825265
LYLE PROPERTY

NTS 82K/3

P. O. Box 310,
Kaslo, B. C.
V0G 1M0

May 26, 1986.

Kerr Addison Mines Vancouver	
Recvd 29/05/86	
To	RAD
	ADC
	DA
	FC
	File
	C.c-
✓	F. DALEY

Kerr Addison Mines Limited,
Suite 703 - 1112 W. Pender St.,
Vancouver, B. C.
V6E 2S1

Attention: Mr. F. Daley

Dear Mr. Daley:

Further to our telephone conversation please find enclosed the information you requested on the Lyle property.

The assessment reports on the Lyle group are listed on pages 39, 40 & 41 of the Almine Report.

Yours truly,

J. Dennis O. Tyers

J. Dennis O. Tyers

encls.

PROPERTY EXAMINED AUG 20-22/86.
SEE EVALUATION WRITE-UP.
DECLINE FURTHER INTEREST.
DATA RETURNED TO OWNER. W/ K-A SAMPLING RESULTS.

SUMMARY

This report describes work undertaken during the summer of 1983 on the Lyle claim group, by Almine Resources Ltd. The property covers the upper reaches of the Lyle and Whitewater Creek drainage areas, in the Slocan Mining Division, British Columbia.

The Lyle claim group is of interest as a potential host to economic gold mineralization. It is the writer's contention that sufficient evidence is presented herein to warrant further exploration. There are several aspects of known and inferred mineralization that indicate a potential for the existence of economic gold mineralization on the property. Recommendations for further work are outlined.

LIST OF FIGURES

INTRODUCTION

This report describes work undertaken on a group of mineral claims and crown grants, the Lyle Claim Group, optioned from Tyers Mining and Development Ltd. by Almine Resources Ltd. The property covers the upper reaches of the Whitewater and Lyle Creek drainages, in the Slocan Mining Division, B.C.

The Lyle claim group is of interest as a potential host to economic gold mineralization. Work on the property involved an extensive programme of soil sampling and geochemical analysis, geological reconnaissance and rock sampling.

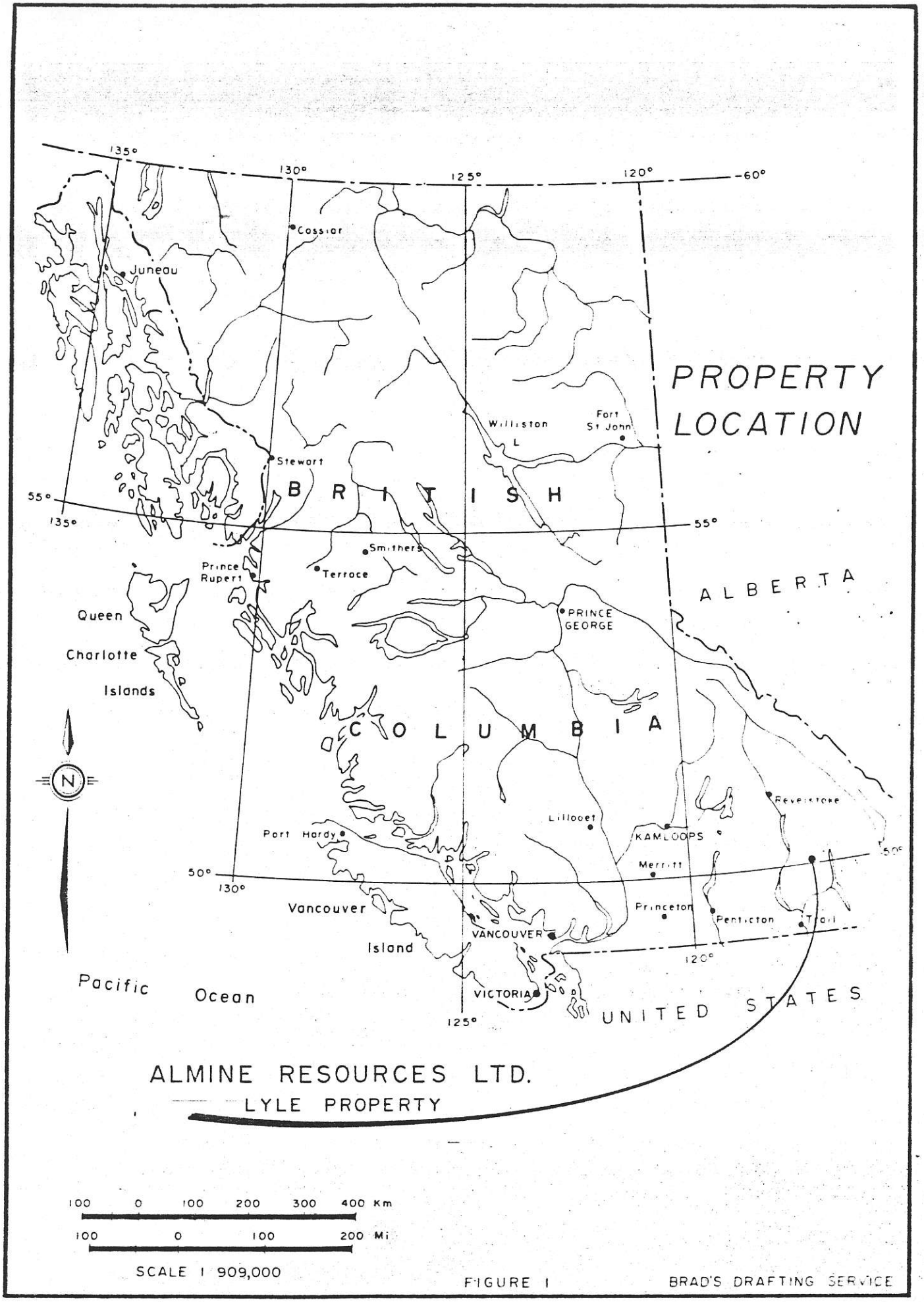
The property was known to host showings and anomalously high soil values. This programme was designed to check, and more closely define, the soil anomalies, and locate the probable source area of this gold. These aims have been achieved, thus allowing a more definitive approach to further exploration.

PROPERTY

The Lyle claim group consists of 4 mineral claims, 4 crown grants and 2 fractions. Relevant data is outlined below, the claim group is shown in Fig. 2.

Name	Size	Lot No. Tag. No.	Anniversary Date	Record No.
Lyle 1	18 units	51704	Mar 23, 1981	1847
Whitewater 1	15 units	86609	Aug 29, 1983	4059
Whitewater 2	10 units	86610	Aug 29, 1983	4060
Whitewater 3	6 units	86611	Aug 29, 1983	4061
Paisley	43.03 acres	5612	Jan 8, 1981	1659
Whistler	58.51 acres	5614	Jan 8, 1981	1660
Cuba	16.30 acres	5609	Jan 8, 1981	1661
Garnett	51.65 acres	2842	Jan 17, 1981	1674
Ruby Fr.	27.70 acres	5820	Jan 8, 1981	1661
Emerald Fr.	46.10 acres	5821	Jan 8, 1981	1662

The property is in good standing as far as the writer is aware, however such evaluation is not part of the mandate for this report. The option agreement is shown in Appendix 1.

