe	Iron	1	0.01 PCT	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
29	Mn	Manganese	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
30	Te	Tellurium	1	25 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
31	Ba	Barium	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
32	Cr	Chromium	1	2 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
33	V	Vanadium	1	2 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
34	Sn	Tin	1	20 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
35	W	Tungsten	1	20 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
36	Li	Lithium	1	2 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
37	Ga	Gallium	1	10 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma

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A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

REPORT: V91-01177.0 (COMPLETE)

REFERENCE INFO:

CLIENT: VANGUARD CONSULTING LTD.
PROJECT: KEN

SUBMITTED BY: D. COFFIN
DATE PRINTED: 13-SEP-91

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
38	La	Lanthanum	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
39	Ta	Tantalum	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
40	Ti	Titanium	1	0.01 PCT	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
41	Al	Aluminum	1	0.01 PCT	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
42	Mg	Magnesium	1	0.01 PCT	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
43	Ca	Calcium	1	0.01 PCT	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
44	Na	Sodium	1	0.01 PCT	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
45	K	Potassium	1	0.01 PCT	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
46	Nb	Niobium	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
47	Sr	Strontium	1	1 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
48	Y	Yttrium	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma
49	Zr	Zirconium	1	5 PPM	HF-HNO3-HClO4-HCl	Ind. Coupled Plasma

SAMPLE TYPES	NUMBER
R ROCK OR BED ROCK	15

SIZE FRACTIONS	NUMBER
2 -150	15

SAMPLE PREPARATIONS	NUMBER
CRUSH, SPLIT 0-10 #	15
CHROME STEEL PULVER.	15
BATCH SURCHARGE	1

REPORT COPIES TO: #404-1166 PENDRELL STREET

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SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Al2O3 PCT	CaO PCT	Fe2O3 PCT	K2O PCT	LOI PCT	MgO PCT	MnO PCT	Na2O PCT	P2O5 PCT	SiO2 PCT
R2 CDR01			0.28	53.70	0.20	<0.10	42.52	2.07	0.04	0.04	0.02	1.37
R2 CDR02			0.26	49.20	0.44	<0.10	41.58	4.57	0.07	0.03	0.02	3.58
R2 CDR03			0.23	52.70	0.15	<0.10	42.92	1.82	0.01	0.05	0.01	0.68
R2 CDR04			0.55	53.20	0.28	<0.10	42.32	1.06	<0.01	0.03	0.03	1.04
R2 CDR05			0.26	54.50	0.08	<0.10	42.58	0.39	<0.01	0.03	0.01	0.34
R2 CMR01			0.28	53.60	0.22	<0.10	43.18	1.20	0.01	0.04	0.02	0.82
R2 CMR02			0.63	52.50	0.36	<0.10	43.76	0.52	0.02	0.07	0.02	1.93
R2 CMR03			0.35	53.00	0.21	<0.10	42.49	0.82	0.02	0.03	<0.01	1.59
R2 CMR04			0.27	51.10	0.22	<0.10	43.67	3.60	0.01	0.02	<0.01	0.79
R2 CMR05		<5	0.23	7.43	0.23	<0.10	5.21	0.10	<0.01	0.01	<0.01	84.50
R2 CMR06			0.19	50.70	0.15	<0.10	43.33	4.31	0.01	0.02	0.02	0.79
R2 CRR01			0.26	54.50	0.17	<0.10	42.59	1.23	0.01	0.01	0.02	1.33
R2 CRR02			0.33	54.80	0.15	<0.10	42.46	0.95	0.02	0.02	<0.01	1.07
R2 CRR03			0.29	54.30	0.19	<0.10	42.67	0.87	0.02	0.06	0.01	0.81
R2 CRR04			0.26	52.10	0.26	<0.10	40.68	1.96	0.01	0.03	0.01	3.71

