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DIAMOND DRILL REPORT ON THE WHITEWATER PROJECT
LYLE 1 GROUP AND LYLE 2 GROUP
LYLE CREEK, RETALLACK AREA
SLOCAN MINING DIVISION
82K3W

for

C.S.A. MANAGEMENT LIMITED
and
GOLDCORP INVESTMENTS LTD.
TORONTO, ONTARIO

by

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HAROLD M. JONES & ASSOCIATES INC.

OCTOBER 21, 1991

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SUMMARY

The Lye 1 Group and Lyle 2 Group comprise a large number of claims collectively referred to as the "Whitewater Project". They are located in the Selkirk Mountains of southern British Columbia approximately mid-way between Kaslo and New Denver. They are partially accessible from a paved highway by a 4-wheel drive logging-mining road.

The property hosts the old Highland Surprise gold mine, which between 1937 to 1941 is reported to have produced 5,151 tons of ore grading 0.314 oz/ton gold. It is situated in the approximate centre of the property.

The Highland Surprise Mine and the area to the immediate east of it is underlain by a Lower Plate of Permian and(?) Carboniferous Kaslo Group volcanics that were severed from an Upper Plate of Kaslo Group volcanics by the northwesterly-trending Permian Whitewater Fault. Later (Jurassic) imbricate faulting segmented the Lower Plate Kaslo Group volcanics. Jurassic age felsic dykes intruded the volcanics in these regions of structural weakness, and were closely associated with late gold-bearing mineralization.

The Highland Surprise shear zone, subparallel the Whitewater Fault, is at least 200 metres long and contains three quartz-carbonate-albite veins, one with a strike length of at least 100 metres, and two each approximately 30 metres long. Assay results include 0.463 oz/ton gold and 0.25 oz/ton silver over a 2.0 metre width (McArthur et. al., 1987) from one of the shorter veins.

Geophysical and geochemical surveys carried out by Abermin Corporation in 1987 outlined two induced polarization (I.P.) anomalies and one strong gold soil geochemical anomaly extending up the mountain slope 50 to 300 metres east of, and subparallel to, the Highland Surprise gold system.

The 1991 drilling program consisted of six diamond drill holes totalling 406 metres which ranged in depth from 59.4 to 86.4 metres. They were designed to test the I.P. and geochemical anomalies. Five of the six drill holes tested two I.P. anomalies and one tested the gold geochemical anomaly. The former holes intersected only minor sulphides, not in sufficient amounts to be the cause the anomalies.

Two drill holes had significant gold intercepts. DDH 91-2 intersected a 0.12 metre section which assayed 10040 parts per billion (ppb) gold from a pyritized, biotitic schistose zone associated with the I.P. anomaly nearest the Highland Surprise mine workings. DDH 91-5, which tested the gold geochemical anomaly, had three closely spaced intercepts which assayed 2420, 2100 and 6600 ppb gold over respectively 0.80, 0.85 and 1.00 metres of pyritized amphibolite zones.

The above two new gold discoveries are most significant in that they appear to occur within mineralized shear zones that subparallel the Whitewater Fault and therefore could have good continuity along strike. A vertical difference of 220 metres occurs between the intercepts in DDH 91-2 and DDH 91-5 suggesting good vertical continuity of the gold systems.

It is concluded from the drill results that the induced polarization anomalies tested are not due to sulphide mineralization but that the gold geochemical anomaly may reflect weak mineralization encountered in pyritic, biotitic and amphibolitic shear zones.

It is recognized that an appraisal of the two newly discovered gold systems cannot be made based on a single drill hole in each. Further prospecting of the mountain slope along the projected strike of each system is recommended.

Contingent upon the results of the prospecting program further helicopter supported diamond drilling might be considered.

The authors of this report were involved only with the 1991 drilling and not with previous exploration programs on the property. For this reason much of the background data was obtained from a report on the property by McArthur et. al. (1987) and used, with slight modifications, for the sake of completeness.

INTRODUCTION

Between August 6-24, 1991 a diamond drill program was conducted on a large block of contiguous claims which collectively were referred to as the "Whitewater Project". For assessment purposes, the claims were divided into two groups - Lyle 1 Group and Lyle 2 Group.

The purpose of the drill program was to test one gold geochemical and two induced polarization anomalies located during an exploration program conducted in 1987 (see History). Diamond drilling was contracted by Emary Drilling of New Denver, B.C.

Harold M. Jones & Associates were contracted to provide on-site supervision, core logging and sampling on behalf of T.S.A. Management Limited and Goldcorp Investment Ltd., optionors of the property. Project geologist was M.S. Morrison, who also compiled most of the following report.

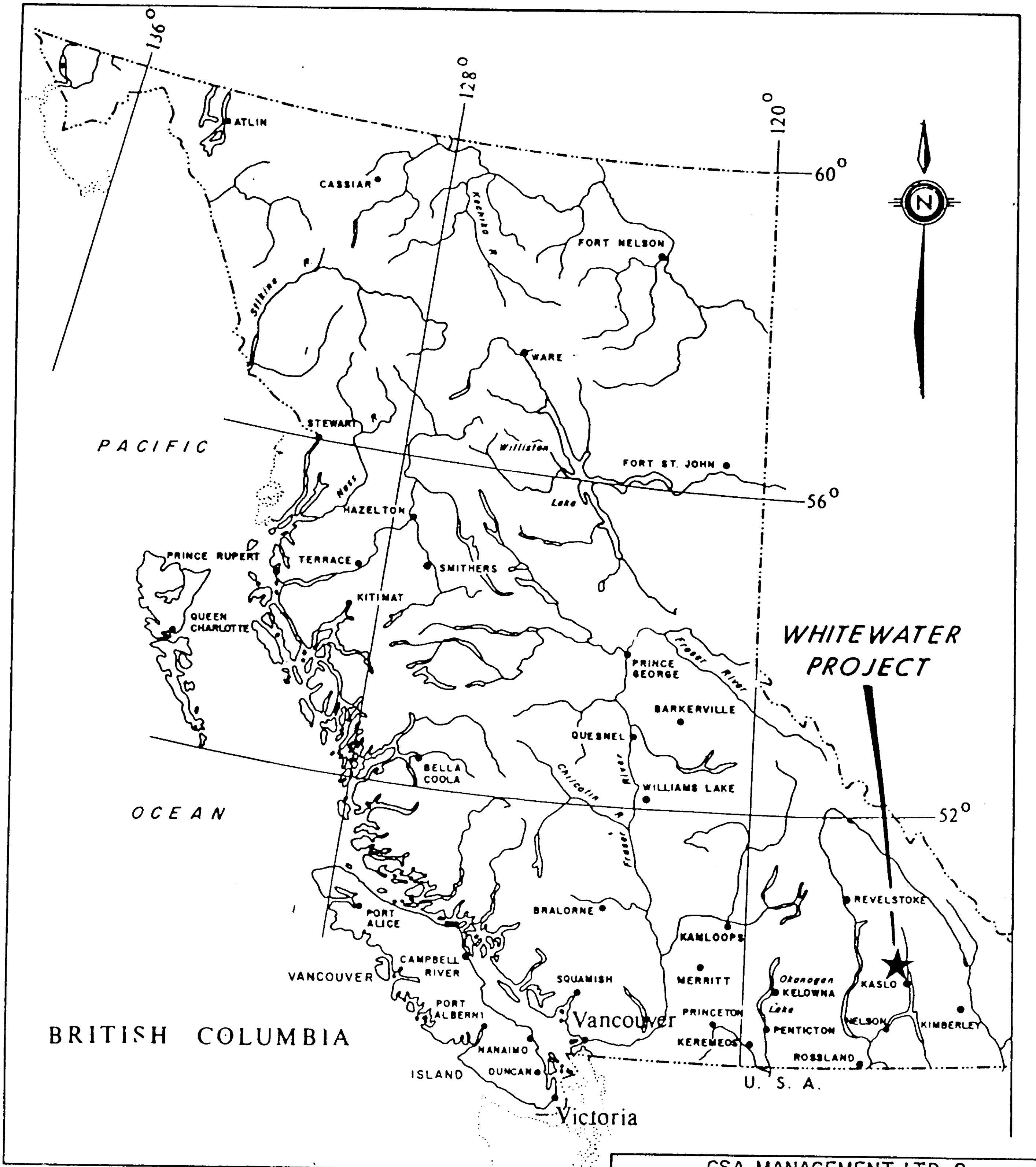
The cost of the drilling project was applied as assessment work on Lyle 1 Group and Lyle 2 Group.

Location and Access

50° 03' Latitude	)	to approximate centre
117° 06' 30" Longitude	)	of claims

The property is located in the Slocan Mining Division of southern British Columbia approximately 20 km east-northeast of New Denver and 25 km northwest of Kaslo. Locally it is situated at the south end of the Goat Range in the Selkirk Mountains on Lyle and Whitewater Creeks, tributaries of the Kaslo River.

Access is by good to poor 4-wheel drive roads from Retallack, an abandoned mining community on Highway 31A eighteen kilometres from New Denver and twenty-five kilometres from Kaslo.. The dirt road from this point divides, with one branch following Whitewater Creek and the second following Lyle Creek. The latter was used to service the drill project. It was approximately 3 km from the highway to the drill staging area.



0 100 200 300 KM.

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H. M. JONES & ASSOCIATES INC. VANCOUVER, B.C.		
WHITEWATER PROJECT LYLE 1 GROUP & LYLE 2 GROUP **LOCATION MAP** LYLE CREEK, RETALLACK AREA N.T.S. 82K-3W SLOCAN M.D., B.C.		
SCALE : 1:7,500,000 M. Morrison/H. Jones	OCT. 1991	FIG. 1

CHONG

Access within the claims area is either by foot on old, washed-out roads, or along old trails.

All drill moves were by helicopter from a staging area at the end of the drivable section of the road. Canadian Helicopter's 206 Jet Range, from their Nelson base, was used for all drill moves.

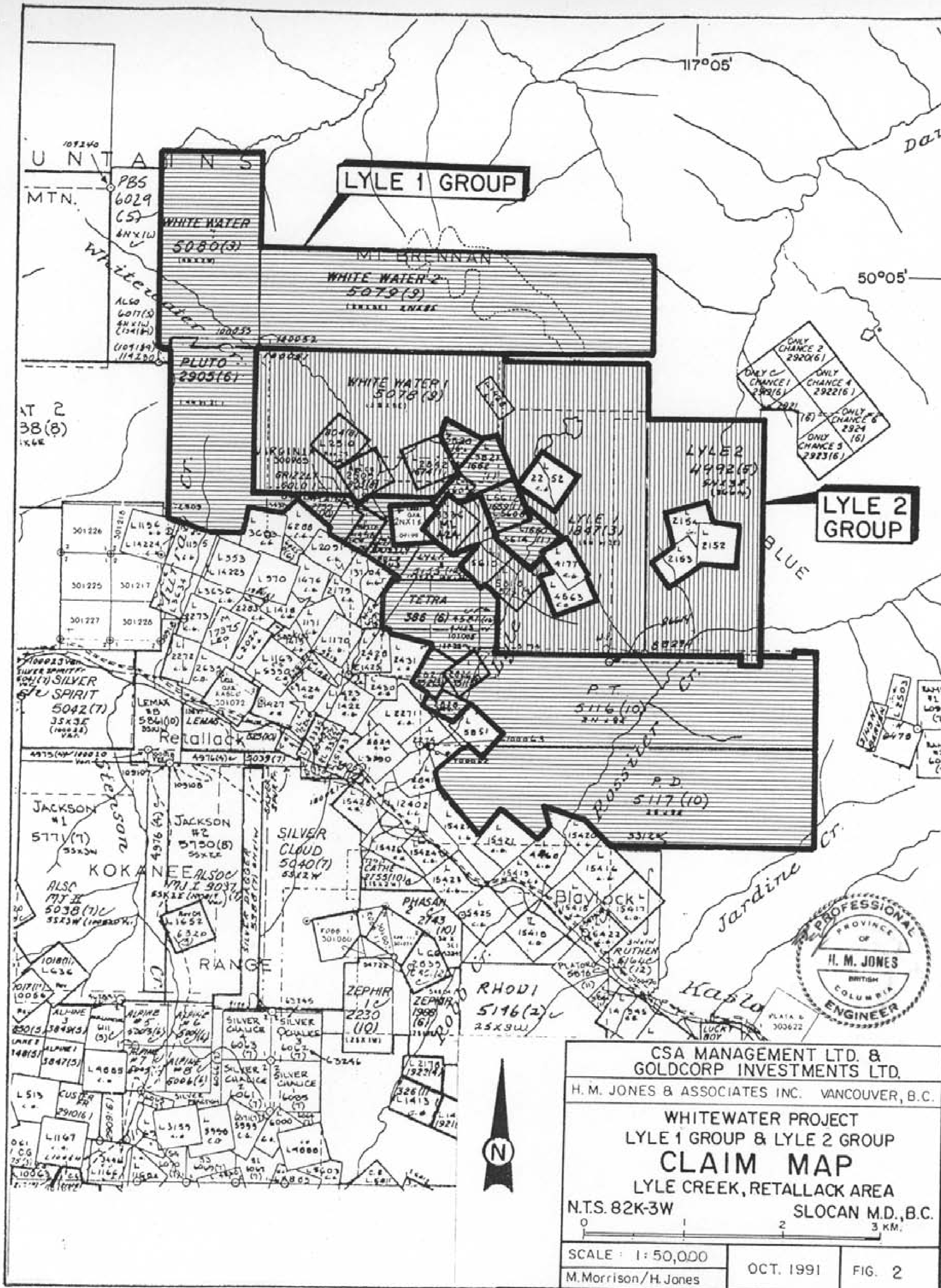
Topography and Vegetation

The claims are located on the Blue Ridge part of the Selkirk Range which is characterized by northwesterly-trending ridges rising to 2,300 m - 2,740 metres elevation above sea level. They are dissected by a number of deep creek canyons, resulting in all slopes being steep to cliff-forming. Below approximately 2,000 metres elevation all slopes and valleys are well forested with conifers; above this elevation, vegetation is typical of alpine areas with trees stunted to sparse, and locally severely damaged by large snow slides.

Elevations on the property range from approximately 1,220 m at the southern edge to the peak of Mt. Brennan at 2,740 metres. As a result of the high elevation the property is only snow-free from approximately June to early October.

Property and Title

The property consists of a number of reverted Crown grants, two-post claims and modified grid claims totalling 149 units. These are shown on Figure 2, which is a portion of the government mineral claim map 82K3W. For assessment work filing, these claims were placed into two groups. They are: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H. M. JONES & ASSOCIATES INC. VANCOUVER, B.C.
WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP
CLAIM MAP
LYLE CREEK, RETALLACK AREA
N.T.S. 82K-3W
SLOCAN M.D., B.C.
0 1 2 3 KM.
SCALE : 1 : 50,000
M.Morrison/H.Jones
OCT. 1991
FIG. 2
LYLE 1 GROUP
LYLE 2 GROUP
117°05'
50°05'
MT. BRENNAN
WHITE WATER
5080(3)
WHITE WATER 2
5079(9)
WHITE WATER 1
5078(9)
PLUTO
2905(6)
LYLE 2
4492(5)
LYLE 1
1847(3)
TETRA
386 (6)
P. T.
5116(10)
P. D.
5117(10)
Retallack
Blaylock
KOKANEE
RANGE
Whitewater Cr.
Rossiter Cr.
Jardine Cr.
Kaslo
BLUE
SILVER CLOUD
5040(7)
JACKSON #1
5771(7)
JACKSON #2
5750(8)
SILVER SPIRIT
5042(7)
RHODI
5146(2)
ZEPHIR 1
2230 (10)
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Lyle 1 Group

Claim Name	New I.D. No.	Record No.	Units	Expiry Date*
Lyle 1	255719	1847	18	25/03/95
Lyle 2	256217	4992	15	13/05/95
Whitewater 1	256250	5078	15	05/09/95
Garnett	255696	1674	1	17/01/95
Wild Swan	255538	804	1	23/08/95
Robin	255537	803	1	23/08/95
Mayflower	255653	1428	1	10/09/95
Connie 2 Fr.	256303	5231	1	11/09/95
			53 units	

Lyle 2 Group

Claim Name	New I.D. No.	Record No.	Units	Expiry Date*
PT	256261	5116	16	31/10/94
PD	256262	5117	16	31/10/94
Revenue	255464	351	1	29/03/95
Defender	255465	352	1	29/03/95
Howard	255466	353	1	29/03/95
Tetra	255470	386	4	09/06/95
Lyle 3	256269	5153	12	15/12/94
Grizzly Gold	255544	843	1	07/09/95
Grizzly Gold 1	255545	844	1	07/09/95
Plato	255850	2750	2	22/10/94
Pluto	255877	2905	8	11/06/95
Whitewater 2	256251	5079	16	05/09/95
Whitewater 3	256252	5080	8	05/09/95
Paisley	255690	1659	1	08/01/95
Whistler	255691	1660	1	08/01/95
Cube & Ruby Fr.	255692	1661	1	10/01/95
Emerald Fr.	255693	1662	1	10/01/95
ML 424	257284	-	3	Annual tax
			94 units	

* The Expiry Date is based on the acceptance of the Assessment Work filed on October 16, 1991.

The claims are held by an option agreement between Mr. Peter Leontowicz and Mr. Dennis Tyers, both of New Denver, B.C., the optionors, and C.S.A. Management Ltd. and Goldcorp Investments Ltd. of Toronto, Ontario, the optionees.

History and Previous Work

The general Whitewater Project area has been actively explored since the late 1800's, resulting in the discovery of a number of lead-zinc-silver occurrences in Slocan sediments, the largest of which was the Whitewater Mine. This property produced, between 1892 - 1945, 260,542 tons of ore containing 1,435 oz. gold, 3,152,130 oz. silver, 28,017,903 lbs. lead and 36,260,370 lbs. zinc. The ore bodies were found adjacent to a thrust fault zone within slate and limestone of the Slocan Group (Hedley, 1945). This mine is located 1 kilometre south of the Whitewater Project.

In 1936 gold was discovered within the Whitewater property at the present location of the Highland Surprise Mine. This precious metal mineralization is hosted by Upper Paleozoic Kaslo Group volcanics. The mine produced, between 1937-1941, 1,617 oz. gold from 5,151 tons of ore grading 0.314 oz. per ton (Maconachie, 1940).

Other mineral occurrences discovered during this period of exploration include: the Gold Quartz showings located to the west on Whitewater 2 claim; the Ibex Crown grant located within Whitewater 1 claim; the Eureka and the Iron Crown showings located on Lyle 2 claim; and the Solo Best occurrences located within the Lyle 1 claim.

A considerable amount of exploration was conducted in the immediate vicinity of the Whitewater property during the last twenty years. The first recorded work was done by Pan Ocean Oil Ltd. in 1971 through 1973. This work focussed on the nickel mineralization occurring within the ultramafic portion of the Kaslo Group which transects the property. The next exploration activity was conducted by Amoco Canada Petroleum Co. Ltd. during 1979 through 1982. This work concentrated on the gold potential within the Kaslo Group volcanics. Almine Resources Ltd. also keyed in on the precious metal potential during an exploration program conducted in 1983.

During 1987 Abermin Corporation investigated the precious metal potential of the Whitewater Project area with the main focus on the Highland Surprise Gold Mine. Two of the old adits were partially rehabitated, and access roads were reconstructed. Linecutting, geological mapping, prospecting and geochemical sampling were conducted, as were induced polarization, magnetometer and VLF-EM surveys.

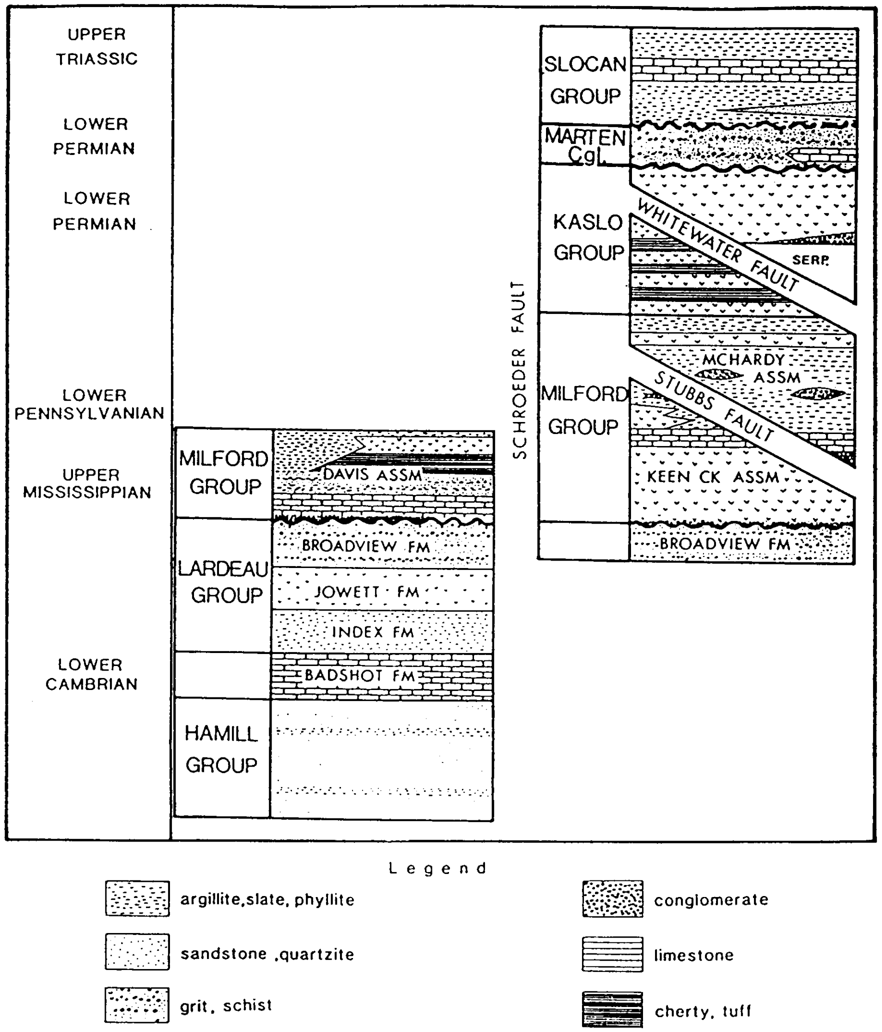
Anomalies outlined during the 1987 field season provided the targets for the 1991 drilling program (see Figure 4).

GEOLOGY

Regional Geology

McArthur et. al. (1987) described the regional geology as follows:

> "The property lies within the central Kootenay Arc, an arcuate structural zone which marks the transition from North American rocks of the Cordilleran miogeosyncline to the tectonic collage of allochthonous terranes that are accreted to it (Archibald et. al., 1983). North American rocks are locally represented by the Lardeau Group, a Lower Paleozoic sequence of metamorphosed clastic sediments and minor limestones. They younger allochthonous terrane is comprised of Late Paleozoic to Early Mesozoic sedimentary and volcanic assemblages. This terrane was accreted during a mid-Jurassic - Early Cretaceous collisional event. A second collisional event during Late Cretaceous - Paleocene was accompanied by uplift, erosion and intrusion of two-mica granites. Tertiary age extensional faulting with lesser intrusive activity complete the geological history of the area.
>
> Within the project area three major rock groups are exposed (Figure 3). The oldest is the Upper Mississippian to Pennsylvanian age Milford Group which regionally is divided into three assemblages but with only one, the McHardy, present on the property. This assemblage is comprised of basal limestone and calcareous sandstone overlain by tuffaceous sandstone and conglomerate. This in turn is overlain by a thick sequence of argillite with minor chert and volcanics (Klepacki and Wheeler, 1985). The limestones have yielded Upper Mississippian age fossils (Orchard, 1985).