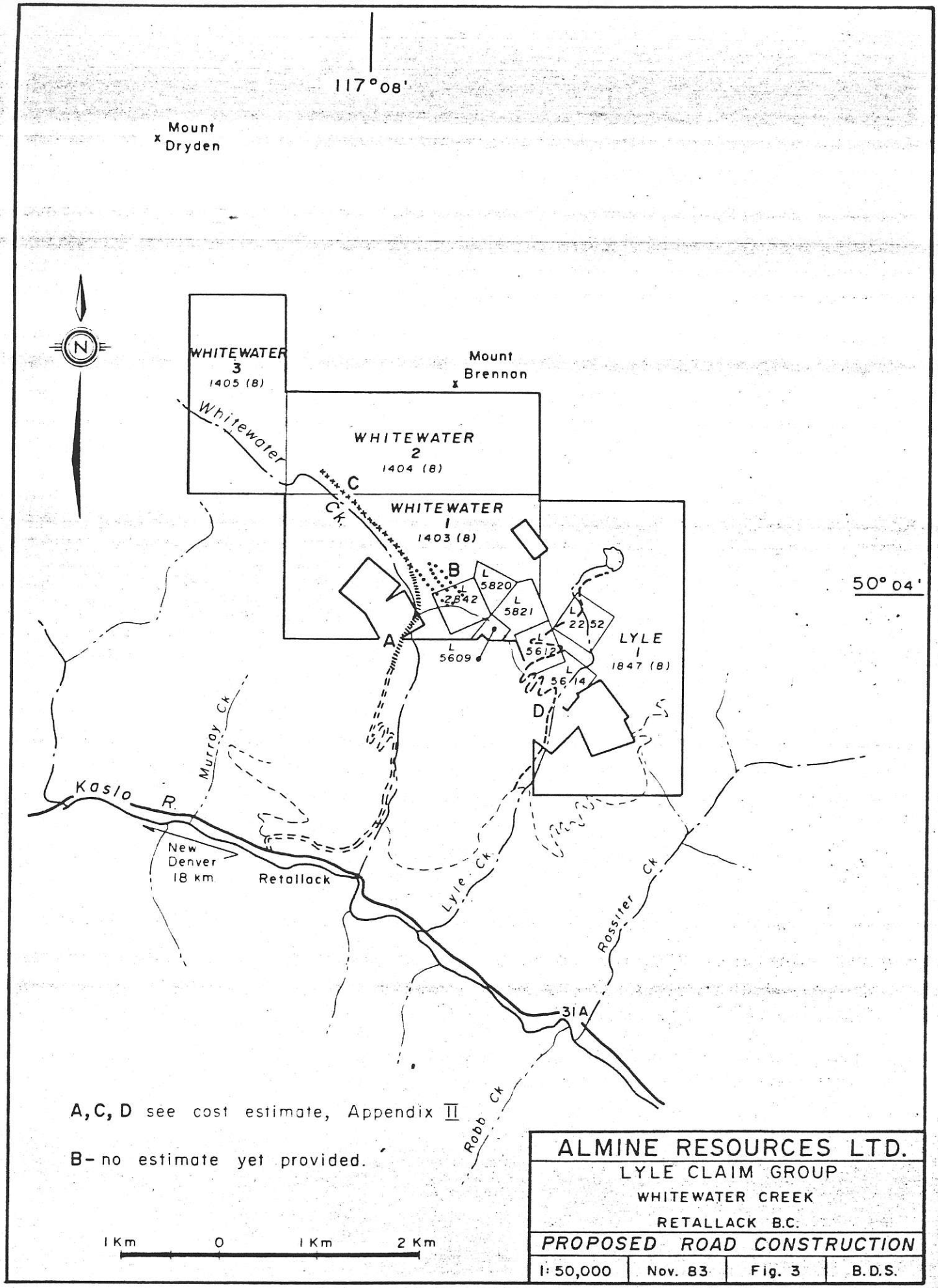

PROPERTY LOCATION
135°
130°
125°
120°
60°
55°
50°
Cassiar
Juneau
Stewart
Williston L
Fort St John
BRITISH
COLUMBIA
ALBERTA
Smithers
Prince Rupert
Terrace
PRINCE GEORGE
Queen Charlotte Islands
Revelstoke
Lillooet
KAMLOOPS
Port Hardy
Merritt
Vancouver Island
Princeton
Penticton
Trail
VANCOUVER
VICTORIA
Pacific Ocean
UNITED STATES
N
ALMINE RESOURCES LTD.
LYLE PROPERTY
100 0 100 200 300 400 Km
100 0 100 200 Mi
SCALE 1 909,000
FIGURE 1
BRAD'S DRAFTING SERVICE

LOCATION, ACCESS, PHYSIOGRAPHY

The property is located at the south end of the Goat Range in the Selkirk Mountains, on Lyle and Whitewater Creeks, tributaries of the Kaslo River. It lies to the north side of Highway 31A, approximately midway between New Denver and Kaslo.

At Retallack, an abandoned mining community 18 km NE of New Denver, a gravel road extends 1 km north where it forks, the northern branch extending 2 km up the Whitewater Valley, the eastern branch extending 2.7 km into and up the Lyle Valley. From the ends of both roads trails lead for several kilometers to the heads of both valleys. In addition a road extends up the eastern side of the claim group to the Eureka workings. The final section of this road is only accessible by 4WD vehicle.

In summary, access during the snow-free months is good. Minimal additional road construction would provide vehicular access to all parts of the property. To this end an estimate has been obtained for the cost of such roading, it is presented in Appendix 11, the proposed roads are shown in Fig 3.



ALMINE RESOURCES LTD.			
LYLE CLAIM GROUP WHITEWATER CREEK RETALLACK B.C.			
PROPOSED ROAD CONSTRUCTION			
1:50,000	Nov. 83	Fig. 3	B.D.S.

The property lies between elevations of 5,000' and 9,000'. The main area of interest lies between elevations of 5,500' and 7,500'. Slopes at lower elevations are of the order of 25° - 30°, increasing to 50° or more near the ridge crests. Vegetation is generally light with many areas of outcrop. The area is at a juvenile stage of weathering and erosion, with actively accreting scree fans at the base of all slopes.

The field season on this property is relatively short. It is generally snow-free by June, with the first snowfalls of winter in October to November. Thus a four to five month field season could be expected. The property receives 10-12 feet of snow in the valleys each winter.

The claim group is within easy commuting distance of both Kaslo and New Denver. Both towns offer all the usual facilities with regard to food, accommodation, repairs etc., however Kaslo is the larger town, with a bank, supermarket etc. Nelson, 1½ hours drive from either Kaslo or New Denver, is the closest major centre.

HISTORY

This section deals with prospects and past-producing mines on, and in the immediate vicinity of, the property. Data from assessment reports specfic to the property are summarized.

The Whitewater Mine, to the south of the property, produced 1,435 oz Au, 3,152,130 oz Ag, 28,017,903 lb Pb, 36,260,370 lb Zn from 260,542 tons of ore, during the period 1892 to 1945. The lode is in and adjacent to a thrust zone within slate and limestone of the Slocan Group (Hedley, 1945).

The Highland Surprise Mine, contiguous with the south central property boundary, produced 1,617 oz Au from 5,151 tons of ore at 0.314 oz Au/ton, during the period 1937 to 1941 (George Cross Newsletter of Oct. 31, 1979). A total of 3,347 feet of drifting and 759 feet of diamond drilling was completed on four levels. Maconachie (1940) describes the underground workings as; "greenstones, ... of the Kaslo Series, intruded by irregular masses of diorite and by feldspar porphyry dykes. The underground workings follow the margin of the basic intrusive, now converted to serpentine, and the veins and dykes both parallel approximately the contact between the serpentine and the greenstone. The greenstone is schistose and largely chloritized; in proximity to the veins it is commonly darkened by hydrothermal alteration."

The Gold Quartz showing is located on the Whitewater 2 mineral claim, between elevations of 6,000' and 7,000'. It consists of a series of adits and trenches on five vein structures. The veins are in greenstone (metavolcanics of the Kaslo Group) some distance from the contact with the serpentinite.