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R2 CDR01		0.01	>100.25	0.004	<0.01	<0.02						
R2 CDR02		0.01	99.76	0.003	<0.01	<0.02						
R2 CDR03		0.01	98.58	0.014	<0.01	<0.02						
R2 CDR04		0.03	98.54	0.011	<0.01	0.08						
R2 CDR05		0.01	98.20	0.003	<0.01	<0.02						
R2 CMR01		0.01	99.38	0.005	<0.01	0.05						
R2 CMR02		0.03	99.84	0.005	<0.01	0.11						
R2 CMR03		0.01	98.52	0.003	<0.01	0.02						
R2 CMR04		0.01	99.69	0.004	<0.01	<0.02						
R2 CMR05		<0.01	97.71	0.002	0.03	<0.02	1.0	<1	3	<2	<1	<1
R2 CMR06		0.01	99.53	0.003	<0.01	<0.02						
R2 CRR01		<0.01	>100.12	0.002	<0.01	<0.02						
R2 CRR02		0.01	99.81	0.003	<0.01	0.03						
R2 CRR03		0.01	99.23	0.005	<0.01	<0.02						
R2 CRR04		0.01	99.03	0.003	<0.01	0.02						

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SAMPLE NUMBER	ELEMENT UNITS	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM	Fe PCT	Mn PPM	Te PPM	Ba PPM	Cr PPM	V PPM
R2 CDR01												
R2 CDR02												
R2 CDR03												
R2 CDR04												
R2 CDR05												
R2 CMR01												
R2 CMR02												
R2 CMR03												
R2 CMR04												
R2 CMR05		3	<2.0	<5	<5	<5	11.07	37	<25	15	7	36
R2 CMR06												
R2 CRR01												
R2 CRR02												
R2 CRR03												
R2 CRR04												

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SAMPLE NUMBER	ELEMENT UNITS	Sn PPM	W PPM	Li PPM	Ga PPM	Ia PPM	Ta PPM	Ti PCT	Al PCT	Mg PCT	Ca PCT	Na PCT
R2 CDR01												
R2 CDR02												
R2 CDR03												
R2 CDR04												
R2 CDR05												
R2 CMR01												
R2 CMR02												
R2 CMR03												
R2 CMR04												
R2 CMR05		<20	<20	<2	<10	<5	<5	<0.01	0.10	0.21	>10.00	0.06
R2 CMR06												
R2 CRR01												
R2 CRR02												
R2 CRR03												
R2 CRR04												

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PROJECT: KEN PAGE 1F

SAMPLE NUMBER	ELEMENT UNITS	K PCT	Nb PPM	Sr PPM	Y PPM	Zr PPM
R2 CDR01						
R2 CDR02						
R2 CDR03						
R2 CDR04						
R2 CDR05						
R2 CMR01						
R2 CMR02						
R2 CMR03						
R2 CMR04						
R2 CMR05		11.113	22	543	<5	<5
R2 CMR06						
R2 CRR01						
R2 CRR02						
R2 CRR03						
R2 CRR04						