Tectonic and stratigraphic relationships of stratified rocks in the Goat Range. Stratigraphic ages determined from fossil collections are shown on the left margin. (after Klepacki, 1985).

Geological Boundary: ——— Fault: ———

Axial Surface, Dryden Anticline:

UPPER TRIASSIC

TrSc — SLOCAN GROUP: Slate/phyllite, limestone, sandstone

Disconformity

LOWER PERMIAN

PMc — MARTEN Conglomerate: Greenstone conglomerate

Unconformity

PERMIAN AND(?) CARBONIFEROUS

PKv — KASLO GROUP: Tholeiitic volcanics

PKub — KASLO GROUP: Ultramafic Unit

UPPER MISSISSIPPIAN AND PENNSYLVANIAN

MPM — MILFORD GROUP: McHardy assemblage: Siliceous argillite, diorite tholeiitic volcanics, limestone

Stubbs Thrust Fault

MPK — Keen Creek assemblage: Tholeiitic volcanics, limestone, clastics

MPD — Davis assemblage: Siliciclastics, limestone, tholeiitic volcanics

Angular Unconformity

LOWER PALEOZOIC

lPL — LARDEAU GROUP: Calcareous schist, mafic volcanics, grit

LOWER CAMBRIAN

€B — BADSHOT FORMATION: White marble, calc-silicate gneiss

€H — HAMILL GROUP: Mica Schist, quartzite, micaceous quartzite

INTRUSIVE ROCKS

MIDDLE JURASSIC

Jg — KUSKANAX-NELSON Granitic rocks: Hornblende-biotite granite, aegerine granite feldspar porphyry

LOWER PERMIAN

Wwd — Whitewater diorite: Medium- to coarse-grained foliated diorite

PERMIAN AND(?) CARBONIFEROUS

PKd — Kane Creek diorite: Medium-grained porphyritic hornblende diorite

(After Klepacki, 1985)

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WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP

STRATIGRAPHIC COLUMN & LEGEND

LYLE CREEK, RETALLACK AREA

N.T.S. 82K-3W SLOCAN M.D., B.C.

SCALE : —	OCT. 1991	FIG. 3
M.Morrison/H.Jones		

"Conformably overlying the Milford Group is the Permian age and possibly older Kaslo Group. This group is a sequence of tholeiitic volcanics with minor interbedded cherty tuff and tuffaceous greenstone intruded by syn and post volcanic diorites. Structural repetitions by thrust faulting have led to the group being divided into two units or plates, with the upper plate resting on an ultramafic base. Unconformably overlying the Kaslo Group volcanics is a greenstone conglomerate referred to as the Martin Conglomerate. Completing the geologic record is the Slocan Group, an Upper Triassic age sequence of argillites locally interbedded with quartzites and limestones.

All three groups are intruded by felsic dykes and small stocks, part of the Jurassic age plutonic event.

The tectonic history of the area is dominated by Permian age thrusting and Jurassic age folding, with normal faulting. These events overprint a pre-Mississippian age deformation which affected the older Lardeau Group. The early thrusting even displaced the McHardy assemblage onto the other two Milford assemblages via the Stubbs Fault. It also generated the Whitewater Fault which formed the two Kaslo plates. Diorite intrusions predate and postdate the thrust faulting. Uplift and erosion of the Kaslo volcanics provided detritus for the Martin Conglomerate. Following Slocan Group sedimentation the complete sequence, including the early thrust faults, was folded into the Dryden Anticline. This was accompanied by penetrative deformation and regional metamorphism, locally to amphibolite grade. This event also reactivated some of the early thrust faults. In addition, the normal Schroder Fault placed the Slocan Group adjacent to the Lardeau Group at this time. Major granitic intrusions took place concurrently often plugging the major fault zones.

Two later poorly documented coaxial fold phases are also locally present. Small scale faulting of the Jurassic age intrusions and dykes may be related to a second collisional event in the mid-Cretaceous."

Property Geology

The property geology has been extensively covered in an assessment report by G.F. McArthur, et. al. (1987) filed with the Ministry of Energy, Mines and Petroleum Resources in 1987. Mapping was carried out at a scale of 1:5,000 over the entire Whitewater Project area and at a scale of 1:2500 in the immediate area of the Highland Surprise Gold Mine.

A few key elements relating to the Highland Surprise Gold Mine and this year's drilling program were summarized from the McArthur report and incorporated in the paragraphs that follow.

The Highland Surprise Gold Mine and the area extending for 300 metres to the east of it, which was examined during the current drilling program, are entirely underlain by Permian and(?) Carboniferous Kaslo Group Volcanics. The Kaslo Group Volcanics have been divided into an Upper Plate and Lower Plate, separated by a major northwest trending structure called the Whitewater Fault, which crosses the study area immediately west of the Highland Surprise Gold Mine. All of the rocks in the study area occur within the Lower Plate of the Kaslo Group Volcanics.

The Whitewater Fault is a Permian Age thrust fault that exhibits later imbricate normal faulting during the Jurassic. As a result, it is a complex sliver zone containing various slices of the Kaslo Group. The presence of felsic dyke rock in some of the fault slices indicates at least one major movement since the Jurassic (McArthur et. al., 1987).

The Kaslo Group Volcanics east of the Whitewater Fault strike northwesterly and generally dip steeply northeast. The volcanics are comprised of andesitic and dacitic flows and tuffs that have been metamorphosed to the greenschist grade and some to the amphibolite grade. Many of the primary textures of the rocks have been obliterated and the common mineral assemblage is albite-epidote-actinolite-chlorite. A mineral assemblage including quartz, albite, iron carbonate and biotite is commonly spatially associated with felsic dyking and it is thought to have a hydrothermal origin.

The most significant veins at the Highland Surprise Mine consist of quartz with disseminations or blebs of pyrite and chalcopyrite. The gold is generally microscopic and occurs with pyrite grains or more rarely adjacent to chalcopyrite (Harris, 1987).

Individual veins are less than 50 cm wide but multiple veins can form a "vein system" (Maconachie, 1940) up to 2 m wide. Assays have returned gold values greater than 3 ounces per tonne (opt). Silver, however, is generally less than 0.2 opt (McArthur et. al., 1987).

The veins are enveloped by up to three metre wide alteration zones. These zones are generally pervasive consisting of silica, albite, carbonate and often pyrite which imparts a brown colouration to the rock. Quartz stockworks are locally present (McArthur et. al., 1987).

Feldspar porphyry dykes which intrude the volcanic pile are strongly albitic in composition (albitites). These dykes may be involved in the mineralization process since not only are they emplaced along similar structural trends to the mineralization, but they have a close spatial relationship to mineralization and alteration. It is therefore suggested that late magmatic fluids are involved in the mineralizing process. Samples of mineralization which were examined contain a strong component of albite along with quartz, carbonate and biotite. It would appear that the presence of biotite is in part responsible for the dark colouration within the Highland Surprise mineral zone. Harris (1987) indicates that the biotite may be of a hydrothermal origin as it appears to be only associated with the mineralization. Both the dykes and wall rocks have been altered by the mineralizing fluid (McArthur et. al., 1987).

DIAMOND DRILL PROGRAM

Diamond drilling was contracted by Emary Drilling of New Denver, B.C. using a Swedish-built Craelius Diamec 230 drill with hydraulic drive and a diesel engine power source. The drill was easily disassembled into two components for the helicopter moves to sites on the rugged property. A Bell 206 Jet Ranger Helicopter, supplied by Canadian Helicopters from Nelson, B.C., was used to move the drill from site to site on the property while fuel and supplies (core boxes, etc.) were flown to each site from the staging area at the head of the road near Lyle Creek Falls. The drill core was flown to the staging area at the completion of each hole and trucked to the core storage area at Retallack.

During each drill move a set of extra timbers was flown to the next drill site, so that each time the helicopter visited the property a new site was prepared in advance. In spite of good organization and preparation almost 2 hours of helicopter time were consumed for each drill move.

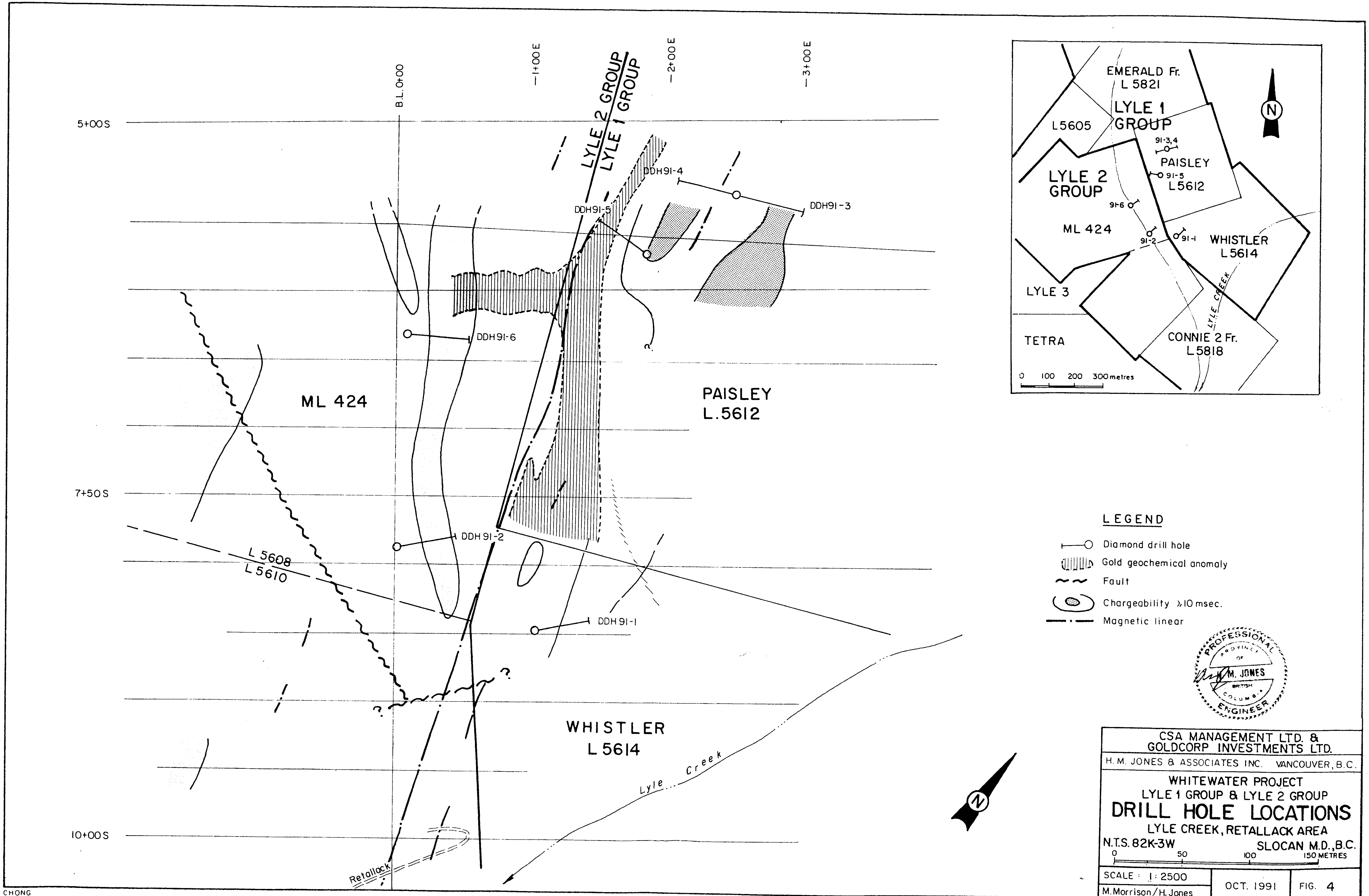
Water for each drill site was pumped or gravity-fed from nearby small creeks which were fed by late summer snow melt.

Most of the drill sites were located on a mountain slope that had, over the years, been swept of its forest cover by snow slides. In many cases, only a few slide alders or huckleberries were cut away to make room for the 4 x 4 metre drill platform. No sumps were dug as drill mud was only used to set the casing, and water circulation and drill cuttings were often lost in cavities down the hole. There was no run-off from the drilling operations at most drill sites.

Reclamation consisted of raking top soil back in place, where disturbed, and planting grass seed with fertilizer. The drill holes were plugged with identification stakes.

The drilling program consisted of six holes drilled from five sites. The holes, which were tied to the 1987 Lyle grid, were:

Diamond Drill Hole	Coordinates South	Coordinates East	Elevation (metres)	Azimuth	Inclination (degrees)	Depth (metres)
91-1	8+48	1+40	1470	045	-45	60.3
91-2	7+78	0+02	1510	046	-60	86.4
91-3	5+52	2+48	1722	070	-45	73.8
91-4	5+51.5	2+46	1722	250	-45	59.4
91-5	5+64	1+83	1689	270	-45	60.6
91-6	6+31	0+07	1608	060	-44	65.1
			Total drilled			405.6 metres



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WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP

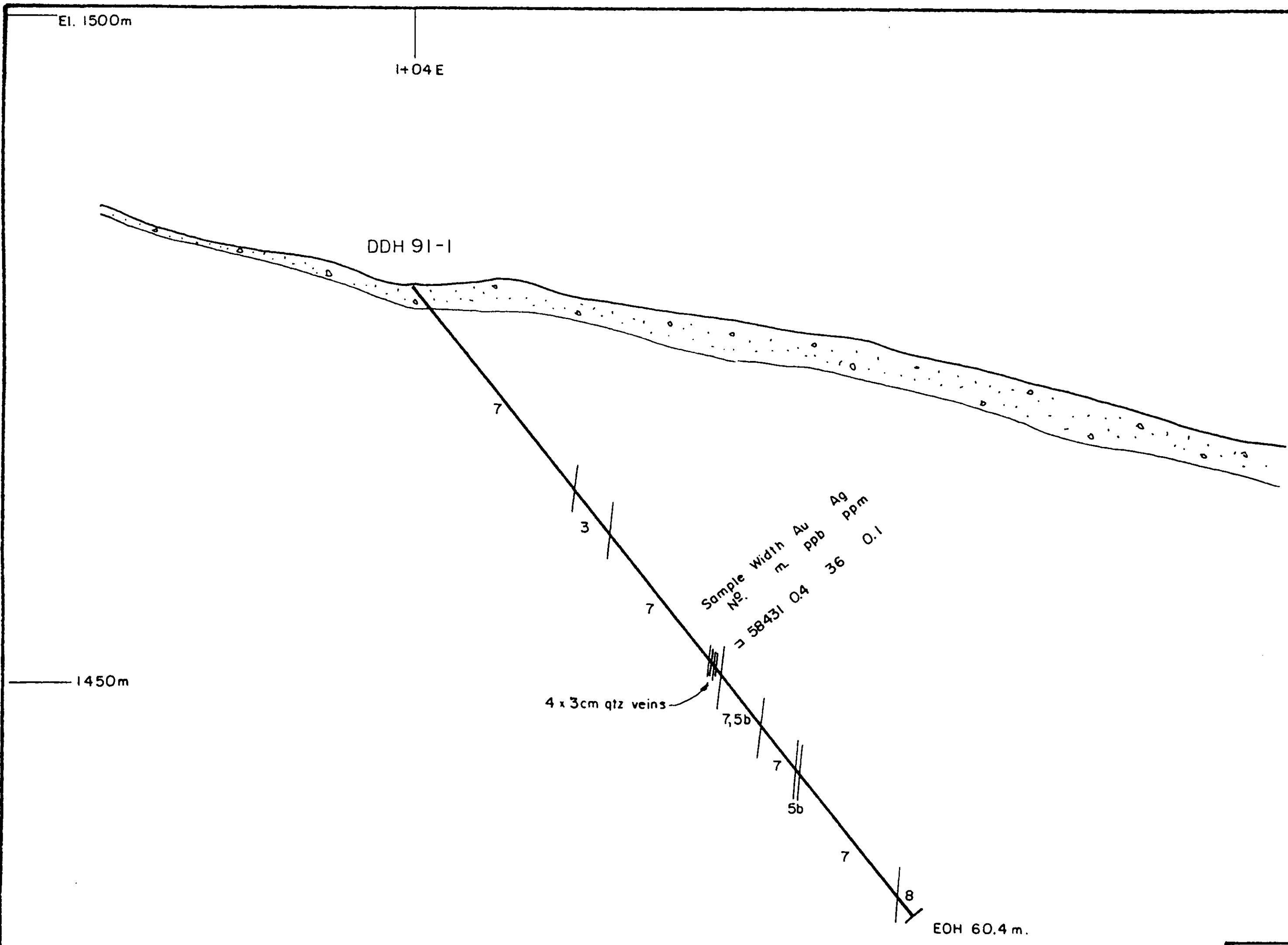
DRILL HOLE LOCATIONS

LYLE CREEK, RETALLACK AREA

N.T.S. 82K-3W SLOCAN M.D., B.C.

0 50 100 150 METRES

SCALE: 1:2500	OCT. 1991	FIG. 4
M.Morrison/H.Jones		



LEGEND

JURASSIC (?)

8	Feldspar porphyry dyke

PERMIAN & (?) CARBONIFEROUS
Kaslo Group

7	Andesitic tuffs
6	Andesitic flows
5	Dacitic tuffs (a) ; lapilli tuffs (b)
4	Dacitic flows
3	Diorite sills, dykes
2	Biotite schists
1	Amphibolites

Section looking N45°W

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WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP

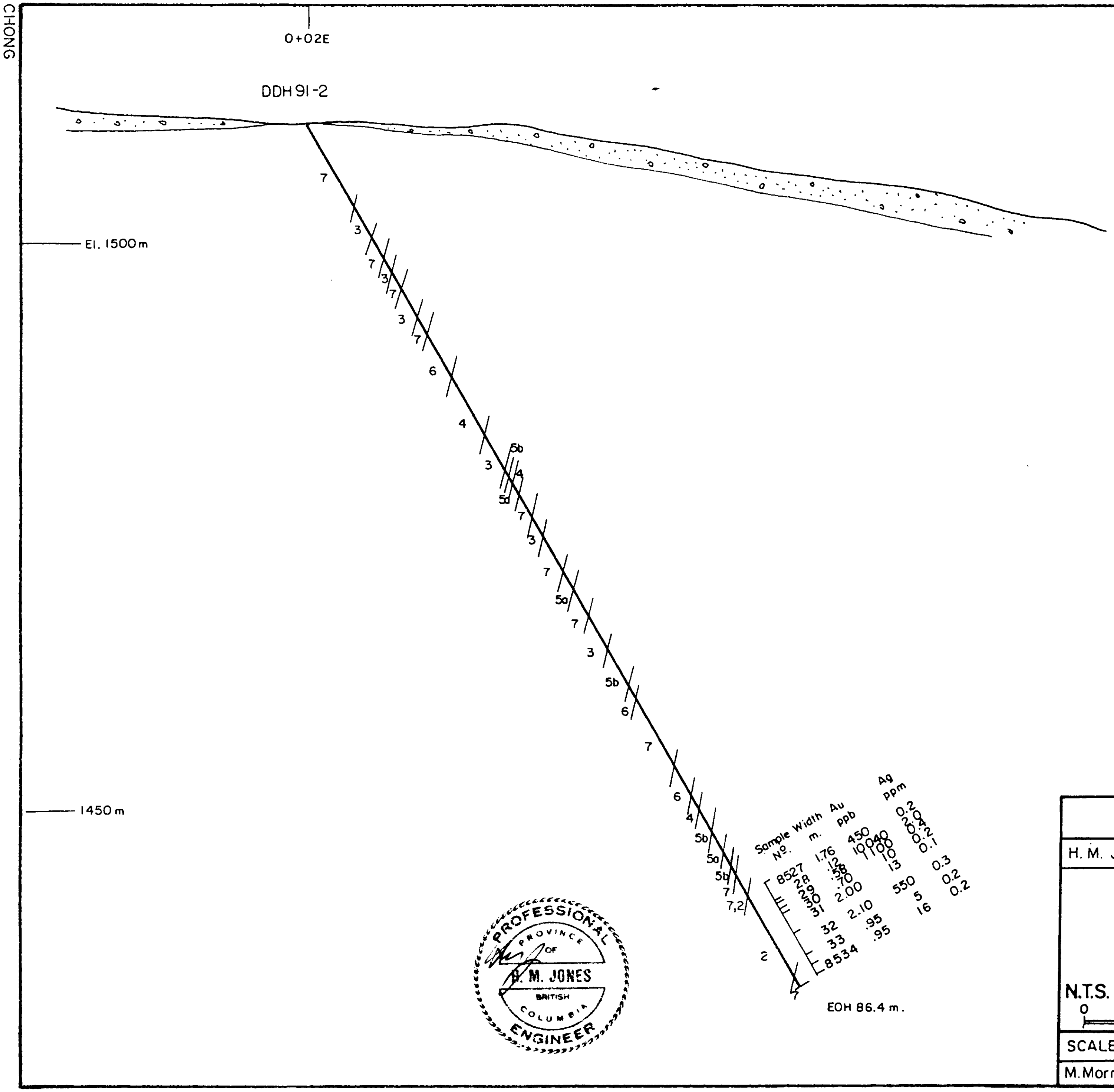
DDH 91-1 SECTION

LYLE CREEK, RETALLACK AREA

N.T.S. 82K-3W SLOCAN M.D., B.C.

0 10 20 30 METRES

SCALE : 1: 500	OCT. 1991	FIG. 5
M.Morrison/H.Jones		



LEGEND

JURASSIC (?)