The greenstone is intruded by diorite and feldspar porphyry dykes. The veins strike northwest, two samples from one vein collected during this programme assayed 0.318 oz Au/ton and 0.296 oz Au/Ton. When compared with the Highland Surprise the pyrite and chalcopyrite is accompanied by considerable galena and sphalerite.

The Eureka showings, immediately east of the Lyle group, was initially developed in exploration for lead-silver ore. Discovery of gold values in quartz during the late thirties caused a redirection of exploration. The mineralization, pyrite and chalcopyrite, occurs in a shear zone in diorite, a feldspar porphyry dyke and a younger more siliceous dyke intersect the shear. The shear is up to 8' wide and contains stringers and bands of quartz. Assays from the back of the drift of 0.2 oz Au/ton and 1.2 oz Au/ton have been reported by Maconachie (1940).

Approximately 200m to the west of the Eureka, on the Lyle claim group, a rusty shear zone within the Kaslo Group has been trenched in at least 3 locations. Only minor pyrite was observed by the writer, however samples of the sheared material returned anomalously high values in gold; viz., 305ppb, 175ppb, and 50ppb.

The Ibex crown grant, totally enclosed by the Lyle claim group, covers a shear in slate of the Slocan Group. Values up to 0.15 oz Au/ton have been obtained from this shear. It has been trenched at several points.

The Solo and Solo Best crown grants are contiguous with the property, forming the re-entrant in the southern part of the Lyle mineral claim. A quartz vein on the northeast side of the serpentinite has been drifted on for several hundred feet. The serpentinite contains stringers of quartz where it is adjacent to the vein, as may the metavolcanics on the footwall to the vein. The vein strikes 120° and dips 35° southwest but this is variable, it is about 20cm wide, with both footwall and hangingwall being inpregnated with quartz for a distance from the contact of approximately 50cm. Mineralization is principally pyrite with minor associated chalcopyrite. Selected samples assay around 0.1 to 0.2 oz Au/ton.

A considerable amount of work has been undertaken on, and in the immediate vicinity of, the property in the last 20 years. Only those reports specifio to the claim group will be summarized here, a complete list is presented with the references. Geological and geophysical data from relevant reports are incorporated in the geological map, Fig. 6, backpocket.

ASSESSMENT REPORT NUMBER	DESCRIPTION
3225	Magnetometer survey over upper Whitewater Creek in order to delineate magnetic anomalies that may lead to the discovery of Ni-bearing sulphide veins. Several anomalies are indicated, one of which corresponds to a known zone of nickel mineralization.
3921	Geological mapping of the north and northwest faces of Whitewater Mountain. Two formations, the Kaslo Ultrabasic belt and the Kaslo Group volcanics were delineated, copper mineralization was discovered.
3926	Mapping, prospecting, magnetometer surveys and diamond drilling completed on an area centered about the upper Whitewater Valley. A copper occurrence and an asbestos occurrence were located and evaluated, both were considered of insufficient grade and size to warrant any further work.

3930 Geological mapping of the ridge between Rossiter and Lyle Creeks. The area is underlain by Kaslo Group metavolcanics and the Kaslo Ultrabasic Belt. No concentrations of sulphide were discovered.

4126 Geological mapping of the ridge between the Lyle and Whitewater Valleys. The area is underlain by Kaslo Group volcanics and the Kaslo Ultrabasic Belt. No nickel or copper mineralization was discovered.

5401 Prospecting of the ridge between the Whitewater and Lyle Valleys.

7835 Soil geochemical survey over the Whitewater Valley, essentially that area covered by the present Whitewater 1-3 mineral claims. The samples were analysed for Au, Ag, and Cu, with several anomalous concentrations of gold being indicated.

8480 Soil geochemical survey over the dnainage basin of Goat Creek, to the west of Whitewater Creek. Samples were analysed for Cu, Pb, Zn, and Ag. No significant anomalies were discovered.

8516 Soil geochemical survey over the same area as described in Report 8480, part of the same programme of work. No further anomalies were discovered.

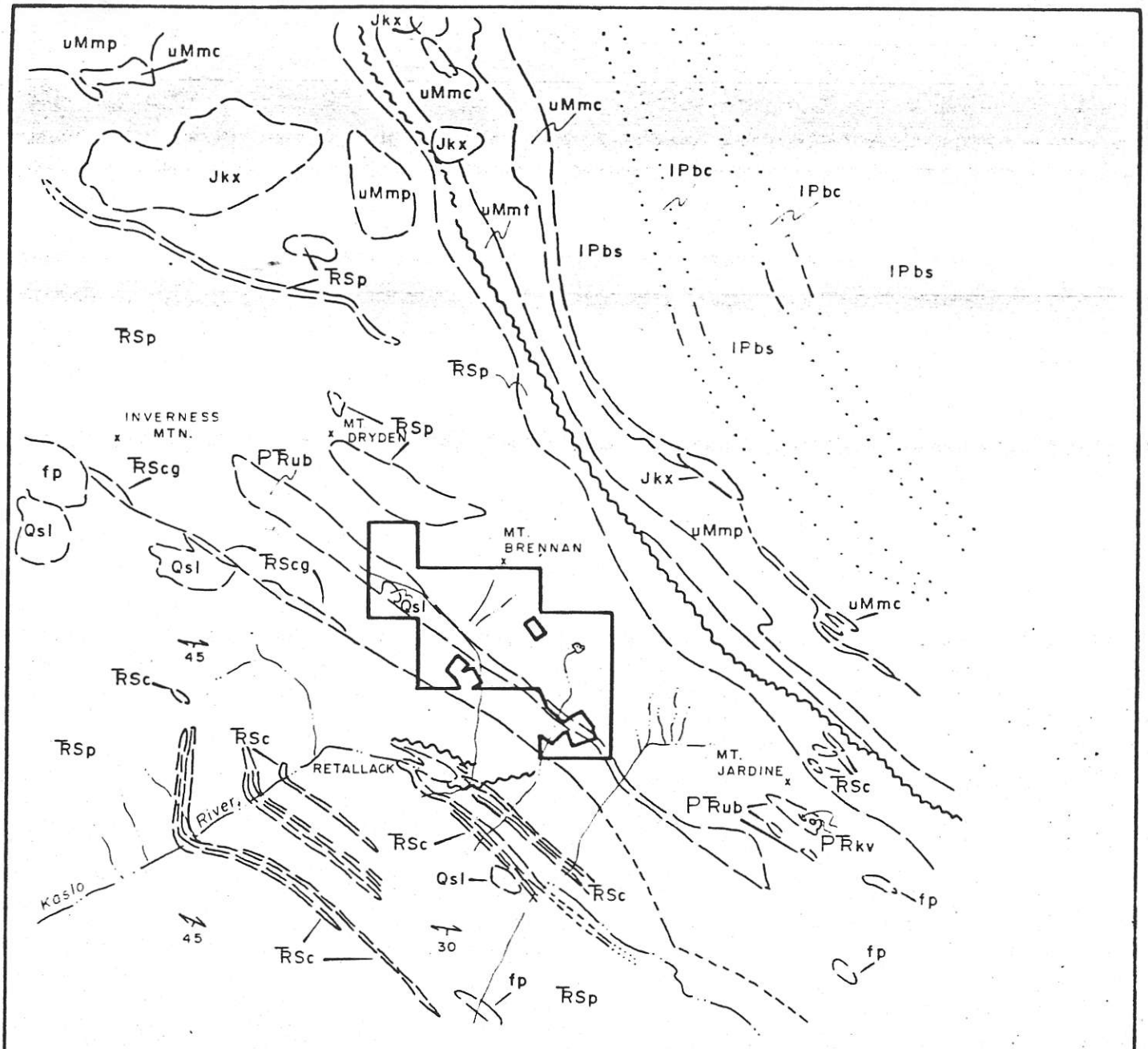
8529 Soil geochemical survey over the area of those crown grants which are part of the present claim group. Samples were analysed for Au and Cu. One major and several smaller anomalies were identified.