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

WHOLE ROCK ICP ANALYSIS

Vanguard Consulting Ltd. PROJECT KEN File # 91-5644

404 - 1666 Pendrell St., Vancouver BC V6G 1S8 Submitted by: D. COFFIN

SAMPLE#	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba ppm	Cu ppm	Zn ppm	Ni ppm	Co ppm	Sr ppm	V ppm	La ppm	Zr ppm	Ce ppm	Y ppm	Nb ppm	Ta ppm	LOI %	SUM %
CKR-01	3.12	.01	.11	20.71	36.69	.05	.13	.01	.08	.06	.002	5	5	59	17	5	128	5	4	5	20	6	20	20	39.0	99.96
WKC-103	.67	.01	.11	1.96	54.42	.05	.05	.01	.01	.01	.002	5	5	10	5	5	713	5	4	5	20	6	25	20	42.7	100.02
WKC-104	.38	.01	.13	6.28	49.05	.05	.23	.01	.01	.01	.002	5	5	11	5	5	357	5	4	5	20	6	20	20	43.8	99.98
WKC-105	.46	.01	.12	.59	55.67	.05	.11	.01	.01	.01	.002	16	5	12	9	5	323	5	4	5	20	6	20	20	43.0	100.02
WKC-106	2.33	.09	.66	20.07	31.28	.05	.05	.01	.04	.02	.002	5	5	33	8	5	203	5	4	5	20	6	20	20	45.4	99.96
WKC-107	.77	.01	.12	3.68	52.04	.05	.05	.01	.01	.01	.002	15	5	10	17	5	325	5	4	5	20	6	20	20	43.3	100.01
WKD-101	3.34	.51	.31	1.02	53.15	.05	.09	.02	.02	.01	.002	5	5	11	12	5	394	19	4	5	20	6	20	20	41.4	99.96
WKE-102	1.27	.29	.14	.39	55.41	.05	.05	.01	.01	.01	.002	5	5	10	6	11	549	7	4	5	258	6	20	20	42.3	99.97
WKE-103	1.78	.14	.20	2.86	52.36	.05	.11	.01	.01	.02	.002	267	5	11	14	5	1976	5	4	5	20	6	20	20	42.2	99.99
WKE-104	.64	.01	.06	.43	56.03	.05	.05	.01	.01	.01	.002	12	5	10	5	5	427	5	4	5	20	6	20	20	42.7	99.99
RE WKC-107	.77	.01	.11	3.54	52.29	.05	.05	.01	.01	.01	.002	18	5	13	19	29	319	5	4	5	20	6	20	20	43.2	100.00
WKE-105	.55	.01	.10	1.26	54.97	.05	.05	.01	.01	.01	.002	19	5	10	11	5	472	5	4	5	20	6	20	20	43.0	99.99
WKE-106	.22	.01	.06	1.54	55.09	.05	.05	.01	.01	.01	.002	5	5	10	11	5	342	5	4	5	20	6	20	20	43.0	100.01
WKE-107	.28	.05	.08	.61	55.56	.05	.05	.01	.02	.01	.002	63	5	10	14	5	3013	8	9	5	20	6	20	20	43.0	99.99
WRC-102	2.48	.01	.08	1.88	54.01	.05	.05	.01	.01	.01	.002	10	5	15	11	5	577	5	4	5	20	6	20	20	41.5	100.05
STANDARD SO-4	67.93	10.23	3.28	.93	1.57	1.32	2.07	.55	.20	.07	.007	808	23	90	27	12	192	79	27	292	40	20	21	20	11.6	100.00

.200 GRAM SAMPLES ARE FUSED WITH 1.2 GRAM OF LIBO2 AND ARE DISSOLVED IN 100 MLS 5% HNO3.
- SAMPLE TYPE: ROCK Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: DEC 2 1991 **DATE REPORT MAILED:** Dec 6/91. **SIGNED BY.....** .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

APPENDIX C

COST BREAKDOWN
(November Field Trip Only)

David Coffin:	
11 field days @ $325.00	$ 3,575.00
3 office days @ $325.00	975.00
Eric Coffin:	
11 field days @ $225.00	2,475.00
4 office days @ $325.00	1,300.00
Subtotal	$ 8,325.00

Expenses:

Whole Rock Analyses	$ 185.50
Maps, reports, copies	113.09
Field Supplies	94.29
Meals, accommodations	868.97
Telephone	26.17
Vehicle Rental, gas	1,223.40
Subtotal Expenses	$ 2,511.42

TOTAL ASSESSMENT COSTS: $ 10,836.42

LESS:	
APPLIED TO MIKE CLAIMS	(800.00)
APPLIED TO DAWLEY CLAIMS	(2,400.00)
APPLIED TO REDFORD CLAIMS	(1,200.00)

TO BE ADDED TO PAC ACCOUNT OF DAVID COFFIN $ 6,436.42

APPENDIX D

Qualifications

I am a partner with the firm of Vanguard Consulting Ltd. at 701-518 Beatty St., Vancouver, B.C.

I attended the Haileybury School of Mines, Ontario, in the department of Mining Technology, from 1975 to 1976.

Since 1974 I have worked in a variety of jobs in the Canadian mineral exploration field including regional and detailed prospecting, detailed geological mapping, core logging, property management and program development.

This report is based upon field work conducted by myself and others during the period August and November, 1991. I hold a 50% interest in the property.