8	Feldspar porphyry dyke

PERMIAN & (?) CARBONIFEROUS
Kaslo Group

7	Andesitic tuffs
6	Andesitic flows
5	Dacitic tuffs (a) ; lapilli tuffs (b)
4	Dacitic flows
3	Diorite sills, dykes
2	Biotite schists
1	Amphibolites

Section looking N45° W

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WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP

DDH 91-2 SECTION

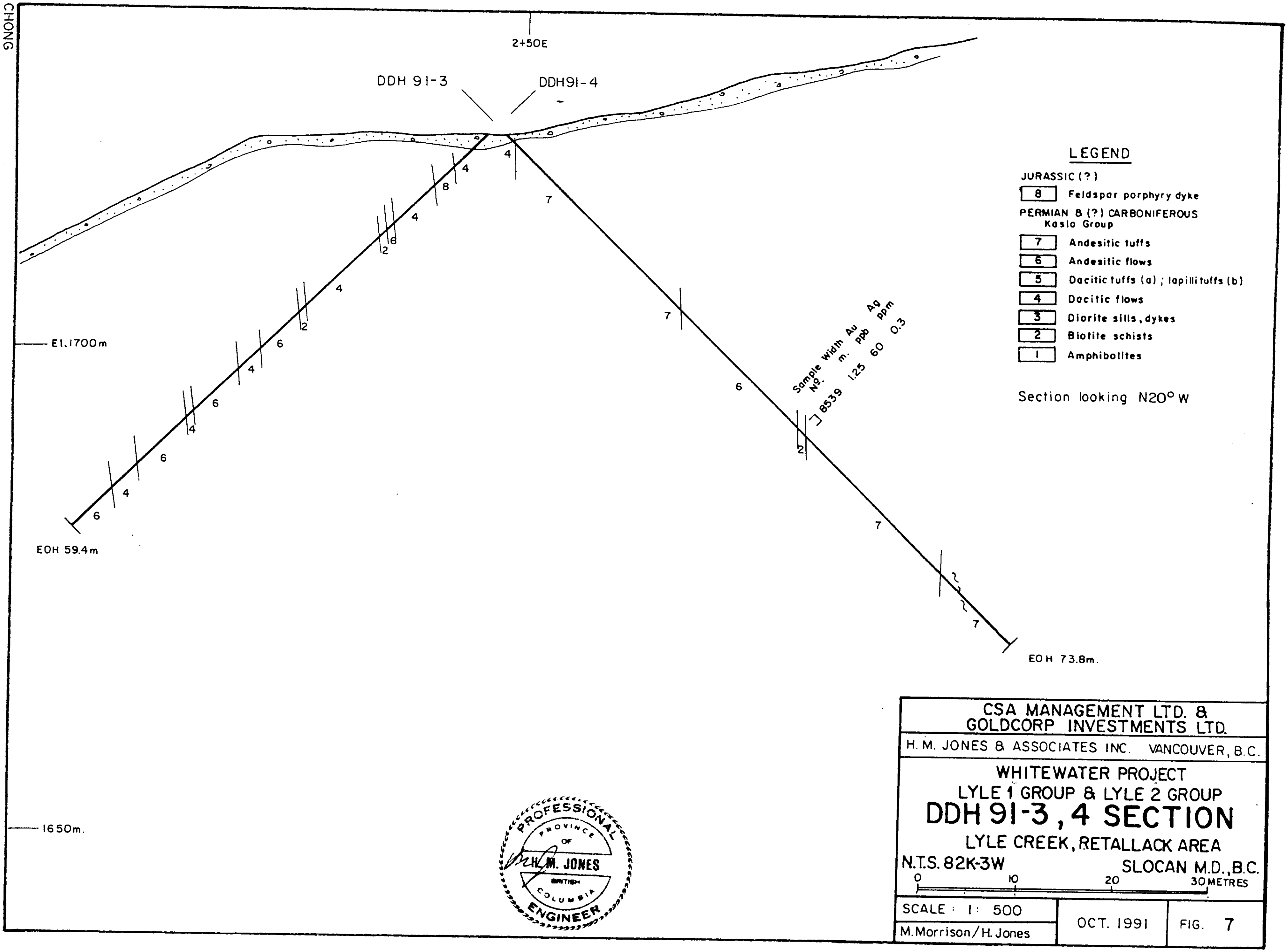
LYLE CREEK, RETALLACK AREA

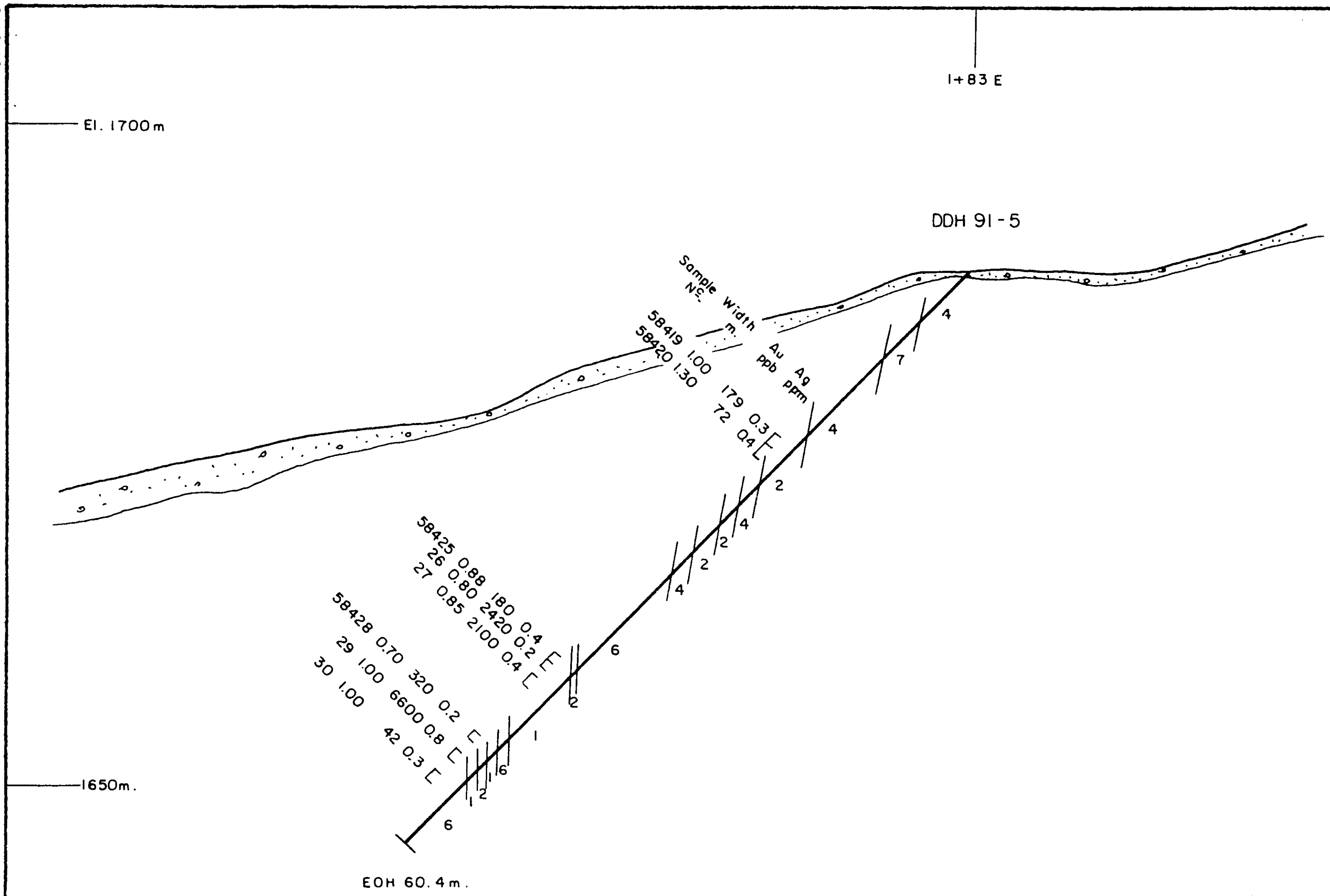
N.T.S. 82K-3W SLOCAN M.D., B.C.

0 10 20 30 METRES

SCALE : 1: 500 | OCT. 1991 | FIG. 6

M.Morrison/H. Jones


CHONG
2+50E
DDH 91-3
DDH91-4
E1.1700m
1650m.
EOH 59.4m
EOH 73.8m.
Sample No. 8539
Width m. 1.25
Au ppb 60
Ag ppm 0.3
LEGEND
JURASSIC (?)
8 Feldspar porphyry dyke
PERMIAN & (?) CARBONIFEROUS
Kaslo Group
7 Andesitic tuffs
6 Andesitic flows
5 Dacitic tuffs (a) ; lapillituffs (b)
4 Dacitic flows
3 Diorite sills, dykes
2 Biotite schists
1 Amphibolites
Section looking N20° W
PROFESSIONAL
PROVINCE OF
H. M. JONES
BRITISH COLUMBIA
ENGINEER
CSA MANAGEMENT LTD. &
GOLDCORP INVESTMENTS LTD.
H. M. JONES & ASSOCIATES INC. VANCOUVER, B.C.
WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP
DDH 91-3, 4 SECTION
LYLE CREEK, RETALLACK AREA
N.T.S. 82K-3W
SLOCAN M.D., B.C.
0
10
20
30 METRES
SCALE : 1: 500
M.Morrison/H. Jones
OCT. 1991
FIG. 7



LEGEND

JURASSIC (?)

8	Feldspar porphyry dyke

PERMIAN & (?) CARBONIFEROUS
Kaslo Group

7	Andesitic tuffs
6	Andesitic flows
5	Dacitic tuffs (a) ; lapilli tuffs (b)
4	Dacitic flows
3	Diorite sills, dykes
2	Biotite schists
1	Amphibolites

Section looking N.

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PROVINCE OF BRITISH COLUMBIA
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WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP

DDH 91-5 SECTION

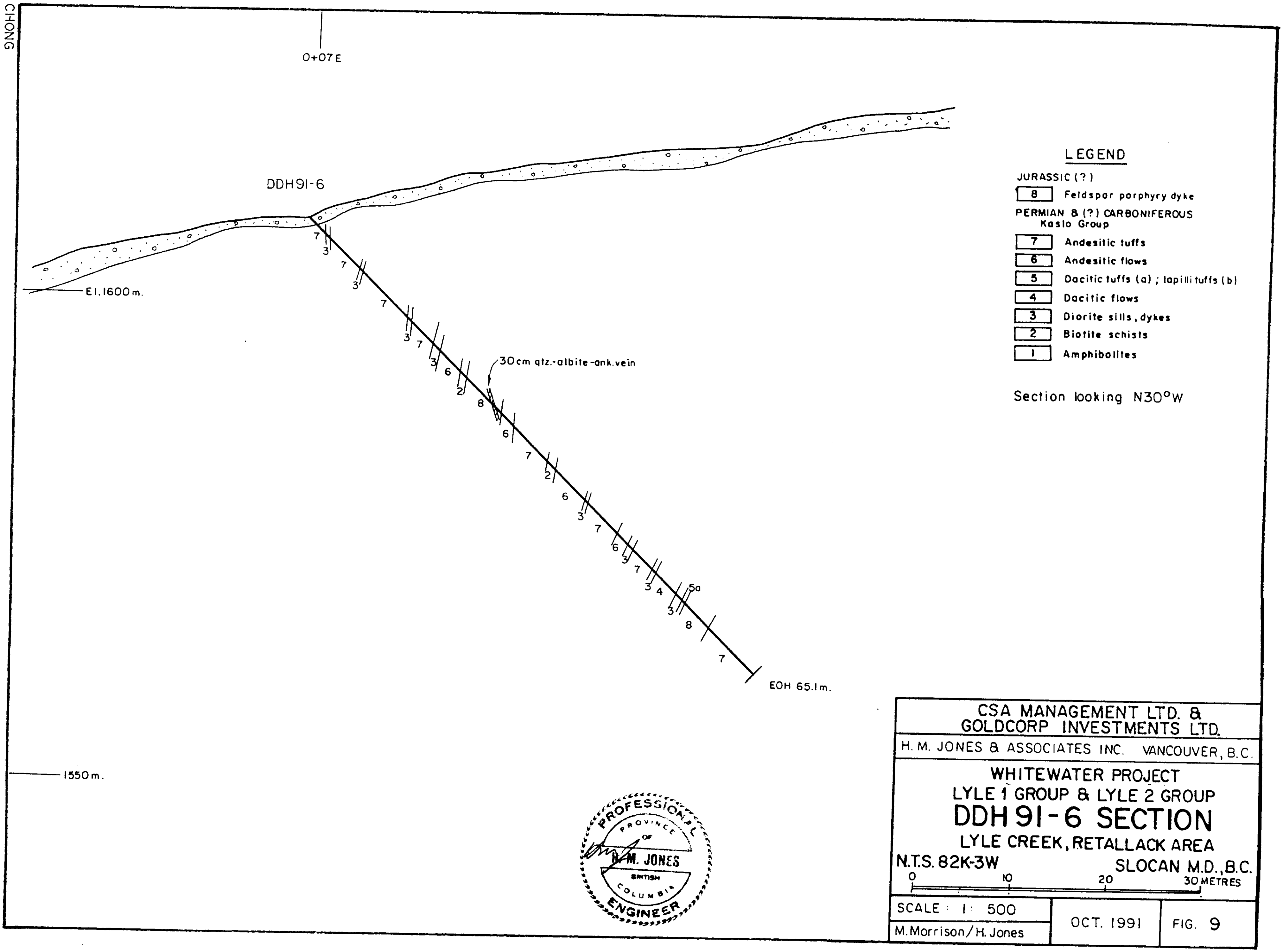
LYLE CREEK, RETALLACK AREA

N.T.S. 82K-3W SLOCAN M.D., B.C.

0 10 20 30 METRES

SCALE : 1 : 500	OCT. 1991	FIG. 8
M. Morrison / H. Jones		

CHONG


0+07 E
DDH91-6
El.1600 m.
1550 m.
30cm qtz.-albite-ank.vein
EOH 65.1m.
7
3
7
3
7
3
7
3
6
2
8
6
7
2
6
3
7
6
3
7
3
4
5a
3
8
7
LEGEND
JURASSIC (?)
8 Feldspar porphyry dyke
PERMIAN & (?) CARBONIFEROUS
Kaslo Group
7 Andesitic tuffs
6 Andesitic flows
5 Dacitic tuffs (a) ; lapilli tuffs (b)
4 Dacitic flows
3 Diorite sills, dykes
2 Biotite schists
1 Amphibolites
Section looking N30°W
PROFESSIONAL
PROVINCE OF
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BRITISH COLUMBIA
ENGINEER
CSA MANAGEMENT LTD. &
GOLDCORP INVESTMENTS LTD.
H. M. JONES & ASSOCIATES INC. VANCOUVER, B.C.
WHITEWATER PROJECT
LYLE 1 GROUP & LYLE 2 GROUP
DDH 91-6 SECTION
LYLE CREEK, RETALLACK AREA
N.T.S. 82K-3W
SLOCAN M.D., B.C.
0
10
20
30 METRES
SCALE : 1 : 500
M.Morrison/H. Jones
OCT. 1991
FIG. 9

The holes were drilled over a 300 x 300 metre area immediately east of the Highland Surprise Gold Mine to test two induced polarization anomalies and one gold soil geochemical anomaly outlined by Abermin Corporation in 1987. The anomalies extended up the mountainside subparallel to the Highland Surprise gold vein system some 50 to 300 metres east of the old mine workings.

Drill holes 91-1, 91-3 and 91-4 were designed to test the easternmost and strongest of the I.P. anomalies, while drill holes 91-2 and 91-6 were located to test an I.P. anomaly near the old mine workings. Drill hole 91-5 was drilled westerly to test bedrock underlying a strong gold soil anomaly.

The core selected for analysis was split with a Longyear core-splitter at the storage site, the split portion placed in a plastic sample bag with the appropriate sample ticket, then packaged and shipped by bus to Acme Laboratories Ltd. in Vancouver. Sample intervals ranged from 0.1 to 2 metres and were selected on the basis of contained sulphides or silicification. Some random samples were also analyzed. In all, 80 samples were submitted to the lab and all were analyzed for 30 elements by I.C.P., plus gold by acid leach and Atomic Absorption finish.

RESULTS

Summary

None of the drill holes (91-1 to 4 and 91-6) designed to test the induced polarization anomalies contained in large enough quantities to properly account for the anomalies. In most cases iron sulphides content was only 0.25 to 0.50% throughout each hole, and only occasionally amounted to 2 to 3%. Drill hole 91-5, which was designed to test bedrock below the geochemical gold soil anomaly, had more success. It intersected 2420, 2100 and 6600 ppb gold from 0.80 to 1.00 metre intercepts of pyrite-bearing amphibolite. Since these were at the 44-metre depth it suggests that the gold soil anomaly is valid if the amphibolite projects to near surface.

Although not all of the anomalies proved to be well mineralized, the positioning of the six drill holes did allow for an examination of a near-continuous section of the Kaslo Group Volcanics over a 300 metre distance east of the Highland Surprise Gold Mine. The drill holes also intermittently examined the Kaslo Group Volcanics (and contained mineralized systems) over a vertical range of nearly 300 metres from the 1427 to the 1722 metre elevation.

The geology for drill holes 91-1 to 91-6 is summarized on Figures 5-9, while the drill logs (Appendix II) give a detailed record of the geology encountered in each drill hole.

Drill Hole Geology

Greenschist grade regional metamorphism obliterated many of the primary textures of the Kaslo Group volcanics within the drill area, and in logging the drill core it was often very difficult to distinguish between flow rocks and tuffs. Contacts between units were also hard to determine. Diorite sills or dykes were difficult to separate from possible slow-cooling centres of andesite flows, and the andesites themselves were often difficult to distinguish from dacites.

In general, the Lower Plate Kaslo Group volcanic sequence intersected during the drilling program included andesitic and dacitic flows and tuffs which were intruded by synvolcanic diorite sills or dykes. Going from west to east across the drill area: drill holes 91-2 and 91-6 intersected a mix of all of the recognized Kaslo Group volcanics including several diorite sills or dykes; drill hole 91-1, further east, cut predominantly andesitic tuffs; while drill holes 91-5 and 91-4 cut predominantly andesitic and dacitic flow rocks; and finally, drill hole 91-3, the furthest east of all, encountered predominantly andesitic tuffs and flow rocks.

(a) Kaslo Group Andesitic Flows and Tuffs

The andesitic flow rocks were the most common of all of the Kaslo Group rocks intersected. They were light to dark green, very fine, to fine, to medium grained, and often slightly porphyritic. The original constituents were altered to albite, epidote, actinolite and chlorite. Most of the albite phenocrysts (1-4 mm) were ragged in outline or stretched.

The andesitic tuffs are difficult to distinguish from the flows due to the degree of regional metamorphism, but abrupt grain size changes over short intervals are interpreted to be bedded tuffs.

(b) Kaslo Group Dacitic Flows and Tuffs

The dacitic flows are often difficult to distinguish from the andesitic flows on quick analysis, but they are usually light to dark grey,and are more often porphyritic than the andesites with a very fine-grained groundmass. The rocks are more siliceous, and locally highly siliceous.

The dacitic tuffs are hard to distinguish from the dacite flows with the exception of the lapilli tuffs of drill hole 91-2.

(c) Kaslo Group Synvolcanic Diorite Dykes and Sills

The larger, medium grained, equigranular diorite sills or dykes are relatively easy to distinguish from the rocks they intrude, but the contacts are not always distinct due to regional metamorphism. The diorites are made up of albite and hornblende with the hornblende usually 70% altered to actinolite.

(d) Kaslo Group Volcanics - Shearing

The Kaslo Group volcanics were sheared locally with the development of chloritic schistose zones. Some of these zones (up to 5 metres) were intercepted in most of the drill holes. Some of the schistose zones were heated to the point that biotite was formed. Biotite schist was encountered in drill holes 91-2, 91-3 and 91-5.

(e) Kaslo Group Volcanics - Development of Amphibolite Zones

Two amphibolite zones were intercepted in DDH 91-5, and these zones were thought to represent rock that originally was andesite, but which had been metamorphosed to amphibolite by a local heat source.

(f) Post-Permian Feldspar Porphyry Dykes

Post-Permian Feldspar Porphyry Dykes cut through the Kaslo Group volcanic rocks at several locations subparallel to bedding. These dykes, from 2 to 5 metres wide, were intercepted in drill holes 91-1, 91-4 and 91-6. They were comprised of 35% euhedral to subhedral albite phenocrysts, 1-7 mm, and 10% biotite crystals in a very fine grained grey groundmass. As mentioned earlier under the title "Property Geology" the dykes often had a close spacial relationship with gold-bearing vein systems on the property.

(g) Mineralization

A study of the drill core suggests that at least four phases of veining and mineralization are represented within the Kaslo Group volcanics, and that probably only one phase was gold-bearing.

The andesitic and dacitic flows and tuffs are cut by at least two phases of 1 to 2% early quartz and/or calcite and/or chlorite (or biotite) and/or albite and/or carbonate veins or veinlets that fill joints or irregular fractures. The vein material may equal up to 10 or 20% of the rock where small breccia zones have been healed.

The more brittle dacitic rocks or finer grained andesitic rocks are more fractured and veined than the medium grained rocks, and the medium grained diorite sills and dykes are generally poorly veined. Although the veins and veinlets only sometimes carry iron or copper sulphides there is always a direct correlation between the degree of veining and the amount of disseminated sulphides contained in the surrounding rock. There is also a noticeable increase in pyrrhotite or pyrite in the country rock immediately adjacent veinlets or veins.

In general, the Kaslo Group volcanics contain 0.25 to 0.50% pyrrhotite with trace amounts of pyrite and chalcopyrite. Chalcopyrite is often associated with pyrrhotite blebs in both veinlets and in adjacent country rock. The iron sulphides on average equal less than 0.25% in diorite sills or dykes; 0.25 - 0.50% in andesitic rocks and 0.50% in dacitic rocks.

There is a distinct correlation between higher gold values and a late phase of pyrite mineralization that was introduced into sheared zones within the Kaslo Group volcanics. The best gold samples obtained from the drilling program came from a pyritic, biotite schist near the bottom of DDH 91-2 and from two late fractured amphibolite zones midway down DDH 91-5. This relationship between pyrite and gold is illustrated by the following drill intersections:

Hole DDH 91-2

Interval (m)	Length (m)	Assay Au (ppb)	Description
75.62 - 77.24	1.62	5	Andesitic tuff, schistose, with quartz-calcite veinlet, est ¼%-½% pyrite.
77.24 - 79.00	1.76	450	Biotite schist, with 5-10% quartz-carbonate veinlets, est 2% prite.
79.00 - 79.12	0.12	10040	Biotite schist with 20% sheated quartz-albite veinlets, est 10% pyrite

Interval (m)	Length (m)	Assay Au (ppb)	Description
79.12 - 79.70	0.58	1100	Biotite schist with 2% pyrite.
79.70 - 80.4	0.70	10	Biotite schist with 1/2% pyrite.

It is readily apparent that the gold values dropped sharply either side of the intersection 79.00 - 79.12 m which contained much more pyrite than the other sections.

Hole DDH 91-5

Interval (m)	Length (m)	Assay Au (ppb)	Description
43.30 - 44.10	0.80	2420	Fractured, pyritized amphibolite with 5%-10% qtz. vein stockwork, est. 2-3% pyrite.
44.85 - 45.70	0.85	2100	Similar to above.
52.70 - 53.70	1.00	6600	Similar to above.
50.90 - 51.60	0.70	320	Amphibolite with 15% qtz vein stockwork, est 1% pyrite.

While the host rock in all of the above DDH 91-5 intersections was similar, that section from 50.9 - 51.6 m contained less pyrite and corresponding much less gold.

DISCUSSION

The imbricate fault structures cutting the Lower Plate of the Kaslo Group volcanic sequence, subparallel to the Whitewater Fault, appear to be the main structural control for the gold mineralization within the 1991 drill area.

The structures are represented by chloritic schistose zones that cut through the otherwise massive andesitic and dacitic volcanics. The schistose zones have been subjected to a high local heat source, in many instances resulting in the development of biotite schists or amphibolite. It is expected that the intrusion of the Post-Permian (possibly Jurassic?) feldspar porphyry dykes provided the heat source for the development of the biotite schists and amphibolites although these dykes were not always encountered in the drill intercepts.