9060 Report on one of several drill holes sited in an attempt to locate the source of the Au anomalies, as described in Reports 7835 and 8529. The hole which this report describes is located immediately above the northwest end of the major anomaly in the Whitewater Valley, it did not intersect any significant gold mineralization.

10,070 Drill hole located on the lower part of the ridge between the Lyle and Whitewater Valleys. It was collared in serpentinite, angled to the north to intersect the contact with the Kaslo Group. It did not intersect any significant mineralization.

Report numbers 7835, 8529, and 10,070 are descriptions of work undertaken by Amoco Canada Petroleum Co. Ltd. It is the results of this work which persuaded Almine Resources Ltd. to option the property. Amoco did not seem to have located the source of the gold soil anomalies with follow-up work prior to drilling. The holes the company drilled did not interest any of the zones now known to be anomalously high in gold, extensively altered etc., the basis for the siting of these holes is not presently known.

Amoco has verbally agreed to provide the reports summarizing their work on the claim group. This should be available by the end of the year. Much of the core from the 6 diamond holes drilled by Amoco has been obtained and stored by Almine. A cursory inspection of this core did not indicate that any holes had intersected zones of alteration, feldspar porphyry intrusive, or fault/shear zones. The criteria Amoco used in siting these holes are not presently known.



Symbols

- Geological contact
- Fault
- Foliation

Lithology

Qsl	Scree and till.
Jkx	Kuskanax stocks.
RS	Slocan group.
PRub	Serpentinite.
PRkv	Kaslo group.
uMmp	Milford group.
uMmc	Milford group.
lPbc	Lardeau group.
lPbs	Lardeau group.
fp	Feldspar porphyry.

N

ALMINE RESOURCES LTD.

LYLE CLAIM GROUP

WHITEWATER CREEK

RETALLACK B.C.

REGIONAL GEOLOGY

1:125,000	Dec. 83	Fig 4	B. D. S.

REGIONAL GEOLOGY

The geology of the property and surrounding areas is shown on Geological Survey of Canada preliminary map 0.F. 432, Lardeau West-Half, scale 1:125,000, complied by P.B. Read (1976). The relevant section of this map is outlined in Fig. 4.

The property is largely underlain by Kaslo Group metavolcanics. This group consists of metavolcanics of basaltic to dacitic composition, generally andesitic. These flows are both subaerial and subaqueous, they may be accompanied by units of tuff and breccia. In addition volcaniclastic units, e.g. tuffaceous phyllite, occur to an unknown extent.

Towards the stratigraphic centre of this group, in the vicinity of the property, lies a belt of serpentinized peridotite. The belt strikes subparallel to the strike of the Kaslo Group, it is at least 15 km long and up to 1 km wide.

The Kaslo Group is Upper Permian to Lower Triassic in age, deposited approximately 250 m.y.a. It is underlain by Milford Group sediments of Mississippian to Permian age. The Milford Group consists of, from the base, conglomerate, amygdaloidal metabasaltic flows, limestone, phyllite, sandstone and chert. It is underlain by the Lardeau Group.

The Slocan Group of Triassic to Lower Jurassic age disconformably overlies the Kaslo Group. It consists, from the base, of conglomerate, limestone, phyllite and argillite, metamorphosed andesite and dacite, tuff and flows, and metamorphosed basalt and andesite tuff and flows.

The stratigraphic sequence described above is intruded by a variety of alkalic and calc-alkalic plutons. These include, along with related stocks and/or plutons; the Kuskanax Batholith of Jurassic age, the Nelson Batholith of Jurassic to Cretaceous age, the Galena Bay Stock of Cretaceous age, and the Battle Range Batholith of Cretaceous age.

In the vicinity of the property, at least, the stratigraphic sequence has also been intruded by dykes and plugs of feldspar porphyry and of diorite.

The sequence has been complexly folded and faulted by four phases of deformation, with associated metamorphism. The first phase, isoclinal, was accompanied by regional metamorphism affecting rocks older than the Milford Group. The second and third phases are represented by open to tight folding on all scales, with an associated crenulation cleavage. These deformations, accompanied by regional metamorphism, affected the complete stratigraphic sequence. Folds of the second phase are the most readily identifiable of all folding in the area. A late stage of kink folding is generally only observable in phyllitic rocks. The first three phases are essentially coaxial.

PROPERTY GEOLOGY AND MINERALIZATION

This section firstly describes the geology of the Lyle claim group in some detail. Data are taken from reconnaissance work by the writer, assessment reports and published literature. Methods and results from soil and rock sampling for geochemical analysis are subsequently outlined. Finally the derivation and setting of the gold mineralization is discussed.

Two maps, at a scale of 1:5,000, are presented in the backpocket of this report. Figure 5 is a plot of the soil geochemistry results for gold. Figure 6 is a geological sketch map, it is referred to as a sketch map as no systematic programme of mapping was undertaken, however it is thought to be substantially correct. The base for these maps is part of a 1:40,000 scale aerial photograph, enlarged photographically to 1:5,000. An enlarged section of the 1:50,000 topographic map for the area (N.T.S. 82K/3) was used as a control to correct photographic distortion. The resultant base map is satisfactory for present purposes, but a photogrammetrically corrected photographic base would be preferable.

A. GEOLOGY

Metavolcanics of the Kaslo Group occupy both sides of the Whitewater Valley and the lower part of the Lyle Valley. Previous workers have considered the volcanics to be massive and undifferentiable, generally of andesitic composition; this is not actually the case.

The rocks are generally dark grey and green-grey in colour, depending upon the degree of chloritization, the primary alteration mineral. When examined closely pillow structures, usually deformed, are easily visible. The length width ratio of the pillows is generally in the range 1:1.5 to 1:5, indicating moderate deformation. Insufficient observations were made to determine facing direction. Suberial flows are also present, indicated by flow structures and brecciated flow tops. These tops, on the northeast side of the Whitewater Valley, indicate a top to the northeast. The strike of the volcanics is approximately 100°, with a vertical to subvertical dip. The sequence could be subdivided into flows by grid mapping on a large scale, if so desired.

The rocks appear to be uniform in composition, in outcrop. However one horizon was observed at an elevation of about 7,000' on the northeast side of the Whitewater Valley that appears to have a tuffaceous component. It lies at the base of a series of low bluffs, is grey to brown in colour, 10 m thick, and appears easily weathered and altered. The alteration may well be related to structural features rather than to the lithology of this particular horizon.

A suite of 12 samples was collected of the volcanics in the Whitewater Valley, on grid line 400NW, at 20 m intervals between 760NE and 980NE inclusive. These were collected to give an indication of background values for various metals and to provide major element analysis of minimally altered volcanics. The results are presented in Appendix 111, samples 4058 to 4069 inclusive. The rocks are of typical basaltic composition with an average SiO_2 of 50.5%. Na_2O is elevated, averaging 3.16%, however this may be expected in a eugeosynclinal environment, as will be discussed subsequently. Otherwise the rocks are typical of their type.

The ultramafic belt, of serpentinized peridotite, is located entirely within the Kaslo Group. It varies in width, but is generally around 500 m, strikes northwest, and is continuous across the property. Large pods and apophyses of unknown extent occur marginal to the main body. It is peridotite of the "Alpine-type" which has been serpentinised, in places it consists almost entirely of the mineral serpentine. Typical analyses are presented in Appendix 111, samples 4025, 4026, 4046. As could be expected it consists almost entirely of the mineral serpentine, constituents being SiO_2, MgO, and H_2O, with elevated value in Cr and Ni. The serpentinite is often talcose and friable where it is in contact with the Kaslo Group.