David Coffin, November 1992

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,608

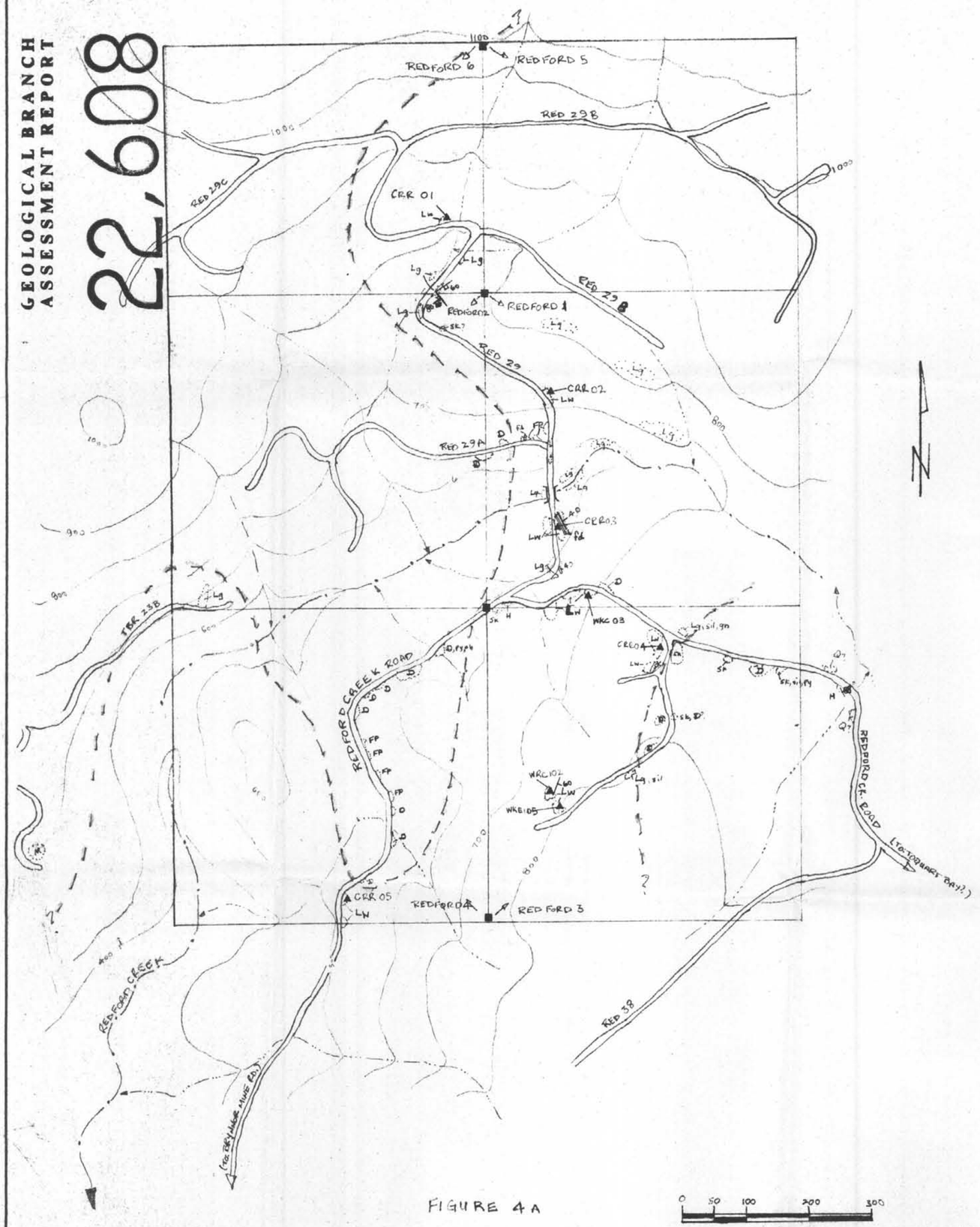
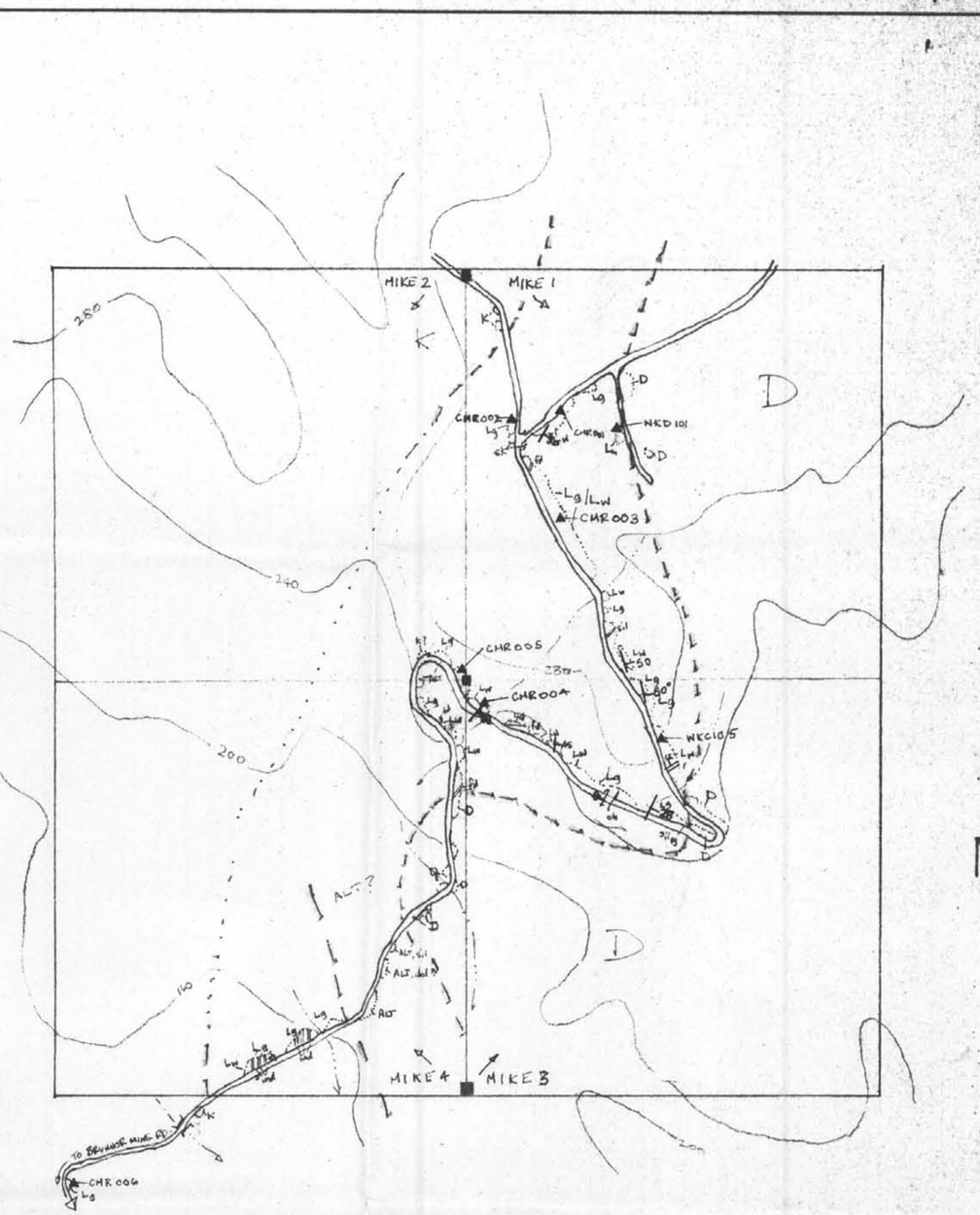