The gold mineralizing event is late and has followed the intrusion of the feldspar porphyry dykes and the development of the biotite schists and amphibolites. The gold is intimately associated with pyrite which mineralized the schists and amphibolites, taking advantage of the natural porosity of the schists and the secondary porosity of the brittle amphibolites that resulted from late tectonic movement.

The two significant gold intercepts in DDH 91-2 and DDH 91-5, discussed earlier, fit the structurally controlled geological model and sequence of events listed in the above paragraphs. In each case, however, the gold mineralization occurs over narrow widths that are sub-economic at the present time. In the case of DDH 91-5 the gold-bearing zones have distinct geological borders.

The DDH 91-2 and DDH 91-5 gold intercepts demonstrate that gold mineralization occurs over a vertical range of at least 220 metres on the property and is clearly associated with pyrite.

Although the DDH 91-2 and DDH 91-5 gold intercepts are sub-economic they do represent the discovery of two new gold systems on the property. Because they are believed to be structurally controlled and subparallel to the Whitewater fault, it is thought that the could have good continuity along strike and to depth. The single drill hole in each zone does not give enough data to appraise either zone. Gold values or mineralized widths could change along strike or down dip on either system. Further drilling will be required to test the full extent of the two new gold systems.

Prior to further drilling, prospecting along strike of the two new gold systems should be considered. If outcrop is available, the black biotitic schists or amphibolites should be easy to follow cutting through the light grey or grey andesitic and dacitic Kaslo Group volcanics. All other biotitic or amphibolitic zones on the mountain slope should also be sampled for gold.

The gold mineralization of the two new systems is very similar to the gold of the Highland Surprise vein system in that the silver content is very low (less than 2 ppm Ag). This year's analysis of 30 elements also shows that the usual ore-forming elements - copper, lead, zinc, cadmium and arsenic - are present in negligible amounts in most of the anomalous gold-bearing samples. The gold appears to occur in a very pure state within the pyrite.

CONCLUSIONS

It is concluded from the results of DDH 91-1 to DDH 91-4 and DDH 91-6, which tested the induced polarization anomalies, that insufficient sulphides were present in these holes to account for the anomalies. It is also concluded that the gold geochemical anomaly tested by DDH 91-5 may reflect the surface expression of narrow gold-bearing pyritic, sheared, amphibolite sections encountered in the hole.

It is further concluded that the two newly discovered gold zones encountered in DDH 91-2 and 91-5 occurred within pyritic, biotitic and amphibolitic shear zones sub-parallel to and east of the Whitewater fault. The gold content of these were directly related to the amount of pyrite present in each. While the gold content of the shears was sub-economic, these structures present new exploration targets.

RECOMMENDATIONS

A modest exploration program of prospecting is recommended to explore for the surface trace of the pyritized biotitic and amphibolitic shear zones which occur subparallel to the Highland Surprise Mine workings.

In addition to prospecting and sampling the biotite schist and the amphibolite zones located in respectively DDH 91-2 and DDH 91-5, all other biotite schist or amphibolite zones found cutting the Kaslo Group volcanics on the property should be sampled and assayed for gold.

Respectfully submitted,

Murray S. Morrison, B.Sc.

Harold M. Jones, P.Eng.

PROFESSIONAL ENGINEER H. M. JONES PROVINCE OF BRITISH COLUMBIA

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CERTIFICATE

I, Murray Morrison, of the City of Kelowna, in the Province of British Columbia, do hereby state that:

1. I graduated from the University of British Columbia in 1969 with a B.Sc. Degree in Geology.

2. I have been working in all phases of mining exploration in Canada for the past twenty-one years.

3. During the past twenty-one years, I have intermittently held responsible positions as a geologist with various mineral exploration companies in Canada.

4. I have examined many mineral properties in Southern British Columbia during the past twenty-one years.

5. I supervised the Diamond Drilling Program from August 10 - 24, 1991 and compiled most of the report on the project.

6. I own no interest in any of the claim groups making up the Whitewater Project outlined in this report.

October 29, 1991
Kelowna, B.C.

Murray Morrison
Murray Morrison, B.Sc.

CERTIFICATE

I, Harold M. Jones, of the City of Vancouver, British Columbia, do hereby certify that:

1. I am a Consulting Geological Engineer with offices at 605 - 602 West Hastings Street, Vancouver, British Columbia.

2. I am a graduate of the University of British Columbia in Geological Engineering, 1956.

3. I have practised my profession as a Geological Engineer for over 30 years.

4. I am a member of the Association of Professional Engineers of British Columbia, Registration No. 4681.

5. I spent from August 6 - 9, 1991 on the Whitewater Project supervising the start-up of the drilling program and logged the first drill hole. Upon compilation of the program I reviewed the data and assisted in preparation of the report.

6. I have no interest in, nor do I expect to receive any interest, direct or indirect, in the Whitewater Project claims.

Dated at Vancouver, B.C. this 29th day of October, 1991.

Harold M. Jones, P.Eng.

APPENDIX I

STATEMENT OF COSTS

STATEMENT OF COSTS

Diamond Drilling:		
J. Emary Drilling, 1330 feet at $25/ft (405.4 m at $82.03/m), by contract		$33,250.00
Helicopter:		
Canadian Helicopters Ltd.		10,199.25
Wages and Professional Fees:		
M.S. Morrison, B.Sc. - Project Geologist August 9-24, 26-31, 1991 22 days at $350/day	7,700.00	
H.M. Jones, P.Eng. - Project Geologist & Supervision, August 6-10, 1991 5 days at $450/day	2,250.00	
B. Smee, P.Eng. - Consultant July 2-3, 1991 2 days at $400	800.00	
D.A. Barr, P.Eng. - Project Manager July 2, 3, 14, 15 44.5 hrs to $95/hr	4,227.50	14,977.50
Room and Board		
M. Morrison, H. Jones - Kaslo 27 man days @ $55/day	1,485.00	
D.A. Barr, B. Smee - hotels, meals, etc., 4 days	474.98	1,959.98
Vehicle Rentals		
M. Morrison - Personal vehicle @ $60/day + Fuel	1,233.64	
Budget Truck rental - Castlegar, includes insurance, fuel + mileage - July 2, 3, August 6-10, and Aug 14, 15 - 9 days	952.36	2,186.00
Travel		
Airfare: Vancouver - Castlegar return @ $384.50 Trips - Jones (1), Smee (1), Barr (2)		1,538.00
Field Equipment		
Core splitter rental, flagging, thread, sample bags	225.00	
Assays		
Acme Analytical Laboratories Ltd. 84 core samples by ICP + Au @ $13.25/sample		1,113.00

Report and Map Preparation		
M. Morrison and H.M. Jones - 6 mandays	2,535.00	
Drafting	492.13	
Secretarial - word processing, copies, etc.	205.50	3,232.63
Sub-total		68,681.36
G.S.T.		4,807.70
TOTAL		$73,489.06

These costs are to be distributed as follows:

Lyle 1 Group - $46,366
Lyle 2 Group - $27,123

The balance of the assessment work credits will be taken from the companies' PAC accounts.

APPENDIX II

DRILL LOGS AND ASSAYS

Project	Whitewater
Location	Lyle Creek
Hole No.	DDH 91-1
Page No.	1 of 2
Coordinates	8+48S N, 1+04 E
Collar elev.	1470 metres
Bearing	045°
Inclination	-45 degrees
Total Depth	60.3 metres
Contractor	Emary Drilling
Date Started	August 7, 1991
Date Finished	August 9, 1991
Ref. to Claim Corner	
Logged by	H. M. Jones

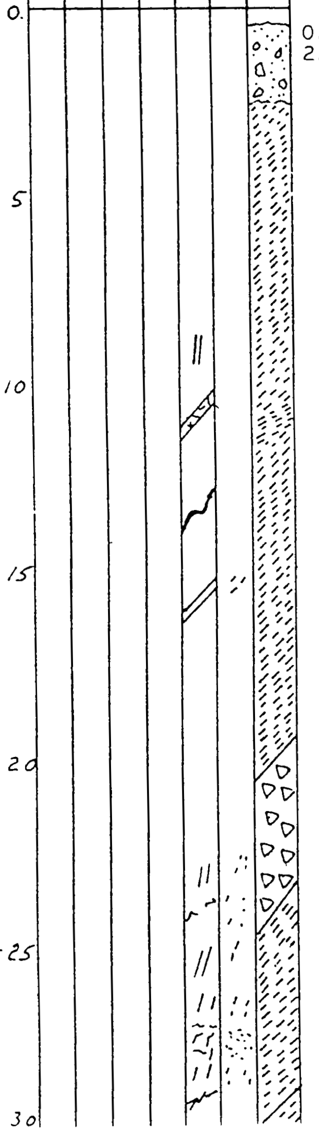
AVE. CORE REC'Y HOLE: 100%

v.f.g.=very fine grained
m. g. = medium grained

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE 3.56 cm
0–2.4	0	
2.4–3.4	100	
3.4–5.5	100	
5.5–7.0	100	
7.0–8.5	100	
8.5–10.1	100	
10.1–11.6	100	
11.6–13.1	100	
13.1–14.6	100	
14.6–16.2	100	
16.2–17.7	100	
17.7–19.2	100	
19.2–20.7	100	
20.7–22.3	100	
22.3–23.8	100	
23.8–25.3	100	
25.3–26.8	100	
26.8–28.3	100	
28.3–29.9	100	

SECTION metres: 0, 5, 10, 15, 20, 25, 30

ALTERATION | FRACTURING | MINERAL | GEOLOGY



COMMENTS:

0.0- 2.4m Casing in overburden (colluvium). No core recovered.

2.4-59.5m Permian and(?) Carboniferous Kaslo Group Volcanics. Light grey to green, fine and medium grained andesitic tuffs which have undergone greenschist grade metamorphism; bedding at 45°; many fractures and fine veinlets with carbonate; fine disseminated pyrrhotite throughout with local concentrations on hairline veinlets and fractures; occasional 0.3-0.6cm quartz-carbonate veins at 45°:

at 9.2m healed fracture zone, 3cm wide at 10° with feldspar, chlorite and carbonate,

at 11.0m bedding at 60°,

11.3-11.6m very irregular mafics, chloritized matrix texture; weak brecciation(?); both ends of section with 0.3cm vuggy carbonate fractures at 30° with blebs of iron oxides,

at 13.9m low angle band of feldspar-chlorite-carbonate, wavy-like dragfold(?) or irregular fracture,

at 16.5m fracture with coarse pyrrhotite, small grain of chalcopyrite,

20.1-24.2m equigranular fine grained texture, no bedding (diorite sill?) numerous fine laths of chlorite altered hornblende. Grades to slightly coarser grained;
- at 23.2m fracture at 10°; pyrrhotite all along fracture,
- 23.5-25.3m very minor pyrite on fractures,

at 24.2m few irregular mafic-rich masses, probably smeared clasts, 2-5 cm; fractures

24.2-25.9m weak bedding at 40°,
- at 25.3m 0.3cm quartz-carbonate vein at 15°,

25.9-29.3m this section has a number of very narrow quartz-carbonate veinlets, often at 15° and 0.3-0.6cm wide; some with minor iron sulphides:
- 26.8-28.0m and 28.7-29.0m strongly fractured, clay alteration on fractures,
- 27.4-28.3m, appreciable disseminated pyrrhotite,
- 29.0-29.3m partially brecciated, quartz-carbonate veinlets at 30° and 60°.

29.3-33.2m grey, massive, m.g. andesitic tuff; few fine carbonate and/or quartz veinlets; many fine irregular veinlets and fracture fillings by chlorite altered mafics (no pattern to these):
- at 32.6m 0.6cm of weak carbonate alteration in band at 30°,
- from 32.7m becomes finer grained.

Project Whitewater Location Lyle Creek Hole No. DDH 91-1 Page No 1 of 1

metres

Depth Interval (m)		CORE									Depth Interval		SLUDGE							
					ASSAY											ASSAY				
From	To	Sample No.	m Rec.	% Rec.	Au ppb	Ag ppm					From	To	Sample No.	Lbs. Rec.	% Rec.					
36.1	36.5	58431	0.4	100	36	.1														

Project Whitewater Location Lyle Creek Hole No DDH 91-1

COMMENTS:

AVE. CORE REC'Y/HOLE:

Core size: 3.56 cm

Section: 30 – 60 m

DRILLING INTERVAL (m)	% CORE RECOVERED
31.4	100
32.9	100
34.4	100
36.0	100
37.5	100
39.0	100
40.5	100
42.1	100
43.6	100
45.1	100
46.6	100
48.2	100
49.7	100
51.2	100
52.7	100
54.3	100
55.8	100
57.3	100
58.8	100
60.4	100

ALTERATION | FRACTURING | MINERAL | GEOLOGY

33.2m-36.6m finer grained andesitic (tuff?) with fine carbonate veinlets at 45° to 60°; these are bordered by narrow brown-altered walls (biotite alteration?):
36.1-36.4m includes four quartz veins with orange iron carbonate fractures, all at 40°; no obvious sulphides.

36.6-38.1m fine grained with many fine irregular fractures with chlorite altered mafics; similar to 29.3-33.2m, but only minor carbonate veinlets:
at 37.2m 0.3cm quartz-carbonate veinlet at 45°.

38.1-42.1m vague, small to coarse, rounded, slightly mafic clasts(?) in fine grained grey matrix; upper contact at 45°:
40.5-40.8m irregular narrow quartz veining, probably filling voids in weak breccia zone; entire section with minor iron sulphides on fractures and disseminated,
at 42.1m weak quartz veining.

42.1-45.7m rock becomes coarser grained:
at 42.7m bedding at 45°.

45.7-58.9m alternately fine and medium grained:
at 46.0m possible coarse clast of 8cm diameter,
46.3-46.6m several coarse clasts separated by felspathic-chloritic matrix;small breccia zone or clasts?
51.4-51.5m rounded to elliptical masses; mafic rich, 0.3-0.6cm, clasts(?)

58.9-59.3m breccia zone: upper contact at 60°; lower contact at 30°.

59.5-60.4m <u>Post-Permian Feldspar Porphyry Dyke</u>. Dark f.g. martix, coarse white euhedral to anhedral feldspar phenocrysts; massive, fresh; upper contact at 30°.
60.4m End of Drill Hole.

Project: Whitewater	Location: Lyle Creek		Contractor: Emary Drilling
Hole No.: 91-2	Page No. 1 of 3		Date Started: August 11, 1991
Coordinates: 7+48 S	N 0+02 E		Date Finished: August 13, 1991
Collar elev.: 1510 metres	Bearing: 046°		Ref. to Claim Corner:
Inclination: -60 degrees	Total Depth: 86.4 metres		Logged by: M. S. Morrison (signature)

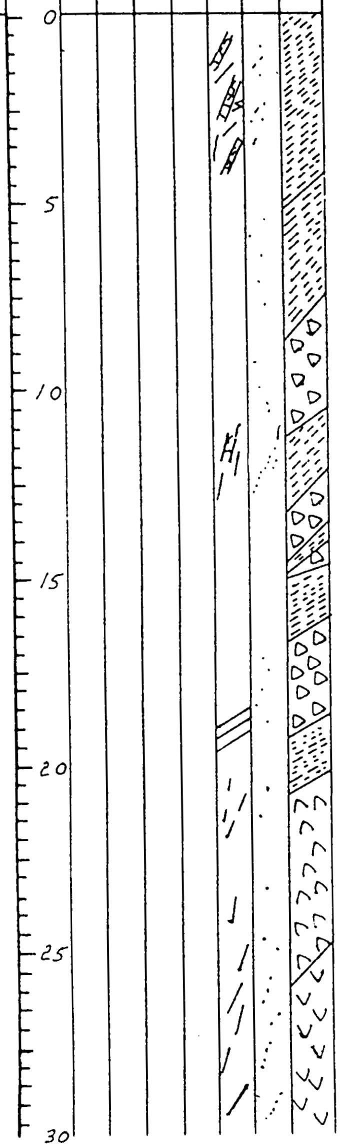
COMMENTS: No Casing.

AVE. CORE REC'Y HOLE: 100%

py =pyrite
pyr=pyrrhotite
cpy=chalcopyrite

DRILLING INTERVAL m	% CORE RECOVERED	CORE SIZE 3.56 cm
	100	–
1.8	100	
3.4	100	
4.9	100	
6.4	100	
8.1	100	
9.6	100	
11.1	100	
12.6	100	
14.1	100	
15.6	100	
17.1	100	
18.6	100	
20.1	100	
21.6	100	
23.1	100	
24.6	100	
26.1	100	
27.6	100	
29.1	100	

SECTION metres | ALTERATION | FRACTURING | MINERAL | GEOLOGY



No casing; collar at bedrock.

0-86.4m Permian and(?) Carboniferous Kaslo Group Volcanics. Grey to green, very fine, fine, medium grained and porphyritic dacitic and andesitic flows and tuffs that are intruded by several narrow diorite sills or dykes, all of which have undergone green schist grade metamorphism; some local biotite schistose zones with 1-10% pyrite:

0.00-4.70m light grey, slightly fractured, f.g. andesitic(tuff?) with minor m.g. beds, 1% calcite veinlets at 20° to 40°, containing 5% pyrrhotite and pyrite, also ¼-½% pyrrhotite and pyrite as blebs and smears from disrupted hairline fractures:
- 0.0-0.20m 5% calcite veinlets, 70% weathered out,
- 0.35-0.80m m.g. bed(?),
- at 0.47m banding 50°,
- at 1.40m 2cm breccia zone at 30° mended with chlorite and albite,
- at 2.26m 3cm breccia zone at 20° mended with chlorite and albite,
- at 2.42m 1.5cm breccia zone at 40° mended with chlorite and albite,
- at 3.30m 3cm breccia zone at 35° mended with chlorite and albite,
- at 1.44m trace of chalcopyrite with pyrrhotite,
- at 3.80m trace of chalcopyrite within calcite veinlet at 05°.

4.70-8.20m light grey, generally massive, m.g., andesitic tuff(?) with ¼% pyrrhotite and pyrite:
- 7.30-7.70m minor f.g. beds(?)

8.20-11.05m light grey, generally massive, m.g. diorite dyke; trace of iron sulphides; upper contact at 40°(?); lower contact at 55°.

11.05-12.90m light grey, alternately f. and m.g. andesitic (tuff?); trace of iron sulphides, usually adjacent late calcite veinlets;
- at 11.30m poorly defined banding at 45°,
- at 11.44m 6cm breccia zone at 10° mended with late quartz and calcite,
- 11.57 to 11.77m, 2cm banded quartz (30%), carbonate (70%) vein with 1% pyr,
- 12.05 to 12.35m, 3cm banded quartz (30%), carbonate (70%) vein with 1% pyr, at 10°,
- 12.60 to 12.90m, 1-2cm banded quartz (30%), carbonate (70%) vein with 1% pyr, at 10°,

12.90-14.20m light grey, m.g. possible diorite dyke.

14.20-14.60m light grey, alternately f. and m.g. andesitic (tuff?):
- at 14.3m banding at 50°.

14.60-15.20m light grey, m.g. diorite dyke: upper contact at 50°; lower contact at 70°.

15.20-16.55m light grey, alternately f. and m.g. andesitic (tuff?):
- at 15.6m banding at 60°; at 16.2m schistosity at 60°.

16.55-19.00m light grey, m.g. diorite (sill?) : lower contact at 60°; trace of disseminated pyrite.

19.00-20.60m light grey, alternately v.f.g., f.g. and m.g. andesitic (tuff?); slightly schistose at 60°:
- at 19.22m quartz-chlorite-carbonate veinlets at 60°,
- at 19.30m quartz-calcite vein (1cm) at 60°,
- 19.60-19.70m 20% irregular quartz-chlorite-calcite veinlets,
- at 19.88m quartz-chlorite-carbonate veinlet, 1cm, at 60°.

20.60-25.05m light grey, massive, m.g. andesite (flow?) (looks like a diorite sill); upper contact 50°; lower contact approx. at 45°; rare calcite veinlets with trace of pyrite at 10° to 20°.