Rocks of the upper Lyle Valley have been assigned to the Slocan Group. Although this makes stratigraphic and structual sense, insufficent work was completed to categorically classify these rocks. The sequence consists of, from the base in contact with the Kaslo Group; phyllite or argillite, andesitic metavolcanics, phyllite with interbedded chert, further andesite. The phyllite is grey to brown in colour, the cherts are grey, grey-green or white, the andesites are generally grey. There may also be tuffaceous sediments present.

There are several types of intrusive on the property, including the serpentinite previously discussed. The intrusives include feldspar porphyry dykes and plugs; diorite and perhaps dykes or sills; quarts veins, impregnations, and stringers.

The feldspar porphyry is invariably mineralized or spatially related to mineralization wherever gold mineralization occurs. Several samples of altered feldspar porphyry were submitted for petrographic analysis, the results are presented in Appendix lV, these results are discussed in a later section. The dykes have a variable strike in the range 130° to 180°, with vertical to subvertical dips. Width is variable in the range 0.5 to 3 metres. The rock is grey when fresh but weathers to pink or brown. It is composed predominantly of plagioclase (albite to oligoclase), a little quartz and a little orthoclase. Minor constituents include biotite, epidote and actinolite, pyrite and chalcopyrite are often present. The main products of alteration are carbonate and sericite, with occasional chlorite.

The diorite generally consists of amphibole, probably hornblende, and plagioclase as the phencrystic phases, with little or no visible quartz. It is usually dark green in colour and occurs in irregular masses and plugs. Although no attempt has yet been made to map the contacts of these bodies, it would be a difficult proposition. The coarse texture is generally a distinguishing feature, however it often appears texturally indistinguishable from the surrounding metabasalt.

Quartz veins are common throughout the property, often within or adjacent to bodies of feldspar porphyry. They are most common near the serpentinite, those near the northeast contact often being mineralized, with accompanying alteration. Those to the southwest of the serpentinite are often barren with no alteration of the surrounding rock. The "veins" are often irregular and more commonly occur as discontinuous stringers and lenses rather than well-defined veins.

It is uncertain whether rocks of the property have been affected by Second Phase and/or Third Phase deformation. Both phases are probably of middle Jurassic age and if both are present they could be expected to be coaxial. The Kaslo Group forms an anticlinal core to the Slocan Group rocks, with associated parasitic folding possibly leaving outliers of Slocan Group rocks with the Kaslo Group. The axis of the major anticline strikes northwest, with a southwest plunge, the axial plane appears to be close to vertical, perhaps dipping to the northwest. The fold is tight to isoclinal and appears to be close to symmetric. There are insufficient data presently available to be more specific, it is doubtful whether such data could be obtained without detailed mapping.

Faulting and shearing are extensive, as could be expected, associated with the major phases of deformation and with the emplacement of the various intrusive bodies. It is speculated that the serpentinite reached its present position through remobilization, in the solid state, and emplacement along, or near, the axial plane of the major anticline. This zone of dilation has also allowed intrusion of the feldspar porphyry dykes and quartz veins at a later stage. In any event veins and some feldspar porphyry dykes parallel the serpentinite contact, which also parallels the fold axis. There are several areas of shearing and intense alteration which may correspond to major photolineaments crossing the property. Several normal and reverse faults with small displacements (less than 1 metre) have been observed. The Kaslo Group is often extremely fractured and sheared in the vicinity of the feldspar porphyry intrusives. It is not known whether this is restricted to areas of intrusion and alteration or whether it is widespread. This should be evaluated in any future mapping programme.

The rocks on the property represent a eugeosynclinal filling of the late Paleozoic to Mesozoic syncline that extends along the western margin of North America, from Alaska to California. The Kaslo Group is strongly reminiscent of an ophiolite suite in this respect. It consists of serpentinite, spilite (albitized basalt, note the relatively high Na_2O in the Kaslo rocks), amphibolite as occurs elsewhere in the Kaslo Group with associated deep-sea sediment and chemical sediment (c.f. Slocan Group). This would appear to be a reasonable origin for the sequence as observed on the property, i.e. a similar environment to that which occures in the Sierra Nevada of Northern California. However the gold mineralization of the property does not appear similar, in some aspects, to that of the Mother Lode belt.

B. SOIL GEOCHEMISTRY

A total of 1,084 soil samples were collected during this programme of exploration. Two grids were laid out by compass and hip chain, one in the Whitewater Valley and one in the Lyle Valley. In both cases the area sampled corresponded to the area of the major anomalies as outlined by Amoco. The results are presented in Fig. 5, the certificates are presented in Appendix V. In addition several soil samples were collected from various areas of the grids, the locations and Au values for these samples are shown in Fig. 5.

The Lyle grid was sampled on two occasions, with an initial spacing of 100 metres. Upon receipt of results the grid was closed up to 25 m spacing in the vicinity of the anomalous areas. A total of 282 samples was collected from 12 lines on the first occasion, 136 samples from 6 lines on the second. The Whitewater grid was sampled with a 50 m line spacing for a total of 666 samples.

All samples were submitted to Chemex Labs Ltd., of North Vancouver, for analysis. The 282 samples collected initially from the Lyle grid were submitted for whole soil analysis for Au only. The remaining 802 samples were submitted for -35# analysis for Au, Ag, and Cu. At least one sample on each line was split and run for both -35# and whole soil. The results did not show any consistent variation. The writer submitted only the last group of 802 samples, Ag and Cu were analysed for in the event that there was a significant correlation between either of these metals and Au. The -35# fraction was chosen to avoid analysing lithologic and organic debris.

The results exceeded expectations. Only the last group of 802 samples was statistically analysed, however these can be considered representative of the total 1,084 samples. Statistical results are summarized in Table 1.