FIGURE 4A

CONTOUR INTERVAL - 100 FT



LITHOLOGIES

FP. FELDSPAR PORPHYRY
md. MAFIC DYKE
fd - FELSIC DYKE/SILL
D - DIORITE
H - HORNFELS
Q - QUARTZITE (?)
M - MUDSTONE
L_w - QUATSINO LIMESTONE WHITE TO LIGHT GREY
L_g - QUATSINO LIMESTONE MEDIUM TO DARK GREY
K - KARMUTSEN VOLCANICS

ALTERATION

sk - SKARN
py - PYRITE
mg - MAGNETITE
pr - PYRROTITE
gn - GARNET
ch - CHLORITE
cal - CALCITE
ep. epidote
ALT - ALTERATION ZONE - calc silicate

STRUCTURE

- dykes with orientation
- joints
- fault
- shear, with orientation
- geological contact observed, assumed
- outcrop boundary
- WKE 104 - ROCK SAMPLE LOCATION

FIGURE 4B

CONTOUR INTERVAL - 40 m.

REDFORD AND MIKE CLAIMS - GEOLOGY

SCALE: 1:5000	APPROVED BY:	DRAWN BY: E.C
DATE: NOV, 1992		REVISED E.C

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GEOLOGICAL BRANCH
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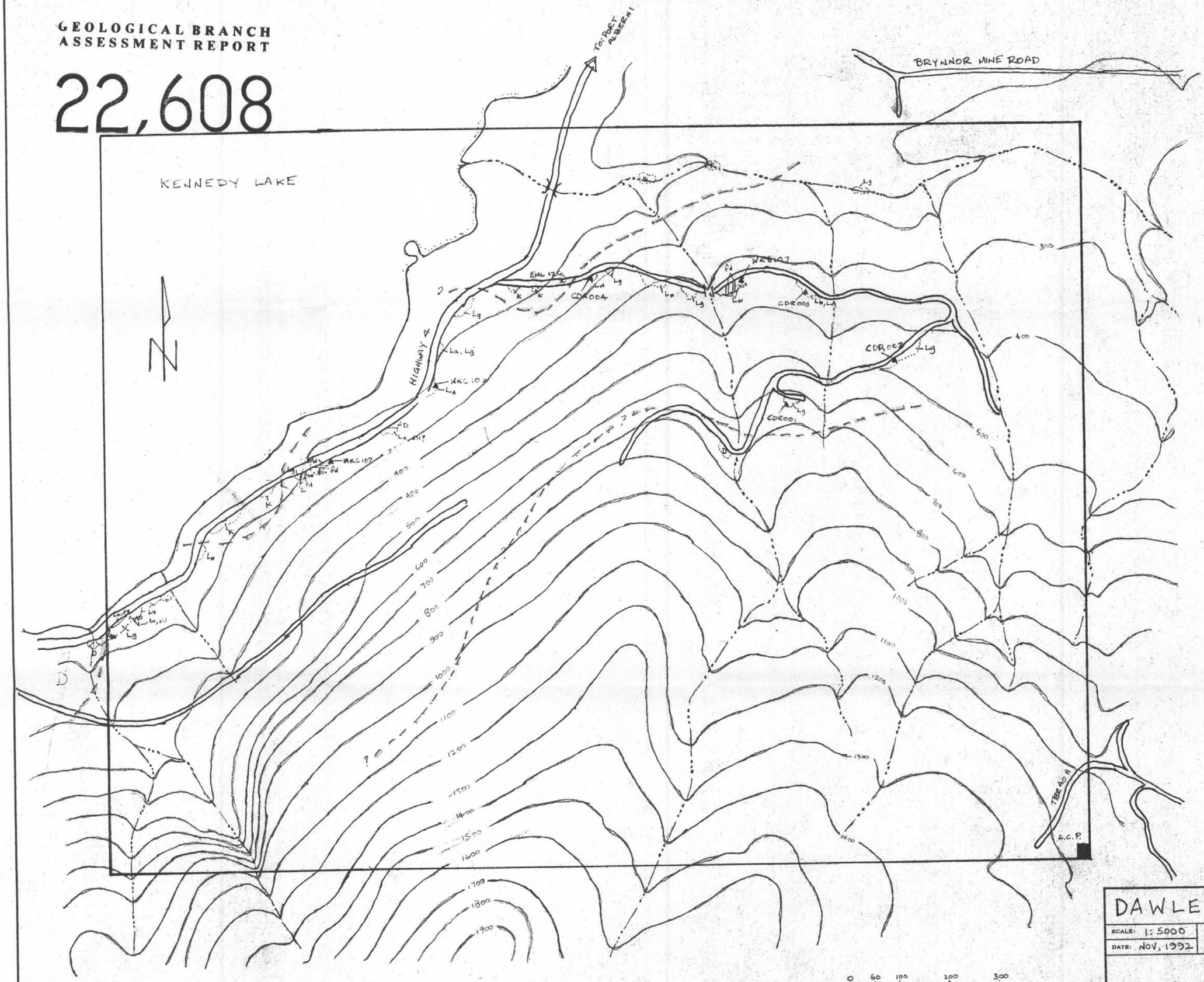

LITHOLOGIES

- md - MAFIC DYKE
- fd - FELSIC DYKE / SILL
- D - DIORITE
- Lw - QUATSINO LIME STONE WHITE TO LIGHT GREY
- Lg - QUATSINO LIMESTONE MEDIUM TO DARK GREY
- La - ALTERED LIMESTONE + DOLOMITE?
- K - KARMUTSEN VOLCANICS - ANDESITE TO BASALT

ALTERATION

- sk - SKARN
- py - PYRITE
- pr - PYRROTITE
- mg - MAGNETITE
- sil - SILICIFICATION
- tc - TALC, BRUCITE

STRUCTURE

- dyke, with orientation
- JOINTS
- fault
- shear
- geological contact observed, assumed
- outcrop boundary
- ▲ - WKE 104 - ROCK SAMPLE LOCATION

DAWLEY CLAIM - GEOLOGY

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DATE: NOV, 1992		REVISED

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