25.05-30.75m light grey, slightly fractured, v.f.g., f.g., m.g. and porphyritic dacitic flow; locally very siliceous:
- 25.05-25.55m v.f.g., highly siliceous; 3%, 0.1-1-1mm, qtz vnlets with 10% pyr+py at 0-10°, 40-60°,
- 25.55-26.75m f.+m.g. porphyritic; 3%, 0.1-1mm, qtz vnlets with 10% pyr+py at 0-30°,
- 26.75-27.72m f. to m.g. flow; 1%, 1-2mm, qtz and cal vnlets with 2% pyr +py at 30°,
- 27.72-27.85m v.f.g., highly siliceous; 5%, 0.1-2mm, qtz and cal vnlets with 2% pyr +py at 10-20°,
- 27.85-28.70m m. and f.g., moderately siliceous; 5% 1-3mm qtz & cal vnlets with 5% pyr+py at 5-10° and 30-60°,

Project: Whitewater　Location: Lyle Creek　Hole No.: DDH 91-2　

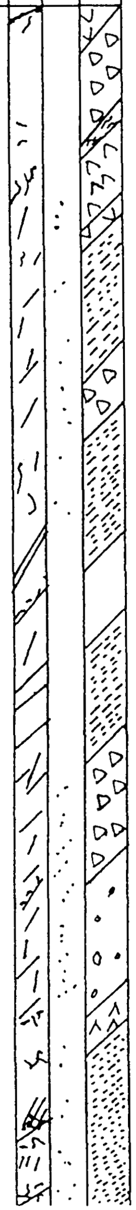
COMMENTS:

AVE. CORE REC'Y/HOLE: 100%

v.f.g.=very fine grained
f.g.=fine grained
m.g.=medium grained

DRILLING INTERVAL (m)	% CORE RECOVERED	CORE SIZE (m)	SECTION (metres)
		3.56	30
30.6	100		
32.1	100		
33.6	100		
35.1	100		35
36.6	100		
39.6	100		40
42.6	100		
45.6	100		45
48.6	100		
51.6	100		50
54.6	100		55
57.6	100		
60.6	100		60

ALTERATION | FRACTURING | MINERAL | GEOLOGY

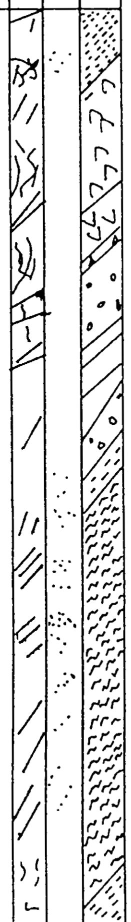


28.70-30.75m light grey, f.g. dacitic(?) flow
29.34-30.35m well silicified zone; top of zone at 50°; bottom of zone = 3cm quartz vein at 70°; 1% quartz veinlets at 20°; ½% pyr and py overall.
30.35-30.55m not silicified, schistosity at 70°.
30.75-33.23m grey, m.g. diorite (sill?); hornblende 70% altered to actinolite; lower contact 40°.
33.23-33.67m grey, f.g. andesite (tuff?) slightly schistose at 40°; 1% qtz-cal vnlets, 0.1-1mm.
33.67-35.70m grey, m.g. and porphyritic andesite (flow?); 20% albite phenocrysts, 2-4mm; gen. massive.
35.70-36.22m grey, v.f.g. dacitic (flow?) 2% qtz-cal-microvnlets, 0.1-1mm.
36.22-39.62m grey f.g. and m.g. andesite (tuff?) interlayered at 40°; gen. massive with less that 1% veinlets:
at 36.60m ½cm quartz-calcite veinlet with 5% pyrrhotite and pyrite at 20°.
39.62-41.20m grey, m.g. diorite sill at 45°; 1% barren qtz vnlets, 2-10mm, at 20 + 40°.
41.20-44.81m grey, f.g. and m.g. andesite (tuff?); 2% qtz-cal-veinlets, 0.1-2mm:
at 41.60 and 41.75m 4cm breccia zones mended with chlorite-quartz at 30°,
41.75-42.61m 1% qtz microveinlets, 0.1-1mm, at 0° to 5°, ¼% pyrr with trace of cpy,
42.61-44.81m moderately siliceous; 2% qtz-cal vnlets, 0.1-2mm; ½% pyrrhotite.
44.81-46.75m grey, v.f.g. dacitic (tuff?); siliceous; 3-5% qtz-cal-microveinlets, 0.1-1mm:
at 45.2, 45.5 and 45.6m 3cm breccia zones mended with quartz-chlorite at 30°,
46.10-46.20m silica mended breccia zone,
46.75-49.50m grey, f.g. and minor m.g. andesitic (tuff?); 2% qtz-cal vnlets, 0.1-3mm, at 25,& 45-55°.
49.50-53.00m green, m.g. diorite sill; lower contact at 45°, augite 70% alt. to actinolite; trace of iron sulphides in late fractures at 20, 40 and 60°:
at 51.60m ½cm quartz veinlet at 20°.
53.00-56.60m light grey, v.f.g. dacitic (brecciated flow or lapilli tuff?); highly siliceous; 2% quartz mending microfractures; 2% late quartz-calcite veinlets at 5-25 & 40-45°:
at 53.63m 4cm breccia zone mended with chlorite-quartz-carbonate at 35°,
at 54.95m 20cm breccia zone mended with chlorite-quartz-carbonate at 30°.
56.60-57.70m grey, porphyritic andesitic(?) (flow?); 20% albite microphenocrysts, 1-2mm; ¼% iron sulphides:
56.65-56.85m 5% quartz micro veinlets, 0.1-1mm, mending fracture zone.
57.10-57.20m 5% quartz micro veinlets, 0.1-1mm, mending fracture zone.
57.70-62.40m grey, v.f.g. and minor m.g. andesitic (tuff?); interlayered; 2-3% quartz-calcite microveinlets; trace to ¼% iron sulphides:
57.90-58.10m micro-breccia, mended,
58.60-58.80m and 59.00-59.10m very siliceous; 5% quartz-calcite veinlets,
at 59.50m v.f. (0.1mm) sheeted quartz veinlets at 30°,
59.74-59.90m fractured zone; mended with quartz microveinlets; upper contact at 80° lower contact at 60°,
at 60.00-60.12m 1½cm fractured zone mended with chlorite-quartz at 60°,
60.20-60.50m fractured zone mended with quartz microveinlets,
60.60-61.15m very siliceous; 3% quartz microveinlets; ¼% iron sulphides,
61.15-61.70m sheeted, quartz-chloritic veinlets, 1-10mm, at 20-25°; ¼% iron sulphides,
61.70-61.80m very siliceous; 3% quartz microveinlets; ¼% iron sulphides,
61.90-62.10m 10% quartz-chlorite veinlets, 1-10mm, at 40°,

Project Whitewater Location Lyle Creek Hole No. DDH 91-2

DRILLING INTERVAL (m)	% CORE RECOVERED	CORE SIZE	SECTION metres
		3.56 cm	62.5
63.6	100		
	100		65
66.6			
	100		
69.6			70
	100		
72.6			
	100		75
75.6			
	100		
77.4			
	100		80
80.4			
	100		
83.4			
	100		85
86.4			
			90

ALTERATION | FRACTURING | MINERAL | GEOLOGY



COMMENTS:

AVE. CORE REC'Y/HOLE: 100%

62.40-64.30m grey, f.g., m.g. and porphyritic andesite (tuff?) 3% quartz-carbonate veinlets:
at 62.47m 1cm quartz chlorite veinlets at 70°,
at 63.2 m 1cm quartz vein at 10°,
63.80-64.30m 5% quartz veinlets with trace of iron sulphides at 5°to 30°.

64.30-67.60m grey, m.g. slightly porphyritic andesite (flow?); lower contact at 50°,:
66.00-66.40m calcite-quartz veinlets, 1-3mm, at 30°,

67.60-68.80m grey, f.g. dacitic (flow?):
67.60-68.10m highly siliceous,
67.88-68.80m very highly siliceous; 3% quartz microveinlets mending fractures,
at 68.23 ½cm quartz-chloritic vein at 40°,
at 68.52 ½cm, late, quartz veinlets at 50°.

68.80-69.21m grey, m.g. diorite sill.

69.21-71.32m grey, v.f.g. dacitic (lapilli tuff?) very siliceous; 3% quartz microveinlets healing fractures; minor, late, quartz veinlets, 1-2mm, at 60° to 70°:
69.40-69.95m light and dark mottled (silica replacement?).

71.32-71.77m grey, m.g. dacitic? (tuff?):
71.43-71.54m very siliceous.

71.77-72.60m grey, f.g. and m.g. dacitic? (tuff?):
at 71.82m 1cm, late, barren, calcite vein with 2cm epidote selvages at 50°,
72.12-72.21m breccia zone mended with chlorite-quartz at 50°; very siliceous,
at 72.53m 2cm breccia zone mended with quartz-chlorite at 70°; very siliceous.

72.60-73.30m grey, f.g. dacitic (tuff?); locally very siliceous; slight banding at 35°.

73.30-74.50m grey, m.g. dacitic (lapilli tuff?):
73.40-73.80 and 74.03-74.50m highly siliceous,
73.80-74.03m moderately siliceous,
74.30-74.40m 2% calcite-quartz veinlets, 2mm, at 30°.

74.50-75.65m green, f.g. and m.g. andesitic (tuff?); 2% iron sulphides:

75.65-77.20m as above, but is very schistose at 35° to 45°; 3% late calcite-quartz veinlets, 1-3mm, at 20° to 45°:
76.14-76.60m highly siliceous; ½% pyrite,
at 76.40m 2 cm epidote zone.

77.20-85.78m black, biotite schist; 5-10% carbonate-quartz veinlets, 1-5mm, smeared out with schistosity at 35° to 40°:
77.20-79.00m 2% pyrite,
79.00-79.12m 10% pyrite,
79.12-79.70m 2% pyrite,
79.70-80.40m 5% quartz-calcite veinlets smeared out with schistosity; ½% pyrite,
at 81.70m 1cm, late, quartz vein at 35°; 10% pyrite for 2cm above vein,
at 82.70m 2cm quartz vein with schistosity at 30°,
82.70-83.10m 2% pyrite between veins; elsewhere ½% pyrite,
at 83.10m 1cm quartz vein with schistosity at 30°,
84.50-85.40m 5% quartz veins, 1-10mm, smeared out with schistosity at 35°; 1% pyrite.

85.78-86.90m green, f.g. and m.g. andesitic (tuff?); 2%, late, quartz-calcite veinlets:
85.78-85.90m slightly schistose at 35°.

86.90m End of Drill Hole.

Project Whitewater Location Lyle Creek Hole No. DDH 91-2 Page No 1 of 2

metres

CORE Depth Interval From	To	Sample No.	m Rec.	% Rec.	ASSAY Au ppb	Ag ppm				SLUDGE Depth Interval From	To	Sample No.	Lbs. Rec.	% Rec.	ASSAY				
21.00	22.00	8505	1.0	100	4	.1													
25.05	25.55	8506	0.5	100	3	.1													
29.34	30.35	8507	1.0	100	1	.1													
35.70	36.22	8508	0.52	100	1	.1													
41.75	42.61	8509	0.86	100	1	.2													
42.61	43.71	8510	1.10	100	1	.1													
43.71	44.81	8511	1.10	100	1	.1													
44.81	45.81	8512	1.0	100	4	.2													
45.81	46.75	8513	0.94	100	3	.2													
53.00	54.20	8514	1.2	100	3	.1													
54.2	55.4	8515	1.2	100	4	.1													
55.4	57.0	8516	1.6	100	3	.2													
58.0	59.5	8517	1.5	100	2	.1													
60.6	61.15	8518	0.55	100	1	.1													
61.15	62.10	8519	0.95	100	4	.1													
63.6	65.00	8520	1.4	100	5	.3													
67.6	68.1	8521	0.5	100	6	.1													
68.1	68.8	8522	0.7	100	20	.1													
69.21	71.32	8523	2.11	100	7	.1													
72.12	72.60	8524	0.48	100	11	.1													
73.40	74.50	8525	1.1	100	8	.1													
75.62	77.24	8526	1.62	100	5	.1													

Project Whitewater Location Lyle Creek Hole No. DDH 91-2 Page No 2 of 2

metres

CORE Depth Interval From	CORE Depth Interval To	Sample No.	m Rec.	% Rec.	Assay Au ppb	Assay Ag ppm	Assay	Assay	Assay	SLUDGE Depth Interval From	SLUDGE Depth Interval To	Sample No.	Lbs. Rec.	% Rec.	Assay	Assay	Assay	Assay	Assay
77.24	79.00	8527	1.76	100	450	.2													
79.00	79.12	8528	0.12	100	10040	2.0													
79.12	79.70	8529	0.58	100	1100	.4													
79.70	80.40	8530	0.70	100	10	.2													
80.40	82.40	8531	2.00	100	13	.1													
82.40	84.50	8532	2.10	100	550	.3													
84.50	85.45	8533	0.95	100	5	.2													
85.45	86.40	8534	0.95	100	16	.2													

Project: Whitewater | Location: Lyle Creek | Contractor: Emary Drilling

Hole No.: DDH 91-3 | Page No. 1 of 3 | Date Started: August 14, 1991

Coordinates: 5+52 S N 2+48 E | Date Finished: August 16, 1991

Collar elev.: 1722 metres | Bearing: 067° | Ref. to Claim Corner:

Inclination: -45 degrees | Total Depth: 73.8 metres | Logged by: M. S. Morrison

COMMENTS: Casing to 4.9 metres.

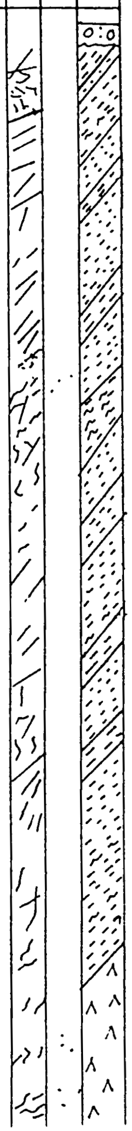
AVE. CORE REC'Y HOLE: near 100%

v.f.g.=very fine grained
m.g.=medium grained

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE
0.4 – 1.5	100	3.56 cm
1.5 – 3.6	80	
3.6 – 5.2	95	
5.2 – 6.7	100	
6.7 – 8.2	100	
8.2 – 11.2	100	
11.2 – 12.7	100	
12.7 – 16.2	100	
16.2 – 19.2	100	
19.2 – 21.1	100	
21.1 – 23.3	100	
23.3 – 26.3	100	
26.3 – 29.3	100	

SECTION metres: 0, 5, 10, 15, 20, 25, 30

ALTERATION | FRACTURING | MINERAL | GEOLOGY



0.00 - 0.40m Collar.
0.40 - 1.05m Overburden: soil, broken rock. No core recovered.
1.05 - 73.80m Permian and(?) Carboniferous Kaslo Group Volcanics. Grey to green, very fine, fine and medium grained and sometimes porphyritic andesitic flows and tuff that have undergone greenschist grade metamorphism; some local biotitic and chloritic schistose zones:

1.05 - 1.50m grey, m.g. andesite (tuff?); 1% late calcite-quartz veinlets at 40° and 80°.
1.50 - 1.82m grey, v.f.g. and f.g. andesite (tuff?); 3% v.f. quartz-calcite veinlets.
1.82 - 3.60m grey, m.g. andesite (tuff?)
    2.20 - 2.3m and 2.4 - 2.7m broken core,
    2.70 - 3.00m 2% calcite-quartz veinlets filling fractures,
    3.00 - 3.20m bleached, slightly schistose,
    3.20 - 3.35m barren quartz vein at 70°.
3.60 - 4.55m grey, moderately fractured, f.g. andesite (tuff?) 2% calcite-quartz veinlets, o.1-2mm at 60°
4.55 - 5.05m grey, m.g. andesite (tuff?); 1% calcite quartz veinlets at 60°.
5.05 - 7.50m light green, f.g. andesite (tuff?):
    at 5.15m 1½cm quartz-chlorite vein at 40°,
    5.00 - 5.40m slightly porphyritic,
    5.66 - 5.71m quartz-calcite-chlorite vein at 60°,
    6.60 - 6.67m quartz-calcite-chlorite vein at 30°;
    6.70 - 7.50m ½% pyrrhotite,
    at 7.30m 2cm chlorite-quartz vein at 40°,
    7.30 - 7.40m 10% quartz-calcite veinlets at 70°.
7.50 - 8.45m light green, porphyritic andesite (tuff?); 1% irregular quartz-calcite veinlets and 2% quartz-calcite veinlets at 30° to 40°.
8.45 - 10.15m light green, f.g. and slightly porphyritic andesite (tuff?)
    at 8.60m 2cm quartz-calcite vein at 45°
    at 9.20m 1cm quartz-chlorite vein at 35°,
    at 9.60m 4cm quartz-chlorite mended breccia zone,
    at 9.85m 4cm quartz-chlorite mended breccia zone.
10.15 - 11.50m green, f.g. andesite (tuff?); schistose:
    10.80 - 11.50m 10% quartz veinlets, 2-15mm, with schistosity at 45° to 35°; trace to ½% pyr
    at 11.50m 2cm barren quartz vein at 15°.
11.50 - 13.20m green, f.g. andesite (tuff?):
    11.50 - 12.10m 3% fine calcite-quartz veinlets, 0.1-1mm, mending fractures,
    at 12.44m 4cm quartz-chlorite vein at 30°,
    12.70 - 13.20m 3% calcite-quartz veinlets, 0.1-2mm, mending fractures.
13.20 - 14.30m green, f.g. andesite (tuff?):
    13.50 - 13.60m m.g. (tuff?) interbed.
14.30 - 16.77m green, f.g. andesite (tuff?); 2% quartz-calcite veinlets, 0.1-2mm, at 15°, 20°, and 40°:
    16.25 - 16.45m v.f.g., bleached,
    at 16.3 and 16.4m 1½cm quartz veins at 40° with schistosity,
    at 16.70 - 16.77m minor breccia zone mended with quartz-chlorite at 25°.
16.77 - 17.44m green, m.g. andesite (tuff?); well fractured; irregular quartz-calcite veinlets, 0.1-3mm, filling fractures at 40° and 60°.
17.44 - 19.25m green, f.g. andesite (tuff?) 1% irregular calcite-quartz veinlets; minor fractures at 10° and 40°:
    at 18.50m 1cm chlorite-quartz-vein at 50°.
19.25 - 19.90m green, m.g. andesite (tuff?):
    at 19.40m ½cm quartz veinlet with limonite selvages at 20°.
19.90 - 25.50m light green f.g. andesite (tuff?); slightly schistose at 40° to 50°; 10% epidote; 3% quartz veins, 1-10cm, at 40°:
    at 20.40m 5cm quartz vein with 3% pyrrhotite at 50°; 20% epidote for 10cm below vein;
    20.70 - 20.70m (50cm of extra core according to driller's markers) m.g. and porphyritic, andesite (tuff?); 2% irregular calcite-quartz veinlets, 0.1-1mm, some at 70°; ½% pyrrhotite.

Project: Whitewater Location: Lyle Creek Hole No: DDH 91-3 Page No. 2 of 3

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SECTION metres
		3.56 cm	30
31.8	100		
34.8	100		35
37.8	100		
40.8	100		40
43.8	100		
46.8	100		45
49.8	100		50
52.8	100		
55.8	100		55
58.8	100		
61.8	100		60

ALTERATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE. CORE REC'Y/HOLE: near 100%

py =pyrite
pyr =pyrrhotite
cpy =chalcopyrite

20.70 - 22.70m 2% calcite-quartz veinlets, 0.1-2mm, at 25,30,40,50° and irregular; ½% pyr,
at 20.90m 1cm late quartz-carbonate-chlorite vein at 70°,
at 21.60m 1½cm late quartz-carbonate vein at 20°,
at 21.80, 22.20 and 22.35m ½-1cm late quartz-carbonate-shlorite veinlets at 25° to 40°.

22.70 - 25.50m 1% calcite-quartz veinlets, 0.1 -2mm; 2% late 1cm quartz-biotite veins
at 25°; late limonitic fractures with calcite weathered out at 20,30° and 60°,
at 25.05 and 25.10m 1½cm quartz-biotite veins at 25°.

25.50 -34.80m green, m.g. andesite (flow?); generally massive:
25.70 - 25.80m and 26.20 - 26.35m 2% quartz-calcite veinlets, 0.1-2mm, at 50° to 60°,
26.45 - 26.70m 10% quartz-calcite veinlets, 0.1-5mm, at 40° to 50°,
28.45 - 29.30m 3% irregular quartz-biotite veinlets; 1% pyrrhotite,
29.30 - 30.10m 2% irregular quartz-biotite veinlets, 0.1-2mm; 1% pyr, late fractures at 60°,
30.10 - 34.80m 1% late quartz-biotite veinlets, 0.1-2mm, with tr of pyr at 25° and 40-50°.

34.80 -37.60m same as above, but more fractured; 1-3% irregular quartz-calcite veinlets, 0.1-10mm;
late quartz-calcite veins, 2-10cm, at 35° and 60-70°, tr of chalcopyrite with veins.

37.60 -42.06m same as above, but schistose at 45°; 3% early quartz-calcite veins smeared along schist.;
½% pyrrhotite or limonite:
at 38.05m 1cm late quartz vein at 50°,
at 39.15m 3cm late quartz vein at 75°,
at 40.15m 3cm late quartz-calcite-chlorite vein at 30°,
at 40.20m schistosity at 35°,
at 41,47m 1½cm late quartz carbonate vein at 40°,
at 41.74m 5cm late quartz-carbonate-biotite vein at 50°; schistosity at 45°.

42.06 -42.95m 30% brown biotite schist, 60% chloritic schist; 10% smeared quartz-carbonate veins with schistosity:
at 42.06 - 42.26m disrupted schistosity,
at 42.30m schistosity at 45°,
at 42.70m crenulated schistosity,
at 42.90m schistosity at 50°.

42.95 -43.30m chloritic schist.

43.30 -44.50m green, f.g. andesite (tuff?):
43.30 -43.55m moderately siliceous; ¼-½% pyrrhotite,
43.75 -44.30m 15% quartz-calcite veins to 2cm at 15° to 20°; calcite weathered out, limonite selvages.

44.50 -45.40m green, f.g. andesite (tuff?); schistosity at 45°:
44.80 -45.10m 10% quartz-calcite-biotite veins smeared out along schistosity; ½% pyr.

45.40 -49.40m green, v.f.g. to f.g. andesite (tuff?); 3% quartz-calcite microveinlets, 0.1-1mm; ½-1% pyrrhotite with a trace of chalcopyrite:
47.05 -47.40m 7% quartz-calcite veinlets, 1-10mm,; 1% pyrrhotite blebs to 1cm with trace chalcopyrite,
46.80 -47.50m moderately siliceous, late fractures at 30,40,50, & 60°.

49.40 -52.60m green, f.g. andesitic (tuff?) 3% quartz-calcite veinlets; ½% pyr with tr chalcopyrite:
51.40 -52.40m 5% quartz-biotite veinlets at 10°; 2% irregular fine quartz-calcite veinlet

52.60 -53.50m green, v.f.g. andesitic (tuff?); moderately siliceous; 10% late quartz-biotite veinlets;
1% pyrrhotite:
at 53.25m 2cm quartz-calcite vein at 40°.

53.50 -54.80m green, f.g. and m.g. andesitic (tuff?); 2% quartz-calcite veinlets, 0.1-3mm; ½% pyrrhotit and trace of chalcopyrite:
at 54.60m 1cm quartz-biotite-pyrrhotite veinlets at 05°.

54.80 -62.90m green, v.f.g. to f.g. andesitic (tuff?); 3% quartz-calcite veinlets, 0.1-2mm; ½% pyrrhotite and trace of chalcopyrite:
at 55.80m 2cm quartz vein at 50°; epidote alteration for 3cm either side of vein,
at 56.00m 1cm biotite-quartz vein at 30°,
56.20 -56.55m 30% epidote,
at 56.80m to 1½cm quartz veins at 30°; 30% epidote for 10cm either side of veins,
57.00 -57.40m moderately siliceous; 1cm quartz-biotite veinlet at 05°,
57.50 -58.90m 10% quartz-calcite-biotite veinlets, 0.1-2mm; ½% pyrrhotite:

Project: Whitewater   Location: Lyle Creek   Hole No: DDH 91-3

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SECTION (metres)	ALTERATION	FRACTURING	MINERAL	GEOLOGY
		3.56 cm					
64.8	100		65				
67.8	100						
70.8	100		70				
73.8	100						
			75				

COMMENTS:

AVE. CORE REC'Y/HOLE: near 100%

58.90 -62.90m 2% quartz-calcite microveinlets, 0.1-1mm; ½% pyrite, 2%, late, ½cm quartz-calcite veinlets at 25°:
at 62.90m 2cm quartz vein at 70°,

62.90 -73.80m green, porphyritic andesite (lapilli tuff?); 10% augite phenocrysts, 1-5mm, 50% to actinolite; 3% quartz-calcite microveinlets, 0.1-1mm:
at 62.90 - 63.15, 63.40 - 63.90, 64.30 - 64.50, and 64.70 - 64.80m breccia zones with 5% quartz-calcite mending breccia,
at 63.15, 64.95, 65.15, 65.78 and 65.90m ½-3cm late quartz-chlorite-biotite veins at 30, 40° and 60°; 1% pyrite with veins,
64.50 -64.70m slightly schistose at 30°,
66.40 -67.60m moderate breccia zone; moderately siliceous; 5% quartz-calcite mending breccia,
67.60 -68.80m breccia zone, silica mending breccia; ¼% pyrite; two late ½cm quartz veins at 30°,
68.80 -69.10m not brecciated,
69.10 -70.95m highly brecciated,
69.10 - 69.70m 20% calcite-quartz-biotite mending breccia; ½% pyrite:
69.10 - 69.20m 30% epidote,
at 69.30m ½cm late quartz vein at 30°,
at 69.40m 1cm late quartz-calcite vein at 30°,
at 70.55m 1cm quartz vein at 50°; epidote for 10cm either side of vein,
70.55 - 70.95m 20% quartz-biotite veins and silica mending breccia; 1% pyr.,
70.95 -72.45m not brecciated 3% quartz-calcite veinlets to ½cm at 30°,
72.45 -73.20m highly brecciated, 20% quartz-calcite-biotite mending breccia and 10% epidote; ¼% pyrite,
73.20 -73.80m moderately brecciated, 10% quartz-calcite-biotite mending breccia; ¼% pyr.
73.80m End of Drill Hole.