TABLE 1

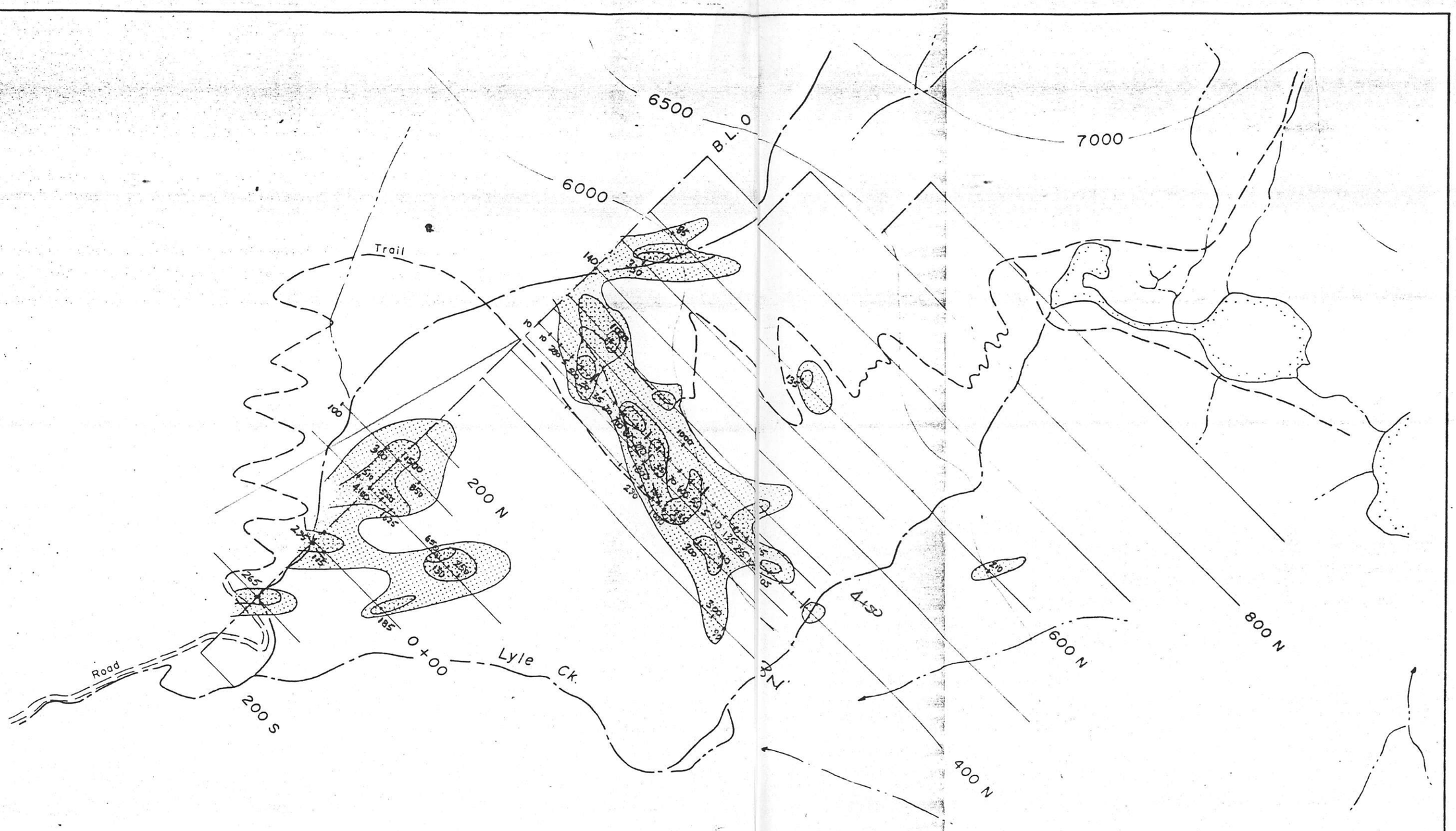
STATISTICS ON 802 SOIL SAMPLE ANALYSES

	Au	Ag	Cu	LogAu	LogAg	LogCu
Minimum	5	0.1	2	0.4	-1.0	0.3
Maximum	1,500	11.5	278	3.2	1.1	2.4
Mean	62	0.3	63	1.3	-0.7	1.7
S.D.	121	0.6	36	0.7	0.3	0.3

NOTE: values for Au in ppb, detection limit 5ppb
values for Ag in ppm, detection limit 0.1ppm
values for Cu in ppm, detection limit 2ppm

Because the results were collected over known anomalous areas, standard methods of assignment of background or threshold values become rather meaningless. For example, using the mean value plus two standard deviations on untransformed data for Au gives a value of 304ppb as a background concentration. The partitioning of a lognormal probability plot (after Sinclair, 1974) to select threshold is not possible because of the lack of change in slope on this plot. Consequently a value of 50ppb was empirically chosen as background.

The gold content of the soil samples is shown contoured in Figures 7 and 8, the Whitewater and Lyle grids respectively. The major anomaly on the Whitewater grid extends from line 400NW to line 400 SE, for a length of 800m, it extends over most of the length of the grid lines. The source can only be the Northeast side of the Whitewater Valley between elevations of 6,000' and 8,000'. This area has been traversed and selectively sampled, as discussed in the following section.



(2) BL e 165
X Lines 075/255°

ALMINE RESOURCES LTD.			
LYLE GRID			
SOIL GEOCHEMISTRY			
Au. Contours			
Scale 1:5,000	Date Dec 83	Figure 8	Drawn by B C S

7500

7000

6500

6000

400

200 SE

0+00 NW

200 NW

600 NW

4N

1N

1S

700 SE

600 SE

210

Trail

Whitewater Ck.

B.L. 0

BL e 135°/315°
xLines e 045°/225

Z

50-99 ppb

100-299 ppb.

≥ 300 ppb

100 0 100 200 m.

ALMINE RESOURCES LTD.			
WHITEWATER GRID			
SOIL GEOCHEMISTRY Au. Contours			
Scale 1 5,000	Date Dec. 83	Figure 7	Drawn by B.D.S.

The source of the major and two minor anomalies on the Lyle grid is not immediately obvious. The major anomaly on the 400N grid line does not lie on any well-defined drainage pattern. However the sources can only be the southeast side of the same ridge which is the source of gold for the Whitewater anomaly. Any transport of gold or soil to the area of the anomaly on the Lyle grid must come from this ridge. Drainage to the north and northeast is via Lyle Creek itself.

There are no significant correlations between gold and either Ag or Cu. A correlation matrix for arithmetic and logarithmic values is presented in Table 2.

TABLE 2

CORRELATION MATRIX FOR SOIL ANALYSES

	Au	Ag	Cu	LogAu	LogAg	LogCu
Au	1.0					
Ag	0.1	1.0				
Cu	0.1	0.1	1.0			
LogAu	0.7	0.1	0.2	1.0		
LogAg	0.2	0.6	0.2	0.2	1.0	
LogCu	0.1	0.1	0.9	0.3	0.3	1.0

There are few anomalous values for either Ag or Au. Ore from the Highland Surprise mine appears to have contained about 2:1, Au:Ag, samples from the Gold Quartz showing run up to 1:5 or more Au:Ag (Maconachie, 1940). This would appear to be a significant amount of silver, but insufficient to cause anomalous soil values. Although gold is known to be occassionally associated with chalcopyrite, this is not always the case. Thus any correspondence between anomalous gold and copper is not to be expected, in fact there are no significant areas on the grid that can be considered anomalous in Cu.

C. ROCK GEOCHEMISTRY

A total of 69 rock samples (numbers 4001 to 4069) were collected during this programme. Locations are shown on Fig. 6, backpocket. All but 12 (4058-4069) were collected because they showed some evidence of mineralization or alteration. Samples 4058 to 4069 were collected from grid line 400NW on the Whitewater grid, from stations 760NE to 980NE inclusive. These 12 samples were collected to give an indication of background values for various metal in the Kaslo Group rocks, in addition to providing typical analyses for major and minor elements in minimally altered rock.

All samples were submitted to Chemex Labs., of North Vancouver, for 23 element ICP analysis. Gold and silver were analysed for by atomic absorption spectroscopy. In addition 32 samples were analysed for silica, by X-ray flourescence, and for LOI. The 32 samples are presented as complete analyses in Appendix 111. All certificates pertaining to rock geochemistry are presented in Appendix Vl. Sample descriptions are presented in Appendix Vll.

The selective nature of the sampling, and the small number of samples, precludes the use of statistical methods to determine relationships between metals or to demonstrate systematic variations due to alteration processes. Such data, particularly the latter, are considered extremely important in locating potential economic mineralization. Correlation ooefficients are presented in Table 3, only those that are at all significant are shown.

TABLE 3

CORRELATION MATRIX - ROCK GEOCHEMISTRY, SELECTED ELEMENTS

	Au	Ag	Cu	Pb	Zn	Ba	Si
Au	1						
Ag	0.7	1					
Cu	0.4	0.7	1				
Pb	0.4	0.5	0.2	1			
Zn	0	0.1	0	0.6	1		
Ba	0.6	0.9	0.6	0.5	0	1	
Si	0	0	0	0.7	0.4	0	1

It can be seen from this table that Ag is often elevated along with Au, as is barium. Zinc does not show significant correlation with gold, however high values in Zn are accompanied by high values in Au, although the reverse is not true. Silver and Ba show a strong correlation, the Ba is presumed to be present in the alteration products accompanying mineralization, such as; K-feldspar, sericite and carbonate.