Project Whitewater Location Lyle Creek Hole No. DDH 91-3 Page No 1 of 1

metres

Depth Interval (m)		CORE								Depth Interval		SLUDGE								
		Sample No.	m Rec.	% Rec.	ASSAY							Sample No.	Lbs. Rec.	% Rec.	ASSAY					
From	To				Au ppb	Ag ppm				From	To									
10.80	11.50	8535	0.7	100	3	.2														
28.45	29.30	8536	0.85	100	3	.1														
29.30	30.10	8537	0.80	100	3	.1														
42.06	42.95	8538	0.89	100	1	.2														
43.30	44.55	8539	1.25	100	60	.3														
50.40	51.40	8540	1.0	100	1	.1														
51.40	52.80	8541	1.4	100	2	.2														
52.80	53.50	8542	0.7	100	3	.3														
57.40	58.90	8543	1.5	100	2	.2														
67.60	68.80	8544	1.2	100	3	.2														
69.10	70.95	8545	1.85	100	2	.2														
72.45	73.20	8546	0.75	100	3	.2														

Project: Whitewater | Location: Lyle Creek | Contractor: Emary Drilling

Hole No.: DDH 91-4 | Page No. 1 of 3 | Date Started: August 17, 1991

Coordinates: 5+51.5 S N 2+46 E | Date Finished: August 18, 1991

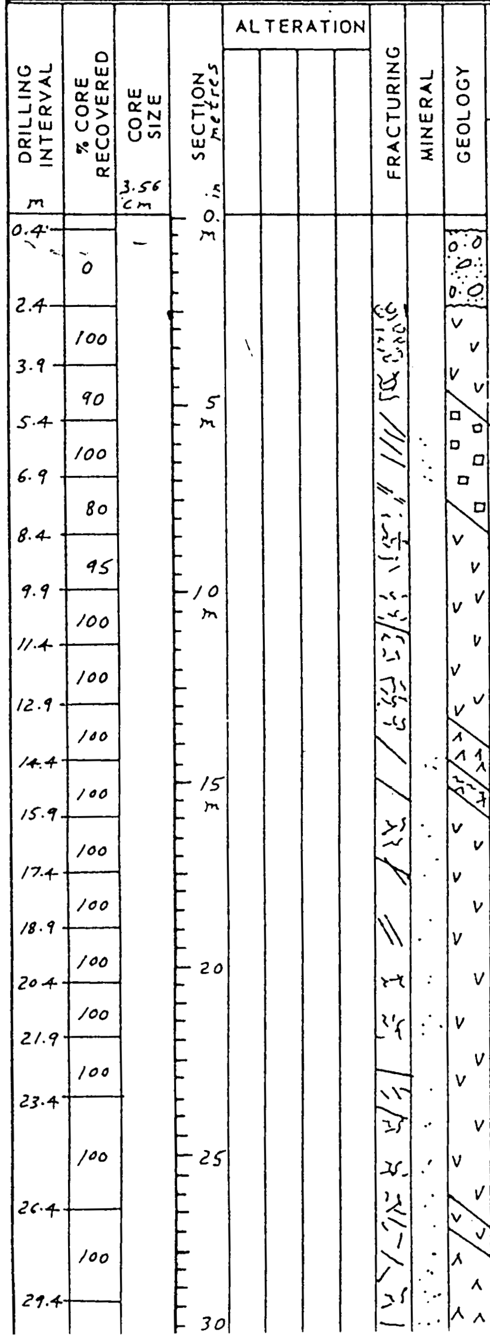
Collar elev.: 1722 metres | Bearing: 250° | Ref. to Claim Corner:

Inclination: -45 degrees | Total Depth: 59.4 metres | Logged by: M. S. Morrison

COMMENTS: Casing to 5.5 metres.

AVE. CORE REC'Y HOLE: 98%

v.f.g.=very fine grained
f.g.=fine grained
m.g.=medium grained



0.00 - 0.40m Collar.
0.40 - 2.40m Overburden: soil, broken rock. No core recovered.
2.40 - 59.40m <u>Permian and (?) Carboniferous Kaslo Group Volcanics.</u> Grey to green, very fine, fine, and medium grained and porphyritic dacitic and andesitic flows that have undergone greenschist grade metamorphism, and that are locally cut by Post-Permian Feldspar Porphyry Dykes:

2.40 - 5.10m grey to green, f.g. dacitic(?) (flow?):
- 2.40 - 2.75m brecciated; 20% irregular quartz-biotite veins to 2 cm; ½% pyrrhotite,
- 2.75 - 4.50m well fractured; 5% irregular quartz-biotite veinlets, 0.1 - 2mm, at 3.0, 3.8, 3.9, and 4.0 - 4.5m broken core,
- 4.50 - 4.60m feldspar porphyry dyke (see description below) (displaced core??),
- 4.70 - 4.90m very broken core.

5.10 - 8.00m <u>Post-Permian Feldspar Porphyry Dyke.</u> 40% euhedral to subhedral albite phenocrysts, 1-10mm; 5% biotite in white to dark grey glassy groundmass; trace of iron sulphides; upper contact at 50°:
- 5.80 - 7.70m bleached, with biotite altered to chlorite near joints at 45° to 60°; limonite (after sulphides?) fills joints up to ½cm wide.

8.00 - 8.20m no core recovered (probable shear zone adjacent dyke).

8.20 - 13.82m green, f.g. and porphyritic dacitic(?)(flow?); ghosts of albite phenocrysts over 10 to 15cm intervals; 1% irregular biotite-quartz veinlets and 1% limonite veinlets; some at 10°:
- 8.20 - 9.70m moderately broken core,
- 9.77 - 9.87m breccia zone mended with quartz-biotite-carbonate,
- 10.25 - 10.35m fractured zone mended with 5% quartz-biotite-carbonate,
- 10.55 - 10.60m fractured zone mended with 5% quartz-biotite-carbonate,
- at 10.76m 1 cm biotite-quartz vein at 70°,
- 10.85 - 10.93m breccia zone mended with biotite-chlorite-quartz carbonate.
- 11.00 - 11.40m 4% biotite-quartz veinlets, 0.1 - 1mm.
- 11.50 - 11.75m 20% biotite-chlorite-quartz filling fractures.
- 12.00 - 12.35m 10% irregular biotite-quartz veinlets, 0.1 - 1mm.
- 12.60 - 13.30m 5% biotite-quartz-chlorite-carbonate veinlets, 0.1 - 2mm.,
- 13.35 - 13.55m breccia zone; 5% irregular biotite-quartz veinlets, and 30% irregular masses of brown garnet,
- at 13.82m 1 cm late, limonite-quartz vein at 40° with limonite stain for 15 cm above vein.

13.82 - 14.79m green, f.g. and m.g. andesitic(?) (flow?); 1% quartz-calcite veinlets, 0.1 -1mm: at 14.77m, 3cm quartz-calcite vein at 50°.

14.79 - 15.72m same as above, but slightly schistose at 50°.
- 15.50 - 15.72m, 2cm quartz vein at 20° with 2cm biotite zone on either side of vein.

15.72 - 26.60m grey to green, f.g. dacitic(?) (flow?); 2-3% biotite-quartz veinlets; best pyrrhotite near veinlets, but less than ½% pyrrhotite overall:
- 16.00 - 16.20m very siliceous; 20% irregular biotite-quartz veinlets.
- 16.55 - 16.80m moderately siliceous; 15% irregular biotite-quartz veinlets.
- at 17.35m 1 cm quartz-biotite vein at 60°,
- at 17.42m 2 cm quartz-biotite vein at 40°,
- 17.42 - 18.75m moderately siliceous, generally massive,
- at 18.75m two 1cm biotite-quartz veins at 30°,
- 18.90 - 19.60m 10% irregular biotite-quartz veinlets, 0.1-1mm; ½% pyrrhotite,
- 19.60 - 20.00m moderately siliceous,
- 20.4 - 21.0 m 8% irregular biotite-quartz veinlets, 0.1-1mm; ½% pyrrhotite,
- 22.2 - 22.6 m 10% irregular biotite-quartz veinlets, 0.1-1mm; ½% pyrrhotite,
- at 23.05m 1 cm biotite-quartz vein at 80°,
- at 23.50m late calcite veinlets at 15°, 45° & 60°,
- at 23.65m 2cm chlorite-quartz vein at 60°,

DRILLING INTERVAL m	% CORE RECOVERED	CORE SIZE	SECTION metres
		3.56 cm	30
32.4	100		
35.4	100		35
38.4	100		
41.4	100		40
44.4	100		
47.4	100		45
50.4	100		50
53.4	100		
56.4	100		55
59.4	100		60

ALTERATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE. CORE REC'Y/HOLE: 98%

23.66 - 23.90m 10% irregular quartz-calcite-chlorite veinlets; ¼% pyrrhotite,
23.90 - 25.00m moderately siliceous,
25.05 - 25.40m very siliceous; 20% irregular carbonate-quartz-chlorite-biotite veinlets; ½% pyrrhotite, trace chalcopyrite,
25.40 - 25.50m 10% irregular quartz-biotite veinlets; ½% pyrrhotite; trace of chalcopyrite,
25.75 - 26.50m 7% irregular quartz-biotite veinlets; ¼% pyrrhotite.

26.60 - 27.32m green, m.g. and slightly porphyritic dacitic? (flow?); late fractures at 30-35° and 50°.

27.32 - 32.52m green, f.g. andesitic (flow?)
27.60 - 27.90 and 28.20 - 28.50m 5% biotite-quartz veinlets at 10-15° and 60°; 10% pyrrhotite with veinlets; ½% pyrrhotite overall,
29.15 - 29.25m 10% irregular carbonate-quartz-chlorite-biotite veinlets; 1% pyrrhotite,
at 30.00m 2cm quartz-chlorite vein; 5mm bleb of pyrrhotite with chalcopyrite core,
30.50 - 30.58m 30% irregular, chlorite-quartz-carbonate veinlets with 1% pyrrhotite,
at 31.06m 2cm chlorite-quartz vein at 60°,
at 31.40m 2cm chlorite-quartz vein at 30°,
31.60 - 31.75m quartz-carbonate zone at 10°,
31.90 - 32.00m 5% irregular biotite-quartz veinlets with 5% pyrrhotite.

32.52 - 35.00m light grey, porphyritic dacite flow with v.f.g. groundmass and 15% albite phenocrysts to 4mm:
at 32.65m 1½cm biotite-quartz vein at 40°,
at 34.45m 1cm quartz-chlorite-biotite-carbonate vein at 20°,
at 34.60m 1cm quartz-chlorite-biotite-carbonate vein at 40°,

35.00 - 41.30m green, f.g. and m.g. andesitic (flow?) trace to ½% pyrrhotite (near veinlets):
35.55 - 35.70m 20% irregular carbonate-quartz-chlorite-biotite veinlets,
at 35.90m 1cm carbonate-quartz-chlorite-biotite vein at 60°,
at 36.90m 1cm carbonate-quartz-chlorite-biotite vein at 30°,
at 37.40m 1cm biotite-quartz vein at 50°,
at 37.50m 1cm quartz-carbonate-chlorite vein at 70°,
at 38.05m 2cm quartz-carbonate-chlorite vein at 70°,
at 39.33m 2cm quartz-carbonate-chlorite vein at 60°,
at 39.40m ½cm quartz-carbonate-chlorite veinlet at 70°,
37.40 - 38.40m ¼ - ½% pyrrhotite,
38.40 - 39.70m distinctly porphyritic with 20% ragged ghost albite phenocrysts to 4mm,
40.00 - 41.30m 2% quartz-calcite veinlets, 0.1 - 2mm,; with 10% pyrite at 30° to 50°,

41.30 - 42.00m green m.g. andesite (flow?) 2% quartz-calcite veinlets, 0.1-2mm; with 10% pyrite at 30° to 50°.

42.00 - 42.90m grey, porphyritic dacitic (flow?), v.f.g. groundmass with 15% ghost albite phenocrysts; ½% pyrrhotite with trace of chalcopyrite.
at 42.10m 2cm albite-carbonate-quartz vein at 50°,
at 42.50m 5cm albite-carbonate-quartz vein at 40°.

42.90 - 43.70m green, alternately f.g., m.g. and porphyritic andesitic (flow?); trace to ½% pyrrhotite;
at 43.30m 1cm biotite-quartz vein at 60°,
at 43.60m 2cm carbonate-chlorite-quartz vein at 40°.

43.70 - 45.40m green, f.g. and m.g. andesitic (flow?); ½% pyrrhotite:
at 44.20m 1½cm late quartz vein at 40°,
at 44.30m 1 cm quartz-biotite vein at 30°; 5% pyrrhotite and trace of chalcopyrite in vein,
at 44.73m 1cm quartz-carbonate-chlorite vein at 60°,
44.90 - 45.10m 5% quartz-carbonate veins at 60°, with 1% pyrrhotite and trace of chalcopyrite.

Project Whitewater Location Lyle Creek Hole No DDH 91-4 Page No. 3 of 3

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE. CORE REC'Y/HOLE: 98%

45.40 - 47.40m green, m.g. andesitic (flow?); 20% albite phenocrysts to 2mm; ½% pyrrhotite:
45.50 - 46.10m 3cm band of 30% carbonate-chlorite-quartz at 5°,
at 46.10m ½cm late quartz-calcite veinlet at 15°,
46.30 - 47.40m very chloritic; 1% late quartz-calcite veinlets, 0.1-0.2mm, at 50°, with 10% pyrrhotite and trace of chalcopyrite, 1% pyrrhotite overall:
at 46.96m 2cm late brecciated, quartz-epidote vein at 60°.

47.40 - 49.90m green, alternately f.g. and porphyritic andesitic? (flow?); ¼% pyrite, increasing near veinlets:
at 47.50m band of biotite-quartz at 30°,
at 47.73m 2cm carbonate-albite-quartz zone at 45°,
at 47.93m 1½cm carbonate-quartz-biotite zone at 50°,
at 48.15m 1½cm carbonate-quartz-chlorite zone at 20°,
48.50 - 48.60m quartz-epidote-biotite-chlorite zone at 40°,
49.20 - 49.35m 3cm late quartz vein at 70°,
at 49.60m 1cm late quartz vein at 50°,

49.90 - 53.50m grey, porphyritic dacite flow; 20% albite phenocrysts to 4mm v.f.g. groundmass:
49.90 - 51.30m 5% late quartz-carbonate veins, ½-2cm, at 50° to 70° with ¼% pyrrhotite and trace of chalcopyrite,
51.30 - 53.50m 2% quartz veinlets, 0.1-2m, filling widely spaced fractures at 15°, 50° and 60°; 5% pyrrhotite with quartz.

53.50 - 54.64m green, f.g. and porphyritic andesitic(?) flow; 15% albite microphenocrysts, 0.1 - 2mm,

54.64 - 57.70m as above, but moderately disrupted; 1% late quartz-calcite veinlets, .1-2mm:
56.55 - 56.65m 15% quartz-biotite-carbonate contorted veins,
57.30 - 57.50m 30% quartz-biotite-carbonate zone at 50°,

57.70 - 59.40m as above, but slightly disrupted; 5% irregular biotite-quartz veinlets; ½% pyrrhotite with a trace chalcopyrite,
58.55 - 58.65m 10% irregular biotite-quartz veinlets.

59.40m End of Drill Hole.

Project Whitewater Location Lyle Creek Hole No. DDH 91-4 Page No 1 of 1

metres

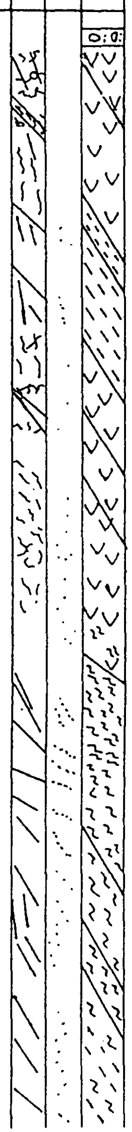
CORE										SLUDGE										
Depth Interval		Sample No.	m Rec.	% Rec.	ASSAY Au ppb	Ag ppm				Depth Interval		Sample No.	Lbs. Rec.	% Rec.	ASSAY					
From	To									From	To									
5.80	7.70	8501	1.9	100	20	.6														
16.00	17.00	8502	1.0	100	3	.1														
18.90	20.00	8503	1.1	100	7	.3														
27.60	28.50	8504	0.9	100	2	.2														
42.00	42.90	8547	0.9	100	2	.1														
49.90	50.90	8548	1.0	100	2	.1														
58.40	59.40	8549	1.0	100	1	.2														

Project	Whitewater	Location	Lyle Creek	Contractor	Emary Drilling
Hole No.	DDH 91-5	Page No.	1 of 3	Date Started	August 19, 1991
Coordinates:	5+64 S	N	1+83 E	Date Finished	August 21, 1991
Collar elev.	1689 metres	Bearing	270°	Ref. to Claim Corner	
Inclination	-45 degrees	Total Depth	60.6 metres	Logged by	M. S. Morrison

DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE cm 3.56 | SECTION metres | ALTERATION | FRACTURING | MINERAL | GEOLOGY

Drilling interval: 0.4, 0.9, 1.8, 3.3, 4.2, 5.1, 6.6, 8.1, 9.6, 11.1, 12.6, 14.1, 15.6, 17.1, 18.6, 20.1, 23.1, 24.6, 27.6

Section metres: 0, 5, 10, 15, 20, 25, 30



COMMENTS: Casing to 2.4 metres

AVE. CORE REC'Y HOLE: 98%

v.f.g.=very fine grained
f.g.=fine grained
m.g.=medium grained

0.00 - 0.40m Collar.
0.40 - 0.90m Overburden: soil, broken rock. No core recovered.
0.90 - 60.60m Permian and(?) Carboniferous Kaslo Group Volcanics. Grey to grey, very fine, fine, and medium grained and sometimes porphyritic, dacitic and andesitic flows (and tuffs?) that have undergone greenschist grade metamorphism; some local biotite schist zones that grade into amphibolite.

0.90 - 2.20m light grey, f.g. to slightly porphyritic dacite flow; white plagioclase phenocysts, 1-2mm, 3% irregular calcite (weathered out?) and quartz veinlets, 0.1-2mm; limonitic late fractures at 25° to 35°:
at 1.10m, 1.75 - 1.81m and 2.20m broken core.

2.20 - 5.60m light green, v.f.g. and f.g. dacite(?) flow; 5% irregular quartz-calcite veinlets, 0.1-2mm:
at 2.50 and 2.80m 4cm breccia zones mended with quartz-carbonate-chlorite at 45°,
2.80 - 3.00m very broken core,
3.00 - 3.30m 3cm quartz-calcite-chlorite vein at 15°,
at 3.40m 2cm quartz-calcite-chlorite vein at 10°,
4.60 - 5.10m 10% quartz-calcite-chlorite veinlets, 0.5-1cm, at 10°,
at 5.20m 4cm quartz-calcite-chlorite mending breccia zone at 50°.

5.60 - 6.60m green, m.g. andesitic? (tuff?); 10% late quartz-calcite veinlets, 0.5-1cm, at 10°; much of calcite and sulphides(?) weathered out; ½% disseminated pyrrhotite; broken core.

6.60 - 9.60m green, m.g. andesitic? (tuff?) as above: recent limonitic fractures at 25°, 45° and 70°; trace only of iron sulphides:
at 6.80m 3cm quartz-calcite vein at 45°; most of calcite weathered out,
at 7.10m ½cm quartz-calcite vein at 15° with 10% pyrite,
at 7.60m ½cm quartz-calcite vein at 30°,
7.90 - 9.60m 2% quartz-calcite microveinlets, 0.1-2mm,
8.80 - 9.20m microveinlets increase to 5%.

9.60 - 11.40m light green, m.g. dacitic (flow?); 3% irregular quartz-calcite microveinlets (o.1mm); trace to ½% iron sulphides increasing to ½% either side of veinlets:
at 10.15m 20% irregular albite-quartz veinlets,
at 10.30m 1cm quartz-calcite-albite vein at 50°,
at 10.55 and 10.75m 3cm quartz-albite-chlorite veins at 40°,
at 11.10m broken core.

11.40 - 13.20m light grey, v.f.g. and f.g. dacitic (flow?):
at 12.00 - 12.55, 12.80 - 12.90 and 12.95 - 13.05m 30% irregular quartz-albite-carbonate-chlorite veining, some 40° to 50°; ½% pyrite and pyrrhotite for 2cm either side of veins.

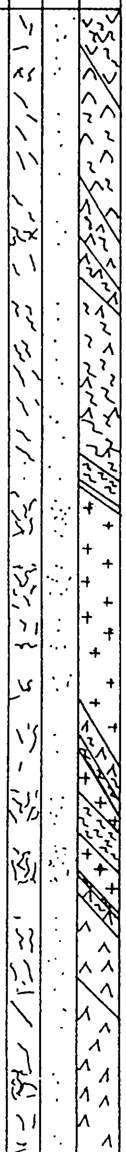
13.20 - 17.70m light grey, f.g., slightly porphyritic, dacitic flow; 10% phenocrysts of albite; moderately siliceous 13.20 - 15.60m; highly siliceous 15.60 - 16.20m:
13.20-14.15m 3% quartz-calcite veinlets, 0.1-2mm,
14.15-14.90m weak breccia zone, 10% quartz-carbonate-albite-chlorite mending breccia and as veins up to 4cm; highly siliceous; ½% pyrite and pyrrhotite,
14.90-16.32m 3% quartz-calcite veinlets, 0.1-2mm,
16.32-16.65m 15% irregular quartz-carbonate-chlorite veinlets; 4% pyrrhotite, trace chalcopyrite,
16.65-17.70m trace to ½% pyrite and pyrrhotite; becoming slightly schistose.

17.70-22.65m brown biotite schist; upper contact 52°; 3% quartz-calcite veinlets, 0.1-2mm; ½% pyrite, trace of pyrrhotite and chalcopyrite:
at 17.8m 1cm quartz vein at 25°,
18.00-18.10m 10% smeared quartz veins; 2% pyrite,
18.50-18.60m 10% smeared quartz veins at 30°; 2% pyrite,
18.95-19.05m 10% smeared quartz veins at 45°; 2% pyrite,
19.30-21.60m 10% smeared quartz veins ; 2% pyrite,
10.05-20.10m 20% smeared quartz veins at 70°; 2% pyrite,

Project Whitewater | Location Lyle Creek | Hole No. DDH 91-5 | Page No. 2 of 3

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SECTION
30.6			30
33.6	100		35
36.6	100		
39.6	100		40
42.6	100		
45.6	100		45
48.6	100		
51.6	100		50
54.6	100		55
57.6	100		
60.6	100		60

ALTERATION | FRACTURING | MINERAL | GEOLOGY



COMMENTS:

AVE. CORE REC'Y/HOLE: 98%

py = pyrite
pyr=pyrrhotite
cpy=chalcopyrite

21.60-21.85m 7% smeared quartz veins ; 1-2% pyrite,
21.85-21.95m 20% smeared quartz veins 2% pyrite,
at 22.65m 1cm late quartz-biotite vein at 25° with 5% pyrite; schistosity is 45° below the vein.

22.65-25.00m green, moderately schistose (at 30°), alternately f.g. and porphyritic dacitic(?) flow; some ghost albite phenocryst zones at 5° to 30°; ¼% pyrite:
22.80-23.10m 30% quartz-biotite veinlets smeared along schistosity with ½% pyrite,
23.10-25.00m 20% quartz-chlorite veinlets smeared along schistosity at 5° to 30°.

25.00-26.40m brown, biotite schist; 20% early quartz veins smeared along schistosity at 25°; 2-3% pyrite; greatest pyrite near veinlets.

26.40-29.55m green, very disturbed, actinolite-quartz-epidote rock; slightly schistose at 25°; 30%quartz-carbonate-albite veinlets, in part smeared with schistosity, 3% later quartz-carbonate veins at 25° to 50°; ½% pyrite:
27.00-27.10m 30% epidote.

29.55-32.00m green, f.g., m.g. and slightly porphyritic dacitic(?) (flow?); slightly schistose at 30°; very chloritic; ¼ to ½% pyrite:
29.55-29.90m 5% quartz-chlorite veinlets, 0.1-2mm,
29.90-30.20m 15% quartz veinlets with schistosity; 40% biotite adjacent veinlets, ½% py,
30.20-32.00m 2% irregular quartz-calcite veinlets cutting generally massive rock; 1% pyrite blebs,
31.70-31.85m veinlets increase to 7%.

32.00-35.30m green, f.g. andesitic(?) flow; 5-10% irregular quartz-carbonate veinlets; some filling fractures at 30°, 40° and 60°; ¼% pyrite:
33.60-34.20m moderately siliceous.

35.30-36.90m green, f.g. andesitic(?) flow; very chloritic, moderately schistose; 10% quartz veinlets smeared with schistosity at 35°, some at 10°; ½% pyrite as blebs:
36.10-36.35m 20% irregular, late quartz-carbonate veinlets, 0.1-2mm,
36.35-36.90m 3% irregular quartz-carbonate veinlets.

36.90-37.70m green, f.g. and slightly porphyritic andesitic(?) flow; slightly schistose at 45°; 3% smeared quartz veins; ¼% pyrite:

37.70-42.42m as above, but more distinctly schistose; ½% pyrite as 5mm cubes:
37.70-38.50m schistosity at 40°,
38.60-38.75m 10% quartz veinlets smeared out with schistosity,
39.20-40.00m 10% quartz veinlets smeared out with schistosity at 30°,
40.00-41.30m 5% quartz veinlets smeared out with schistosity at 35°,
41.30-42.42m 10% quartz veinlets smeared out with schistosity at 20°, going to 45°.

42.42-43.03m black biotite schist at 55°; 30% chloritic.

43.03-43.20m black, very biotitic rock;grades into amphibolite.

43.20-49.40m black and white amphibolite (derived from andesite?); comprised of f.g. hornblende, albite and biotite; slightly schistose, 3% stockwork of fine quartz veinlets, 2% pyrite:
43.30-44.10m rock is bleached to light brown; 10% cross-cutting quartz veinlets, 0.1-3mm; 3% pyrite,
44.85-45.70m 30% of rock is bleached to light brown; 10% cross-cutting quartz veinlets, 0.1-3mm; 3% pyrite, distinct increase in pyrite near veinlets.
45.70-46.00m 5% quartz veinlets, 1-2mm, at 30° to 40°,
46.00-48.00m generally massive amphibolite; ½% quartz veinlets; 1% pyrite,
47.10-47.20m 5% quartz veinlets, 1-2mm, at 30° to 40°; 2% pyrite,
48.00-48.70m 5% late quartz veinlets, 1-5mm at 15° to 30°; 1% pyrite,
48.70-49.20m rock grades from true amphibolite to finer grained rock,
49.20-49.40m as above with 10% chlorite.

49.40-50.75m green, f.g. and slightly porphyritic andesitic(?) (flow?) 10% ghost albite phenocrysts, 1-3mm; still 10% hornblende and biotite; 1% quartz-calcite veinlets, 0.1-2mm, at 30° to 40°; trace of pyrite,
at 50.50m schistosity at 30°.

Project Whitewater Location Lyle Creek Hole No DDH 91-5 Page No. 3 of 3

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY

COMMENTS:

AVE. CORE REC'Y/HOLE: 98%

50.75-50.90m	brown biotite schist grades into amphibolite.
50.90-51.60m	black and white amphibolite, as above; 15% quartz-albite-carbonate veinlets at 5° to 20°; 1% pyrite.
51.60-52.70m	brown biotite-hornblende-albite schist; schistosity at 40°; ¼ to ½% pyrite.
52.70-53.70m	black and white amphibolite; highly disrupted; 30% bleached zones with 5% irregular and broken quartz veinlets, 0.1-8mm; 2-3% pyrite overall.
53.70-53.80m	black biotite-hornblende schist; schistosity at 40°.
53.80-54.40m	green, f.g. and porphyritic andesitic(?) (flow?); slightly schistose; banded with 5-7 cm porphyritic bands of 30% ghost albite phenocrysts; ½% pyrite.
54.40-56.45m	as above, but highly disturbed; 15% broken, disrupted quartz-albite-carbonate veinlets; ¼ to ½% pyrite: at 56.35m ½cm late barren quartz vein at 35°.
56.45-60.60m	green, f.g. and slightly porphyritic andesitic(?) (flow?); 3% quartz-calcite veinlets, 1-2mm, at 20° to 30°; ½% pyrite: at 56.65m 1cm late quartz-epidote-calcite vein at 40°, 58.55-59.20m 20% disrupted zones with disrupted chlorite-quartz-carbonate veinlets, 59.20-60.60m 5% quartz-calcite veinlets, 0.1-5mm; increase in pyrite near veinlets.
60.60m	End of Drill Hole.

Project Whitewater Location Lyle Creek Hole No. DDH 91-5 Page No 1 of 1

metres

CORE										SLUDGE									
Depth Interval					ASSAY					Depth Interval					ASSAY				
From	To	Sample No.	m Rec.	% Rec.	Au ppb	Ag ppm				From	To	Sample No.	Lbs. Rec.	% Rec.					
2.20	3.60	58415	1.40	100	2	.1													
4.60	5.40	58416	0.80	100	2	.2													
15.60	16.20	58417	0.60	100	3	.2													
17.70	19.30	58418	1.60	100	62	.2													
19.30	20.30	58419	1.00	100	179	.3													
20.30	21.60	58420	1.30	100	72	.4													
21.60	22.10	58421	0.50	100	28	.4													
25.00	26.40	58422	1.40	100	37	.4													
26.40	27.40	58423	1.00	100	36	.4													
39.20	40.00	58424	0.80	100	44	.4													
42.42	43.30	58425	0.88	100	180	.4													
43.30	44.10	58426	0.80	100	2420	.2													
44.85	45.70	58427	0.85	100	2100	.4													
50.90	51.60	58428	0.70	100	320	.2													
52.70	53.70	58429	1.00	100	6600	.8													
55.00	56.00	58430	1.00	100	42	.3													

Project: Whitewater | Location: Lyle Creek | Contractor: Emary Drilling

Hole No.: DDH 91-6 | Page No. 1 of 3 | Date Started: August 22, 1991

Coordinates: 6+31S N 0+07 E | Date Finished: August 24, 1991

Collar elev.: 1608 metres | Bearing: 060° | Ref. to Claim Corner:

Inclination: -44 degrees | Total Depth: 65.1 metres | Logged by: M.S.Morrison (signature)

COMMENTS: Casing to 1.2 meters

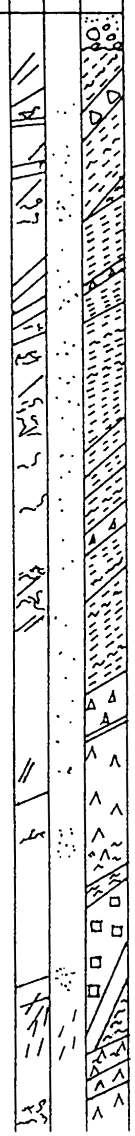
AVE. CORE REC'Y HOLE: near 100%

v.f.g.=very fine grained
f.g.=fine grained
m.g.=medium grained

DRILLING INTERVAL (m)	% CORE RECOVERED	CORE SIZE
0–1.0	0	3.56 cm
1.0–2.1	100	–
2.1–3.6	100	
3.6–5.1	100	
5.1–6.6	100	
6.6–8.1	100	
8.1–9.6	100	
9.6–11.1	100	
11.1–12.6	100	
12.6–15.6	100	
15.6–18.6	100	
18.6–21.6	100	
21.6–24.6	100	
24.6–27.6	100	
27.6–	100	

SECTION metres: 0, 5, 10, 15, 20, 25, 30

ALTERATION | FRACTURING | MINERAL | GEOLOGY



0.00-0.40m Collar.
0.40-1.00m Overburden: soil, colluvium.
1.00-23.50m Permian and (?) Carboniferous Kaslo Group Volcanics. Grey to green, very fine, fine, and medium grained, and sometimes porphyritic andesitic (and minor dacitic) flows and tuffs that are intruded by several narrow synvolcanic diorite sills and dykes, all of which, have undergone greenschist grade metamorphism:

1.00-2.00m light grey, f.g. andesitic (tuff?), locally slightly schistose:
  0.1-2mm quartz and calcite(?) (weathered-out) veinlets(3%) at 40°, 50 &60°; trace to ¼% pyr.

2.00-2.54m light green, massive, m.g. diorite dyke: upper contact 42°; trace of pyrrhotite.

2.54-4.95m light grey to light green, v.f.g. to f.g. andesitic (tuff?); slightly schistose at 40°; trace to ¼% pyrrhotite generally, increasing to 5% pyrrhotite adjacent veinlets:
  2.6-2.7m moderately brecciated,
  at 3.0m 1 cm quartz-carbonate-chlorite veinlet at 80°,
  at 3.32 and 3.40m 1 cm " " " veinlets with 5% pyr + trace of cpy at 80°,
  at 4.25 and 4.68m 1 cm " " " veinlets with 5% pyr at 70°& 60° respect.

4.95-5.10m light grey to light green, moderately schistose (at 65°), well silicified (maybe dacitic), (tuff?), trace of disseminated pyrrhotite.

5.10-6.85m grey to green, f.g. andesitic (tuff?), 1% disseminated pyrrhotite:
  at 5.10-5.18m and 5.35-5.42m 30% quartz-carbonate-chlorite irregular veining.

6.85-7.20m grey, m.g. diorite dyke: upper contact at 55°; generally massive, hornblende 75% to act.:

7.20-7.95m light green, f.g. andesitic (tuff?); ½% pyrrhotite:
  at 7.25, 7.52 and 7.82m 1-2cm quartz-carbonate-chlorite veinlets at 50° to 60°.

7.95-11.20m light green, chloritic, f.g., andesitic(?) (tuff?), slightly schistose, 1% pyrrhotite disseminated, trace of cpy with pyr blebs; increase in pyr near veinlets:
  8.25-8.38m 20% quartz-carbonate-albite-chlorite veinlets with weak schistosity,
  at 8.55 and 8.70m 2cm quartz-carbonate-albite-chlorite veins at 70°, also at 8.92m,
  at 9.35-9.45m 30% " " " veining,
  at 9.47m 1cm late quartz-biotite veinlet at 30°,
  at 9.85m 2cm quartz-albite-carbonate vein,
  at 10.16m 2% " " " veinlets,
  10.37-10.44m " " " vein at 50°,
  10.6-10.8m 2% quartz-calcite irregular veinlets (calcite weathered out).

11.20-11.83m green, f.g. andesitic (tuff?), 10%, .1-4mm, irregular quartz-calcite veinlets filling fracture ¼% pyrrhotite overall:
  at 11.40m 3cm quartz-carbonate-albite vein.

11.83-12.53m alternately light grey, f.g., porphyritic and m.g. (dioritic) andesite (tuff?): ½% pyr,
  11.33-11.95m and 12.15-12.25 porphyritic,
  12.25-12.38m and 12.45-12.53m m.g. dioritic,
  the f.g. intercepts are cut with 3% quartz-calcite veinlets, .1-2mm.

12.53-13.50m green, f.g. andesitic (tuff?); slightly schistose at 50°; 5%irregular quartz-calcite veinlets; ¼to ½%pyrrhotite.

13.50-14.20m grey, m.g. diorite dyke, trace of pyrrhotite.

14.20-15.30m light grey v.f.g., f.g. and m.g. andesitic(?) (tuff?); slightly schistose at 60°; ½% pyr; best within the v.f.g. intervals:
  15.20-15.33m minor breccia zone with quartz-albite-carbonate clasts and matrix.

15.30-17.95m light grey to green f.g. and m.g. andesitic (tuff?); moderately schistose at 60°; ¼% pyrrhotite with schistosity:
  15.30-15.38m quartz-albite-carbonate vein at 50°,
  15.60-16.10m broken core, 5% irregular quartz-calcite veinlets, 0.1-3mm; calcite(?) weathered out,
  16.25-16.75m 10% early quartz-albite veinlets smeared with schistosity.

Project Whitewater Location Lyle Creek Hole No. DDH 91-6 Page No: 2 of 3

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SECTION metres
		3.56 cm	30
30.6	100		35
33.6	100		
36.6	100		40
39.6	100		
42.6	100		45
45.6	100		
48.6	100		50
51.6	100		
54.6	100		55
57.6	100		
59.1	100		60
62.2			

ALTERATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE. CORE REC'Y/HOLE: near 100%

py = pyrite
pyr= pyrrhotite
cpy= chalcopyrite

17.95-19.30m grey, m.g. diorite dyke: generally massive; trace to ½% disseminated pyrrhotite.
19.30-19.52m grey, f.g., m.g. and minor porphyritic andesitic (flow?):
19.38-19.44m feldspar porphyry dyke at 80°; 5% pyr, ½% cpy disseminated.
19.52-23.10m light grey to green, m.g. and porphyritic andesitic flow; slightly schistose; ½-1½% pyr; 2% quartz-calcite veinlets, 0.1-2mm, with best pyr near larger veinlets:
at 20.50m 1½cm quartz-albite-carbonate vein at 20°,
at 21.25m 1½cm quartz-carbonate-chlorite vein at 70°,
21.60-22.35m moderately silicified,
22.23-22.28m minor breccia zone mended with quartz, chlorite, and carbonate,
21.90-22.70m 1% pyrrhotite,
22.50-23.10m progressively more schistose; 10% biotite.
23.10-23.50m brown biotite schist: upper contact at 65°; trace of pyrrhotite.
23.50-26.92m Post Permian-Feldspar Porphyry Dyke. 35% albite phenocrysts, 1-7mm (rounded by metamorphism) 10% biotite (some altered to chlorite); v.f.g. glassy grey groundmass; 1% pyrrhotite disseminated throughout; upper contact at 55°; chilled margin for 15cm:
25.20-26.00m 2% limonite on fractures at 35° and 70°; dyke is generally limonite stained:
25.50-26.00m 1% pyrite and ½% chalcopyrite disseminated throughout dyke,
26.00-26.92m quartz-albite-ankerite vein: upper slickenside contact at 20°; lower contact at 30°; upper half of vein has 5% limonite veinlets (after sulphides?) at 15° and 20°, trace of cpy; lower half of vein has 10% irregular limonite veinlets (after sulphides?).
26.92-55.36m Permian and(?) Carboniferous Kaslo Group Volcanics (as described above):
26.92-27.55m brown, biotite schist; schistosity at 60°:
limonite staining to 27.10m, then fresh.
27.55-28.30m brown to green, less and less biotite in favour of chlorite away from quartz vein:
f.g. andesitic (flow?); slightly schistose; no pyrrhotite;
28.30-28.95m green, f.g. andesite (flow?);slightly schistose; no pyrrhotite.
28.95-30.00m green, f.g. andesitic (flow?); slightly schistose; slightly disrupted zones; micro-fractures (0.1mm) throughout; trace to ½% pyrrhotite:
29.00-29.13m disrupted zone; 20% irregular quartz-albite-carbonate-chlorite veinlets,
29.55-29.63m disrupted zone; 20% irregular chlorite-quartz veinlets,
29.95-30.00m disrupted zone; 20% irregular quartz-albite-carbonate-chlorite veinlets.
30.00-31.50m green, v.f.g., f.g. and m.g. andesitic (tuff?); some banding at 35°; 2% micro-fractures (0.1mm) with quartz-calcite filling; ½% pyrrhotite overall; late fractures at 30°and 70°.
31.50-34.76m green, f.g. andesitic (tuff?); 2% irregular quartz-calcite veinlets, 0.1-2mm, at 10°to 20° late fractures at 30°to 60°; calcite(?) weathered out; ½% pyr, trace of py and cpy:
34.20-34.40m slightly schistose at 70°.
34.76-35.37m same as above, but schistose 75°to 80°:
34.76-34.81m 10% quartz-calcite micro-veinlets, 0.1-1mm,
at 35.35m 1cm brown garnet band at 60°.
35.37-36.00m as above, but non-schistose; bleached 35.90-36.00m.
36.00-36.15m black, f.g. biotitic "baked" rock.
36.15-36.35m breccia zone: 70% bleached rock clasts, 2-6cm, in a matrix of smokey quartz; trace of cpy; upper contact at 25°; lower contact at 50°, 5% limonite over 5 cm at lower contact.
36.35-36.70m grey, disrupted rock; 10% biotite; 20% brown garnet; trace to ½% chalcopyrite.
36.70-37.20m green, f.g. andesitic (flow?); 5-10% irregular quartz-calcite veinlets, 0.1-2mm, ½% pyrite.
37.20-39.30m grey, well fractured, porphyritic andesite (flow?) 10% irregular quartz-calcite veinlets, 0.1-3mm at 0°to 5°; trace py and cpy:
at 37.40m late, 1cm quartz-carbonate-chlorite veinlet at 70°,
at 37.73m late, 1cm quartz-carbonate-chlorite veinlet at 40°,
at 38.20m 3cm quartz-carbonate-chlorite vein at 70°,
39.30-40.25m as above, but moderately schistose, and moderately disrupted; 3% irregular quartz-calcite veinlets, 0.1-2mm; trace of pyrite:
39.70-40.00m moderately silicified.
40.25-41.53m grey, generally porphyritic andesite (flow?) as above; 25% ragged albite phenocrysts, 0.1-4mm, 1% v.f. quartz-calcite veinlets, 0.1mm; trace pyrrhotite and pyrite:
40.53-41.00m moderately silicified.

Project: Whitewater | Location: Lyle Creek | Hole No: DDH 91-6 | Page No. 3 of 3

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY
65.1	100	35.6 cm	62.5, 65, 70		1/		

COMMENTS:

AVE. CORE REC'Y/HOLE: near 100%

41.53-42.06m grey, m.g., massive diorite sill: mafics 100% altered to actinolite; no sulphides.
42.06-42.70m grey, v.f.g. andesitic(?) (tuff?); 3% quartz-calcite micro-veinlets; ½% pyrrhotite.
42.70-43.30m grey, v.f.g. and f.g. andesitic? (tuff?); ½% pyrrhotite:
at 42.70m 3cm quartz-carbonate-albite-chlorite zone,
at 42.88m 1cm quartz-carbonate-albite-chlorite zone,
43.10-43.20m quartz-carbonate-albite-chlorite zone.
43.30-43.42m grey, m.g. diorite sill, as above.
43.42-44.70m green, v.f.g. and f.g. andesitic(?) (tuff?); ¼% pyrrhotite:
at 43.46 and 43.54m 1cm quartz-chlorite-carbonate veinlets at 70°.
44.13-44.22m irregular quartz-albite-carbonate-chlorite vein,
44.46-44.50m irregular quartz-albite-carbonate-chlorite vein.
44.70-44.97m green, f.g. and m.g. andesitic (tuff?); ¼% pyrrhotite.
44.97-46.80m grey, m.g. and porphyritic andesitic (flow?); ½% late quartz-calcite veinlets with ¼% pyr and trace cpy at 15° to 25°.
46.80-47.47m grey, m.g. diorite dyke; mafics 70% altered to actinolite; upper contact at 45°, lower contact at 70°; trace of late quartz-calcite veinlets, 2mm, at 25°.
47.47-49.90m grey to green, v.f.g. and f.g. andesitic (tuff?) 5% irregular quartz-calcite veinlets, 0.1-2mm, some at 30° to 40°; ¼-½% pyrrhotite and trace of chalcopyrite:
48.60-48.75m porphyritic tuff(?) or diorite dyke(?).
49.70-50.32m green, generally massive, f.g. andesitic (tuff?); trace of late quartz-calcite veinlets to 0.3mm at 25°; ¼% pyrrhotite.
50.32-50.90m grey, m.g. diorite dyke; mafics 70% altered to actinolite.
50.90-51.90m grey, v.f.g. and f.g. porphyritic dacitic(?) (flow?); 5% quartz-calcite veinlets, 0.1-2mm; ¼ - ½% pyr;
at 51.00, 51.37 and 51.75m late 1cm quartz-carbonate-chlorite veinlets at 70°.
51.90-53.80m grey, f.g. and porphyritic dacitic? (flow?); ¼% pyrrhotite and trace of chalcopyrite; late fractures at 60&70°:
51.90-52.34m 3% calcite-quartz veinlets, 0.1mm.,
52.34-52.46m 50% irregular vein of quartz-albite-carbonate-chlorite,
52.46-53.80m phenocryst ghosts, 2% calcite-quartz micro-veinlets, 0.1mm.
53.80-54.80m grey, m.g. diorite sill; generally massive; mafics 70% altered to actinolite; trace pyr +py
54.80-55.36m green, f.g. andesitic (flow?); slightly schistose; trace of chalcopyrite; becomes biotitic for last 10cm against the dyke.
55.36-59.03 Post Permian-Feldspar Porphyry Dyke: 35% albite phenocrysts, 1-7mm, 10% biotite (altered to chlorite near quartz vein); ¼% chalcopyrite finely disseminated throughout dyke or with/adjacent late, 0.1-0.3mm, limonitic fractures at 15° to 20° and 35°; trace of pyrite:
at 56.90m 2cm barren white quartz vein at 35°; chalcopyrite increases adjacent vein,
58.56-58.98m dyke becomes white, albitized, with quartz and chlorite and a trace of chalcopyrite; lower contact with breccia zone at approx. 30°.
58.98-59.03m minor breccia zone; chlorite and albite
59.03-65.10 Kaslo Group Volcanics (as above):
59.03-65.10m green, f.g. andesitic(?) (tuff?):
59.03-59.20m 20% brown garnet and epidote,
at 60.00m 2cm quartz-calcite vein at 60°; trace of pyrite and chalcopyrite,
at 60.15m 1½cm barren, late quartz vein at 25°,
at 60.60m 3cm 20% garnet zone; 5% irregular quartz veinlets,
at 60.80m 4cm 20% garnet zone; at 40°,
at 60.90m 3cm 20% garnet zone; below 1cm quartz veinlet at 70°,
at 61.00m 3cm 20% garnet zone;
60.60-61.00m 2% quartz and calcite micro-veinlets, 0.1mm; some at 10°,
61.00-61.80m generally massive, chloritic,
61.80-64.20m well fractured, 10% irregular quartz and calcite veinlets, 0.1-3mm, some at 0°; trace py and pyr,
64.20-65.10m fractures with 1% limonite and pyrite at 10° to 40°.
65.10m End of Drill Hole.