The results of the rock geochemistry support the conclusion drawn in the preceeding section that the sources of gold causing the soil anomalies lies on the ridge separating the two valleys. It must be borne in mind, however, that there are several areas on the property that have yet to be looked at closely and sampled.

Samples collected immediately above the major amomaly on the Lyle grid do not show anomalous values in gold (samples 4027-4031). Neither do samples collected from the eastern side of the Lyle Valley (samples 4048-4057). However most samples collected from areas of alteration above the major anomaly in the Whitewater Valley (samples 4015-4024, 4038-4045) are anomalous in gold.

Three samples were collected from old trenches on the eastern side of the Lyle mineral claim (samples 4034-4036). The trenches are in a shear within what appears to be oxidized and altered pillowed andesite of the Slocan Group. These samples are all anomalously high in Au. No work has been undertaken on this part of the property to date, it obviously deserves attention at some time in the future.

In conclusion, the samples collected from zones of alteration, particularly within or adjacent to feldspar porhyry dykes, are consistently elevated in gold. This is indicative of both the setting of the mineralization, and of the course future exploration should follow.

D. MINERALIZATION

This section outlines features which are related to gold mineralization. Evidence is taken from showings in the area, published descriptions of some of these showings, general observations on the property, and petrography of samples from the property (see Appendix IV). It is intended to define the likely nature of any potentially economic gold mineralization. The primary target for further exploration is the ridge separating the two grids, this area is surrounded by two major gold soil anomalies and by several gold showings.

The following is a list of the more pertinent features descriptive of gold mineralization on the Lyle claim group:

1. Gold has been found and worked at several showings, all of which are to the northeast of the serpentinite belt. Quartz veining and impregnation does occur to the southwest of the serpentinite, but it is not accompanied by sulphides, alteration, or gold.
2. Gold is spatially related to feldspar porphyry dykes. Samples from altered dykes are invariably anomalously high in gold.
3. Gold occurrences are invariably associated with extensive alteration. Alteration consists of; carbonitization, sericitization, pyritization, and chloritization. There is also considerable evidence of quartz replacement. Thus alteration is essentially hydrothermal, or propylitic.
4. Shear zones are susceptible to alteration and may have an anomalously high gold content. It is possible that the intersection of a shear zone and a feldspar porphyry dyke would provide a locus for considerable gold mineralization.
5. Wallrock to mineralization is generally metavolcanics of the Kaslo Group, but may be diorite or serpentinite.

6. Gold mineralization post-dates all intrusive, and appears to post-date the major periods of structural deformation.
7. Gold occurs in quartz veins and stringers, but also occurs as disseminations.
8. The feldspar porphyry dykes and quartz veins generally strike northwest. This orientation corresponds to the axis of folding and the orientation of the serpentinite. The strike of any body of mineralization may also parallel these structures.
9. Gold is usually free where it occurs as disseminations. Where it is contained in quartz veins it occurs as blebs or inclusions in pyrite and/or chalcopyrite.
10. There are no consistent correlations between gold and other sulphides, however this is possibly a result of the limited data presently available. Pyrite is almost always the major sulphide present in association with gold, it may or may not be auriferous. There is an erratio association between gold and chalcopyrite. Galena and sphalerite are uncommon, when present in some concentration gold is generally also present.
11. Silver is associated with gold, the Au/Ag ratio is in the range 1 to 5. Silver usually occurs as argentite.
12. There is a statistical correlation between Au and Ba, and between Ag and Ba. The Ba is related to the degree of alteration present.

Placer gold in Lyle and Whitewater Creeks was traced to the quartz veins of the various showings described in this report. It appears that these veins may be "shoots" within or peripheral to a major area of alteration and quartz introduction. Mineralization of any extent is most likely to be of disseminated or stockwork nature. Grade of such

mineralization could be expected to be of the order of 0.1 to 0.3 oz Au/ton, there do not appear to be any structural restrictions precluding the existence of a substantial tonnage of such potential mineralization. Examples of gold producers with similar features to those described above abound. It is considered premature to draw any close parallels between such occurrences and the mineralization of the Lyle claim group. However several examples are mentioned here by way of illustration.

The Howey and Hasaga Mines, past-producers in the Red Lake area of Ontario, worked quartz veins and stringers in an altered quartz porphyry intruded into the Keewatin volcanics. There are other similar occurrences in the Red Lake area. The ore bodies of the Lamaque Mine at Val d'Or, Quebec are veins and stockworks in faults within a granodiorite stock. Mineralized areas are usually extensively altered. The Camflo Mine near Val d'Or, Quebec is in an altered, fractured monzonite stock, the ore occurs in quartz stringers and in the wallrock. In British Columbia, the Bralorne Mine in the Bridge River area and the high silver content veins and stockworks of the Beaverdell area are somewhat similar to the mineralization of the Lyle claim group.

CONCLUSIONS

This report is a summary of exploration undertaken by Almine Resources Ltd. during the summer of 1983 on the Lyle claim group, a gold prospect in the Slocan Mining Division, British Columbia. It is the writer's contention that sufficient evidence is presented here to warrant further exploration. There are several features of known and inferred mineralization that indicate a potential for the existence of ecomonic gold mineralization on the property.

The company optioned the property in part based upon results of soil geochemistry surveys conducted by Amoco Canada Petroleum Co. Ltd. Amoco conducted a programme of exploration on the property during 1980-81. The programme resulted in the drilling of 6 diamond drillholes, most of the resulting core was obtained and stored by Almine. None of the holes intersected mineralization, zones of alteration, or feldspar porphyry intrusive. Criteria Amoco used in selecting drill sites are not presently known. However the holes were not optimally sited to intersect potential mineralization.

In conclusion it can be stated that the property has not yet been fully evaluated in terms of its potential to host ecomonic gold mineralization. Recommendations for further work are outlined below.

RECOMMENDATIONS

Recommendations for further work are presented in two stages. (Stage 11 and Stage 111), cost estimates are provided at the end of this section. It would be possible to complete both stages in one season, should that be desired, depending upon early results from Stage 11. Stage 11 consists of mapping, sampling, geophysics, road construction, and perhaps trenching; Stage 111 is essentially follow-up diamond drilling of targets indicated by Stage 11.

Previous work by companies other than Almine has been helicopter-supported. This is not necessary, it is considered that equivalent expenditure on equipment used in road construction and trenching would provide a better return on investment. It is recommended that roading be constructed as shown in Fig. 3, this will result in a considerable saving in time and effort in the fieldwork, and allow for several options to be considered should trenching and drilling be contemplated.

STAGE 11

The ridge between the two valleys should be the primary objective of the exploration programme. It should be mapped at a scale of at least 1:5,000, between elevations of 5,500' and 7,500'. Attention should be paid to locating areas of alteration, feldspar porphyry dykes and shear/faults. Chip sampling on extensions to the existing grids is strongly recommended, samples being submitted for geochemical analysis. Such results would aid in localizing the alteration and sulphide mineralization. Magnetometer and VLF-EM surveys should be conducted over at least part of the area.

Work outside of this area should include additional soil sampling to the northeast of the end of the present Whitewater grid. There are limited areas remaining in the Lyle Valley amenable to soil sampling.

For example the Slocan Group rocks in the eastern part of the Lyle 1 mineral claim. Reconnaissance mapping and sampling should be completed over those areas of the property not yet evaluated, e.g. the southwest part of the Whitewater 1 mineral claim. Trenching should be considered, however it may be preferable to tie it in with drill road construction.

STAGE 111

Diamond drilling of targets located in Stage 11. There are several options available assuming road construction as described. It is unlikely any drill target will be further than 500m from a road, quite probably within 200m or less. Access and sites could be prepared for a truck-mounted rig, a portable rig could be carried to the sites, or mimimal helicopter time could be used in moving a rig from the road to site. In any event drill sites will probably have to be blasted.

COST ESTIMATES

STAGE 11

Work on this stage could be completed to reporting within two months with good logistic support. The following estimates are based on a two month work programme.

ROAD CONSTRUCTION (with allowance for some trenching)	$ 40,000
FIELD WORK (Supervisor, field geologist, 2 assistants)	25,000
FOOD/ACCOMMODATION/TRANSPORT	12,000
ANALYSES/ASSAYS/PETROGRAPHY	25,000
REPORT PREPARATION (including drafting, statistical, analysis etc.)	10,000
Contingencies @ 10%	11,000
TOTAL	$123,000

STAGE 111

Work on this stage, should it proceed, could be considered as part of the previous stage so far as reporting is concerned. It could be initiated within 1 month of the start of Stage 11, depending upon the early results from that programme. It is assumed that existing roads will be extended to provide truck access to potential drill sites.

DRILL SITE/ACCESS CONSTRUCTION (say 10 sites)	$ 50,000
DIAMOND DRILLING (5,000' (1,500m) @ $30/ft)	150,000
FIELD WORK (Supervision, core splitting & storage etc.)	10,000
ANALYSES/ASSAYS/PETROGRAPHY	15,000
REPORTING	10,000
Contingencies @ 10%	24,000
TOTAL	$259,000
TOTAL BUDGET	$382,000

Respectfully submitted.

Mark C. Hansen
Geologist

CERTIFICATE

I, Mark C. Hansen, of 479 E. 11th Avenue, Vancouver, B.C. do hereby certify that:

1. I am a graduate of The University of Auckland, New Zealand, with a B.Sc. (1974) and an M.Sc. (1978) in geology.

2. I have practised within the geological profession since graduation in 1974, having worked in New Zealand, Australia and North America.

3. I am an independent consulting geologist.

4. I am a Fellow of the Geological Association of Canada.

5. I am a director, and shareholder of Almine Resources Ltd., as such I have a direct interest in the property which is the subject of this report.

6. This report is based upon two weeks fieldwork and a study of relevant literature.

Dated at Vancouver, B.C. this 5th day of December, 1983.

M. C. Hansen
Geologist

REFERENCES

Boyle, R.W. (1979) The Geochemistry of Gold and its Deposits. Geological Survey of Canada, Bulletin 280.

Cairnes, C.E. (1934) Slocan Mining Camp, British Columbia. Geological Survey of Canada, Memoir 173.

Carmichael, I.S.E., Turner, F.J., Verhoogen, J. (1974) Igneous Petrology. McGraw Hill Book Co.

Colvine, A.C. (1983) ed. The Geology of Gold in Ontario. Ontario Geology Survey, Misc. Paper 110.

Hedley, MS. (1945) Geology of the Whitewater and Lucky Jim Mines Areas. B.C. Dept. of Mines, Bulletin No. 22.

Levinson, A.A. (1982) ed. Precious Metals in the Northern Cordillera. Proceedings of a Symposium held April 13-15, 1981 in Vancouver, British Columbia, Canada. Pub. The Association of Exploration Geochemists.

Maconachie, R.J. (1940) Lode-Gold Deposits, Upper Lemon Creek Area and Lyle Creek-Whitewater Creek Area, Kootenay District. B.C. Dept. of Mines, Bulletin No. 7.

Mathews, W.H. (1944) Lode-Gold Deposits, South-eastern British Columbia. B.C. Dept. of Mines, Bulletin No. 20-Part 11.

Read, P.B. (1975) Lardeau Group, Lardeau Map Area, West-Half, British Columbia. In Geol. Survey Can. Paper 75-1, Part A.

Sinclair, A.J. (1974) Selection of Thresholds in Geochemical Data Using Probability Graphs. J. Geochem. Explor. 3, pp129-149.

Walker, J.F. Bancroft, M.F., Gunning, H.C. (1929) Lardeau Map-area, British Columbia. Geological Survey of Canada, Memoir 161.

ASSESSMENT REPORTS - LYLE CLAIM GROUP

No.	
3225	Magnetometer survey on Whitewater Claim Group, By John R. Kerr for Pan Ocean Oil Ltd., August, 1971.
3921	Geological Report on Whitewater Claim Group by R. Jay Trimble and R.J. MacNeill for Pan Ocean Ltd. September 10, 1972.
3926	Geological & Geophysical Report on Whitewater Property, by R.J. Trimble and R.J. MacNeill for Hi-Ridge Resources Ltd. September 28, 1972.
3930	Geological Report on Nico Claims by R.J. Trimble and R.J. MacNeill for Pan Ocean Oil Ltd. November 14, 1972
4126	Report on Geology of Mineral Lease M346 Retallack Area, by R.J. MacNeill for Pan Ocean Oil Ltd. February 16, 1973.
5401	Whitewater Creek - Group #2 Assessment Work by Peter Leontowitz.
7835	Whitewater Group: Soil Geochemistry by Paul Brown for Amoco Canada Petroleum Co. Ltd. October 30, 1979
8480	Soil Geochemistry Slocan Silver Prospect by M. Lancaster for Asarco Exploration Co. of Canada Ltd. October 28, 1980
8516	Soil Geochemistry Slocan Silver Prospect by M. Lancaster for Asarco Exploration Co. of Canada Ltd. August 29, 1980.

ASSESSMENT REPORTS - LYLE CLAIM GROUP - continued

8529	Lyle Group Assessment Report by D. Visagie for Amoco Canada Petroleum Co. Ltd. November 30, 1980.
9060	Whitewater: Drilling Report - Hole WBC-80-4 by David Visagie. February 1, 1981
10,070	Assessment Report - Cuba Ruby Fr., Paisley, Whistler, Emerald, Garnett & Lyle Mineral Claims by Jim Cuttle for Amoco Canada Petroleum Co. Ltd. November 3, 1981.

KERR ADDISON MINES LIMITED
SUITE 703 - 1112 WEST PENDER STREET
VANCOUVER, B.C. V6E 2S1
PHONE 682-7401

COPY

October 28, 1986

Dennis Tyers
Tyers Mining & Development Ltd.
P.O. Box 310
Kaslo, B.C.
V0G 1M0

Dear Dennis:

Sincere apologies for the delay in getting these results back to you, I've been out of the office for some time.

As I mentioned on the phone, we took a total of 16 rock samples, as shown on the 1:50,000 sketch map.

The highest gold values were samples;

44103 1.85 oz/t Au

44104 0.6 oz/t Au

44902 0.93 oz/t Au

44153 0.53 oz/t Au

Samples 44103 and 44104 are from a .5 m wide quartz vein in outcrop just above the Highland Surprise Mine. I think this is the same vein you had previously sampled as "Elevation 5400, 2 ft. vein" with .652 oz/t Au.

Sample 44902 is a piece of quartz vein talus at the portal to the Solo Adit.

Sample 44153 is a high sulphide (pyrite) quartz vein sample from the dump at the main "Gold Quartz" adit. This is probably similar material to the bulk sample you had collected as "Top Dump No. 2" and got 0.56 oz/t Au.

...2

D. Tyers October 28, 1986

Attached is a sketch map showing the 16 sample locations, geochem and assay values for Au, Ag and As, also a brief description of each sample.

Best of luck with your plans for the property. Again, thanks for the opportunity to examine your claims. If you should have other properties in the future which you are considering developing please feel free to contact Kerr Addison.

Yours truly,

Fred Daley
Project Geologist

FD/lk