Project Whitewater   Location Lyle Creek   Hole No. DDH 91-6   Page No 1 of 1

metres

Depth Interval		CORE							Depth Interval		SLUDGE								
					ASSAY									ASSAY					
From	To	Sample No.	m Rec.	% Rec.	Au ppb	Ag ppm			From	To	Sample No.	Lbs. Rec.	% Rec.						
8.00	9.00	58401	1.0	100	15	.3													
11.20	11.83	58402	0.63	100	11	.1													
12.53	13.50	58403	0.97	100	7	.2													
14.20	15.30	58404	1.10	100	23	.3													
21.90	22.70	58405	0.80	100	10	.3													
25.50	26.00	58406	0.50	100	8	.2													
26.00	26.92	58407	0.92	100	7	.3													
36.15	36.70	58408	0.55	100	6	.2													
37.20	38.20	58409	1.00	100	6	.1													
47.47	48.60	58410	1.13	100	5	.1													
50.90	51.90	58411	1.00	100	8	.1													
55.36	56.40	58412	1.04	100	20	.1													
56.40	57.40	58413	1.00	100	13	.1													
57.40	58.98	58414	1.58	100	9	.1													

ACME ANALYTICAL LABORATORIES LTD. ...2 E. HASTINGS ST. VANCOUVER B.C. V6A ... PHONE(604)2..-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Harold M. Jones & Assoc. Inc. PROJECT WHITE WATER File # 91-4059 Page 1

605 - 602 W. Hastings St., Vancouver BC V6B 1P2 Submitted by: M.S. MORRISON

	SAMPLE#	metres from to	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
D.D.H. 91-4	C 8501	5.80 - 7.70	1	14	107	167	.6	6	1	448	1.78	9	5	ND	9	337	.2	2	2	10	.83	.021	54	6	.08	121	.03	3	.36	.09	.17	1	20
D.D.H. 91-4	C 8502	16.00 - 17.00	1	56	7	58	.1	34	22	617	4.27	4	5	ND	1	22	.3	2	2	72	1.03	.065	2	37	1.55	18	.51	2	2.16	.08	.03	1	3
D.D.H. 91-4	C 8503	18.90 - 20.00	1	59	25	69	.3	34	21	626	4.23	3	5	ND	1	11	.4	2	2	75	.97	.057	2	36	1.40	6	.50	2	2.02	.07	.02	1	7
D.D.H. 91-4	C 8504	27.60 - 28.50	1	87	7	63	.2	37	26	591	4.54	2	5	ND	1	12	.4	2	2	72	.97	.071	2	31	1.46	12	.48	2	2.11	.08	.04	1	2
D.D.H. 91-2	C 8505	21.00 - 22.00	1	80	5	25	.1	42	17	341	2.17	5	5	ND	1	18	.2	2	2	39	1.06	.047	2	53	.96	12	.36	2	1.28	.04	.05	1	4
D.D.H. 91-2	C 8506	25.05 - 25.55	3	58	22	37	.1	21	14	350	1.98	10	5	ND	1	21	.2	2	2	40	1.62	.041	2	19	.59	2	.34	2	1.23	.04	.01	1	3
D.D.H. 91-2	C 8507	29.34 - 30.35	1	31	8	22	.1	20	15	311	1.45	8	5	ND	1	23	.2	2	2	33	2.68	.047	2	5	.43	6	.40	3	1.07	.01	.01	1	1
D.D.H. 91-2	C 8508	35.70 - 36.22	1	81	3	25	.1	20	15	349	2.24	2	5	ND	1	17	.2	2	2	47	1.30	.044	2	26	.67	5	.43	2	1.27	.07	.01	1	1
D.D.H. 91-2	C 8509	41.75 - 42.61	1	98	9	57	.2	30	23	604	4.07	4	5	ND	1	12	.3	2	2	65	1.05	.056	2	20	1.42	2	.50	2	2.04	.09	.01	1	1
D.D.H. 91-2	C 8510	42.61 - 43.71	1	84	3	62	.1	34	23	696	4.91	2	5	ND	1	10	.7	2	2	75	1.02	.061	2	30	1.81	4	.52	2	2.45	.07	.02	1	1
D.D.H. 91-2	C 8511	43.71 - 44.81	1	70	2	53	.1	40	23	628	4.36	5	5	ND	1	8	.3	2	2	78	.83	.055	2	76	1.83	8	.48	2	2.30	.07	.04	1	2
D.D.H. 91-2	RE C 8515		1	73	6	49	.1	30	20	496	3.59	2	5	ND	1	15	.3	2	2	57	1.10	.045	2	26	1.37	1	.40	2	2.04	.04	.01	1	2
D.D.H. 91-2	C 8512	44.81 - 45.81	1	72	7	46	.2	32	21	483	3.36	9	5	ND	1	17	.2	2	2	58	1.22	.047	2	45	1.28	3	.42	2	1.96	.04	.01	1	4
D.D.H. 91-2	C 8513	45.81 - 46.75	1	79	3	53	.2	29	19	528	3.53	4	5	ND	1	17	.3	2	2	63	1.44	.043	2	36	1.28	1	.43	2	2.04	.05	.02	1	3
D.D.H. 91-2	C 8514	53.00 - 54.20	1	57	4	40	.1	25	18	494	3.31	2	5	ND	1	18	.2	2	2	58	1.20	.047	2	17	1.16	2	.39	2	1.86	.06	.02	1	3
D.D.H. 91-2	C 8515	54.20 - 55.40	1	78	5	50	.1	30	20	500	3.63	4	5	ND	1	15	.3	2	2	57	1.09	.042	2	27	1.39	1	.38	2	2.05	.04	.01	1	4
D.D.H. 91-2	C 8516	55.40 - 57.00	1	60	3	48	.2	29	20	573	3.80	4	5	ND	1	14	.3	2	2	70	1.33	.049	2	37	1.45	2	.43	2	2.08	.06	.02	1	3
D.D.H. 91-3	C 8535	10.80 - 11.50	1	47	2	76	.2	64	27	1048	6.29	2	5	ND	1	41	1.9	2	2	146	3.63	.053	2	144	3.17	12	.29	2	3.90	.04	.06	1	3
D.D.H. 91-3	C 8536	28.45 - 29.30	1	69	5	46	.1	49	21	516	3.51	2	5	ND	1	13	.2	2	2	47	.90	.060	2	66	1.41	4	.37	2	1.90	.06	.02	1	3
D.D.H. 91-3	C 8537	29.30 - 30.10	1	63	2	47	.1	49	21	523	3.60	2	5	ND	1	16	.4	2	2	50	.97	.063	2	71	1.46	5	.48	2	2.01	.05	.02	1	3
D.D.H. 91-3	C 8538	42.06 - 42.95	1	77	2	69	.2	50	24	1051	5.81	8	5	ND	1	62	2.1	2	2	135	7.74	.052	2	114	2.67	9	.24	2	3.42	.03	.07	1	1
D.D.H. 91-3	C 8539	43.30 - 44.55	1	63	2	61	.3	58	27	811	5.10	17	5	ND	1	28	1.3	2	2	106	3.05	.060	2	122	2.06	5	.46	2	2.68	.06	.02	1	60
D.D.H. 91-3	C 8540	50.40 - 51.40	1	64	2	45	.1	47	22	560	3.67	3	5	ND	1	22	.5	2	2	50	1.11	.064	2	75	1.41	5	.43	2	1.97	.04	.03	1	1
D.D.H. 91-3	C 8541	51.40 - 52.80	1	61	2	37	.2	45	20	509	3.13	3	5	ND	1	23	.2	2	2	44	1.62	.057	2	69	1.19	3	.43	2	1.71	.05	.02	1	2
D.D.H. 91-3	C 8542	52.80 - 53.50	1	101	2	63	.3	56	27	799	5.09	2	5	ND	1	25	1.1	2	2	71	2.67	.051	2	101	2.01	2	.46	2	2.69	.04	.02	1	3
D.D.H. 91-3	C 8543	57.40 - 58.90	1	53	2	48	.2	49	21	588	3.85	2	5	ND	1	20	.5	2	2	61	1.41	.053	2	89	1.49	6	.46	2	2.05	.05	.04	1	2
D.D.H. 91-3	C 8544	67.60 - 68.80	1	95	2	47	.2	34	22	586	4.03	2	5	ND	1	20	.4	2	2	61	1.85	.033	2	44	1.49	1	.45	2	2.18	.04	.01	1	3
D.D.H. 91-3	C 8545	69.10 - 70.95	1	91	2	68	.2	42	27	997	6.17	3	5	ND	1	93	1.6	2	2	157	5.18	.037	2	82	2.58	5	.27	2	3.19	.04	.05	1	3
D.D.H. 91-3	C 8546	72.45 - 73.20	1	65	2	76	.2	46	27	982	6.32	2	5	ND	1	109	1.9	2	2	153	4.57	.042	2	93	2.72	10	.13	2	3.42	.04	.07	1	3
D.D.H. 91-4	C 8547	42.00 - 42.90	1	71	2	28	.1	42	19	410	2.62	2	5	ND	1	21	.2	2	2	48	1.74	.041	2	62	.90	2	.38	2	1.50	.03	.02	1	2
D.D.H. 91-4	C 8548	49.90 - 50.90	1	62	10	48	.1	55	22	612	3.86	3	5	ND	1	25	.6	2	2	65	2.23	.048	2	99	1.53	3	.39	2	2.11	.05	.02	1	2
D.D.H. 91-4	C 8549	58.40 - 59.40	1	70	2	46	.2	42	20	581	3.87	2	5	ND	1	12	.4	2	2	71	1.56	.051	2	70	1.39	2	.49	2	1.99	.08	.02	1	1
D.D.H. 91-5	58415	2.20 - 3.60	1	88	2	42	.1	29	20	543	3.42	6	5	ND	1	21	.4	2	2	63	1.54	.041	2	35	1.16	2	.46	2	1.98	.05	.01	1	2
D.D.H. 91-5	58416	4.60 - 5.40	1	54	4	52	.2	32	20	585	3.98	2	5	ND	1	18	.6	2	2	78	1.22	.048	2	43	1.45	3	.45	2	2.23	.05	.02	1	2
D.D.H. 91-5	58417	15.60 - 16.20	1	48	2	42	.2	27	18	544	3.37	2	5	ND	1	17	.6	2	2	67	1.56	.043	2	36	1.15	1	.45	2	1.84	.08	.01	1	3
D.D.H. 91-5	58418	17.70 - 19.30	1	65	2	81	.2	35	24	982	6.48	3	5	ND	1	45	1.9	2	2	186	3.94	.049	2	58	2.73	49	.36	2	3.43	.06	1.73	1	62
D.D.H. 91-5	58419	19.30 - 20.30	2	54	2	77	.3	31	20	926	5.68	4	5	ND	1	162	2.1	2	2	194	5.40	.045	2	46	2.31	76	.46	2	2.87	.07	2.59	1	179
	STANDARD C/AU-R		18	60	38	132	7.3	70	32	1060	3.99	41	19	6	38	51	18.6	15	18	55	.48	.089	38	60	.87	181	.09	34	1.91	.06	.14	11	464

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 3 1991 **DATE REPORT MAILED:** Sept 6/91. **SIGNED BY**.......... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL

Harold M. Jones & Assoc. Inc. PROJECT WHITE WATER FILE # 91-4059

ACME ANALYTICAL

SAMPLE#	metres from-to	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
58420	20.30-21.60	1	57	2	82	.4	35	24	1041	6.86	3	5	ND	1	118	.2	2	2	192	5.60	.052	2	53	2.54	82	.46	2	2.86	.05	4.53	2	72
58421	21.60-22.10	1	55	5	82	.4	35	25	1051	7.07	2	5	ND	1	86	.2	2	2	206	5.15	.054	2	51	2.55	77	.45	2	3.05	.06	3.65	2	28
58422	25.00-26.40	1	59	2	78	.4	35	26	1044	6.91	4	5	ND	1	86	.2	3	2	184	6.10	.049	2	54	2.35	59	.41	2	2.82	.04	2.85	1	37
RE 58425		1	35	2	82	.3	38	24	1029	6.71	2	5	ND	1	173	.2	3	2	185	6.70	.049	2	68	2.54	35	.36	2	2.79	.05	1.81	8	180
58423	26.40-27.40	1	65	2	76	.4	39	25	1020	6.26	2	5	ND	1	59	.2	2	3	132	4.99	.050	2	53	2.48	18	.38	3	3.06	.02	.33	1	36
58424	39.20-40.00	1	76	3	82	.4	41	29	1068	7.42	2	5	ND	1	40	.2	2	2	179	4.21	.051	2	74	2.77	5	.39	2	3.36	.04	.10	1	44
58425	42.42-43.30	1	35	6	82	.4	37	24	1026	6.63	2	5	ND	1	172	.2	2	2	184	6.71	.049	2	67	2.54	35	.36	2	2.76	.04	1.82	7	180
58426	43.30-44.10	7	9	4	64	.2	23	22	1041	5.12	2	5	ND	1	213	.3	3	2	95	5.85	.074	2	17	2.03	11	.09	2	.61	.06	.45	1	2420
58427	44.85-45.70	21	12	5	90	.4	24	24	1088	6.26	2	5	ND	1	170	.5	2	2	147	4.82	.056	2	16	2.20	14	.18	2	.81	.07	.77	1	2100
58428	50.90-51.60	1	10	6	85	.2	20	22	1366	6.67	2	5	ND	1	261	.4	2	2	139	7.70	.050	2	13	2.52	8	.06	3	.62	.03	.32	1	320
58429	52.70-53.70	9	14	5	76	.8	26	25	1044	5.87	2	5	8	1	163	.4	2	2	124	6.09	.053	2	23	1.77	12	.16	2	1.22	.08	.73	1	6600
58430	55.00-56.00	1	65	2	76	.3	36	26	1000	6.13	2	5	ND	1	51	.2	2	2	118	4.19	.048	2	47	2.44	4	.39	2	2.94	.02	.08	1	42
58431	36.10-36.50	1	6	2	58	.1	44	24	986	5.83	10	5	ND	1	235	.2	2	2	108	9.24	.036	2	71	2.03	11	.02	3	1.98	.04	.11	1	36
STANDARD C/AU-R		17	55	41	133	6.8	70	33	1041	3.89	37	18	7	36	53	18.8	16	19	54	.49	.090	37	58	.89	176	.09	31	1.88	.06	.15	12	520

D.D.H. 91-5

91-1

Samples beginning 'RE' are duplicate samples.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Harold M. Jones & Assoc. Inc. PROJECT WHITE WATER File # 91-3968

605 - 602 W. Hastings St., Vancouver BC V6B 1P2 Submitted by: M.S. MORRISON

SAMPLE#	metres from-to	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
58401	8.0- 9.0	1	61	9	69	.3	37	26	704	4.48	8	5	ND	1	10	.2	2	2	78	1.48	.054	2	62	1.54	4	.64	6	2.04	.05	.01	1	15
58402	11.20-11.83	1	62	5	59	.1	36	26	696	4.34	6	5	ND	1	19	.2	2	2	73	3.18	.051	2	63	1.42	6	.67	5	1.97	.03	.03	1	11
58403	1253-13.50	1	64	2	59	.2	34	29	746	4.74	12	5	ND	1	14	.2	2	2	76	1.79	.058	2	59	1.64	4	.62	5	2.15	.05	.02	1	7
58404	14.20-15.30	1	60	3	55	.3	33	26	691	4.45	8	5	ND	1	20	.2	2	2	75	1.63	.056	2	49	1.49	4	.75	5	2.07	.05	.02	1	23
58405	21.90-22.70	1	45	2	85	.3	20	30	999	6.63	5	5	ND	1	67	.2	2	2	132	3.09	.057	2	13	2.14	16	.60	5	2.95	.03	.18	1	10
58406	25.50-26.00	1	30	8	51	.2	15	7	319	1.94	6	5	ND	5	75	.4	2	3	29	.93	.024	19	19	.36	45	.05	5	.67	.13	.14	1	8
58407	26.00-26.92	1	17	55	154	.3	9	5	1091	1.70	6	6	ND	3	742	.8	2	2	17	10.55	.022	10	10	.23	20	.01	3	.36	.07	.06	1	7
58408	36.15-36.70	1	58	3	71	.2	32	25	1060	5.97	2	5	ND	1	267	.2	2	2	150	5.24	.043	2	51	2.18	13	.20	5	2.59	.05	.07	1	6
58409	37.20-38.20	1	50	4	44	.1	28	20	474	3.28	3	5	ND	1	21	.2	2	2	60	1.40	.043	2	48	1.23	3	.51	3	1.82	.03	.02	1	6
58410	47.47-48.60	1	66	2	51	.1	31	23	561	3.97	2	5	ND	1	18	.2	2	3	65	1.54	.049	2	39	1.30	6	.48	6	1.91	.04	.02	1	5
58411	50.90-51.90	1	60	2	37	.1	25	18	438	2.88	2	5	ND	1	27	.2	2	2	60	1.43	.046	2	30	.90	2	.55	3	1.58	.04	.01	1	8
58412	53.36-56.40	1	13	16	67	.1	7	4	541	1.94	3	5	ND	8	306	.2	2	2	24	1.54	.020	44	12	.32	33	.05	2	.62	.08	.11	1	20
58413	56.40-57.40	1	15	19	65	.1	8	4	507	2.03	10	5	ND	8	117	.2	2	2	22	1.15	.020	33	12	.29	26	.04	2	.60	.07	.06	1	13
58414	57.40-58.98	1	12	24	131	.1	7	4	668	2.18	4	5	ND	7	178	.6	2	2	23	2.86	.020	27	11	.40	18	.04	2	.77	.05	.05	1	9
C 8517	58.00-59.50	1	75	3	46	.1	27	22	543	3.43	5	5	ND	1	21	.2	2	2	67	2.11	.049	2	21	1.11	2	.64	5	1.71	.05	.01	1	2
C 8518	60.60-61.15	1	55	2	53	.1	31	23	638	4.17	3	5	ND	1	22	.2	2	2	73	2.05	.046	2	48	1.51	6	.58	4	2.18	.05	.03	1	1
C 8519	61.15-62.10	1	92	2	85	.1	36	29	971	6.05	2	5	ND	1	17	.2	2	2	123	3.19	.050	2	63	2.21	5	.48	4	2.77	.05	.03	1	4
C 8520	63.60-65.00	1	74	4	72	.3	23	30	828	5.81	2	5	ND	1	15	.2	2	2	91	1.95	.063	2	19	1.86	2	.66	3	2.46	.06	.02	1	5
C 8521	67.60-68.10	1	78	3	51	.1	35	23	539	3.65	2	5	ND	1	22	.2	2	2	65	1.23	.044	2	56	1.46	2	.60	4	2.08	.03	.01	1	6
C 8522	68.10-68.80	1	67	2	35	.1	31	21	430	2.88	2	5	ND	1	25	.2	2	2	59	1.39	.044	2	50	1.04	2	.56	2	1.66	.04	.01	1	20
C 8523	69.21-71.32	1	77	2	51	.1	36	24	584	4.02	2	5	ND	1	17	.2	2	2	76	1.15	.047	2	68	1.50	1	.55	4	2.01	.05	.01	1	7
C 8524	72.12-72.60	1	69	2	44	.1	26	18	501	3.22	2	5	ND	1	24	.2	2	2	63	1.40	.050	2	55	1.23	1	.60	4	1.90	.04	.01	1	11
C 8525	73.40-74.50	1	31	2	45	.1	23	20	576	3.30	2	5	ND	1	23	.2	2	2	71	2.30	.051	2	29	1.13	2	.60	5	1.75	.04	.01	1	8
C 8532	82.40-84.50	1	34	8	65	.3	67	31	987	6.39	2	5	ND	1	250	.2	2	2	240	7.09	.041	2	252	3.51	136	.56	3	3.08	.03	3.58	3	550
RE C 8522		1	73	2	37	.1	34	22	459	3.10	2	5	ND	1	29	.2	2	2	65	1.52	.048	2	54	1.11	3	.59	3	1.76	.04	.02	1	17
C 8533	84.50-85.45	1	14	2	80	.2	62	29	1094	6.24	3	5	ND	1	235	.2	2	2	244	8.08	.040	2	265	3.47	142	.59	2	3.06	.04	4.82	3	5
C 8534	85.45-86.40	1	52	2	78	.2	36	29	1062	6.97	2	5	ND	1	62	.2	2	2	196	3.75	.059	2	41	2.53	50	.76	4	2.94	.07	1.19	1	16
STANDARD C/AU-R		18	62	42	137	7.5	73	33	1131	4.02	42	17	7	39	54	18.0	15	18	60	.51	.093	40	60	.88	185	.09	37	1.90	.08	.16	11	520

D.D.H. 91-6 (samples 58406–58410)

D.D.H. 91-2 (samples C 8522–RE C 8522)

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: AUG 28 1991 **DATE REPORT MAILED:** Sept 5/91. **SIGNED BY** ....C. Leong.... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1... PHONE(... 253 ... 58 ... (60... 3-1

GEOCHEMICAL ANALYSIS CERTIFICATE

Harold M. Jones & Assoc. Inc. PROJECT WHITE WATER File # 91-3732

605 - 602 W. Hastings St., Vancouver BC V6B 1P2 Submitted by: M.S. MORRISON

SAMPLE#	D.D.H. 91-2 metres from-to	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
C 8526	75.62-77.24	1	60	2	78	.1	47	24	940	5.64	2	5	ND	2	37	.7	2	2	120	3.83	.053	2	106	2.79	3	.26	2	3.19	.01	.04	1	5
C 8527	77.24-79.00	1	46	2	89	.2	33	24	938	6.32	3	5	ND	1	128	1.0	2	2	189	4.77	.056	2	51	2.71	144	.38	2	3.02	.03	2.48	1	450
C 8528	79.00-79.12	95	28	10	65	2.0	50	46	628	7.87	7	5	8	1	180	1.1	2	2	160	4.54	.050	2	27	1.81	81	.32	2	1.80	.07	1.78	30	10040
RE C 8529		42	22	5	83	.5	39	21	897	5.37	3	5	ND	1	310	1.2	2	2	197	7.86	.044	2	139	2.97	126	.37	2	2.55	.03	2.47	8	1030
C 8529	79.12-79.70	42	20	6	82	.4	39	21	887	5.28	4	5	ND	1	305	.9	2	2	195	7.79	.043	2	138	2.96	124	.37	2	2.50	.03	2.52	8	1100
C 8530	79.70-80.40	1	25	2	71	.2	109	29	927	5.29	3	5	ND	1	302	1.2	2	2	186	8.31	.029	2	585	4.43	140	.40	2	3.53	.01	3.40	1	10
C 8531	80.40-82.40	1	21	3	74	.1	71	24	919	5.28	4	5	ND	1	276	1.1	2	2	228	7.39	.030	2	380	4.28	147	.42	2	3.45	.01	3.60	3	13
STANDARD C/AU-R		18	59	37	133	6.9	70	32	1039	3.96	42	19	6	39	54	18.4	18	20	54	.48	.090	38	58	.88	177	.09	32	1.93	.06	.15	11	480

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
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- SAMPLE TYPE: CORE AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: AUG 21 1991 **DATE REPORT MAILED:** Aug 26/91. **SIGNED BY** C. Leong ....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS