GEOLOGICAL REPORT OF FIELDWORK ON THE LUCKY JACK - BULLOCK GROUP POPLAR CREEK LARDEAU AREA SLOCAN MINING DIVISION BRITISH COLUMBIA N.T.S. 82-K-6W

825276

50° 24' N LATITUDE 117° 07' W LONGITUDE

FOR: HARDY INTERNATIONAL DEVELOPMENT INC.

NORMAN W. STACEY
GEOLOGIST
VANCOUVER, B.C.
DECEMBER, 1983.

KERR ADDISON MINES LIMITED

MEMO

VANCOUVER OFFICE

DATE Aug/84

TO: _____

FROM: F. Chow

SUBJECT: LUCKY JACK 82K-6W

Not enough info to assess the d.d. program - whether the more important targets have been drilled. More drilling could be done to drill the soil anomalies in unit 1, probably not drilled because of difficult site location for the drill.

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INTRODUCTION

A preliminary exploration program was undertaken pursuant to a report on the group by F. Marshall Smith, P.Eng., dated May, 1983.

The area has historic 'bonanza' gold vein type production and has been investigated in recent years by Westmin Resources, focusing in from a regional program. Data reported by Westmin, along with regional data correspond with the newly developed "gold porphyrite" model, making the property an attractive exploration target for larger tonnage gold deposits.

New knowledge of gold-bearing porphyrites allowed reinterpretation of existing data.

Follow-up work to elucidate reported mineralization, minor exploration and limited mapping were desirable in light of the "gold-porphyrite" model.

LOCATION, ACCESS AND PHYSIOGRAPHY

The claims are located 50° 07' N latitude and 117° 07' W longitude, southwest of the confluence of Poplar Creek with Lardeau River.

Access is north from Kaslo some 65 km by Provincial Highway 31; paved to Marblehead some 22 km short of Poplar Creek. The road beyond Marblehead is a formed, graded all-season gravel road of very gentle gradient and follows an abandoned rail grade along the valley floor.

A handful of dwellings are all that remain at the old townsite of Poplar Creek and the nearest services (fuel, groceries, restaurant) are available at Meadow Creek, some 25 km south on Highway 31. Rental housing is available 17 km south of the property at the rural community of Howser; the terminus of power and telephone services.

Elevations range from approximately 2,500 feet a.s.l. in the valley floor to approximately 5,000 feet on the divide between Poplar Creek and Cascade Creek to the south. The area is expected to be snow free from late April or May until September or October in normal years. Slopes are moderate to steep and frequently stepped or benched on the flanks of the Lardeau River. Tributaries such as Poplar and Cascade Creeks are deeply incised in canyons or steep gravity slopes. Vegetation is generally of marginal to sub-economic mixed species conifer on Lardeau River flanks,

POPLAR CREEK PROJECT

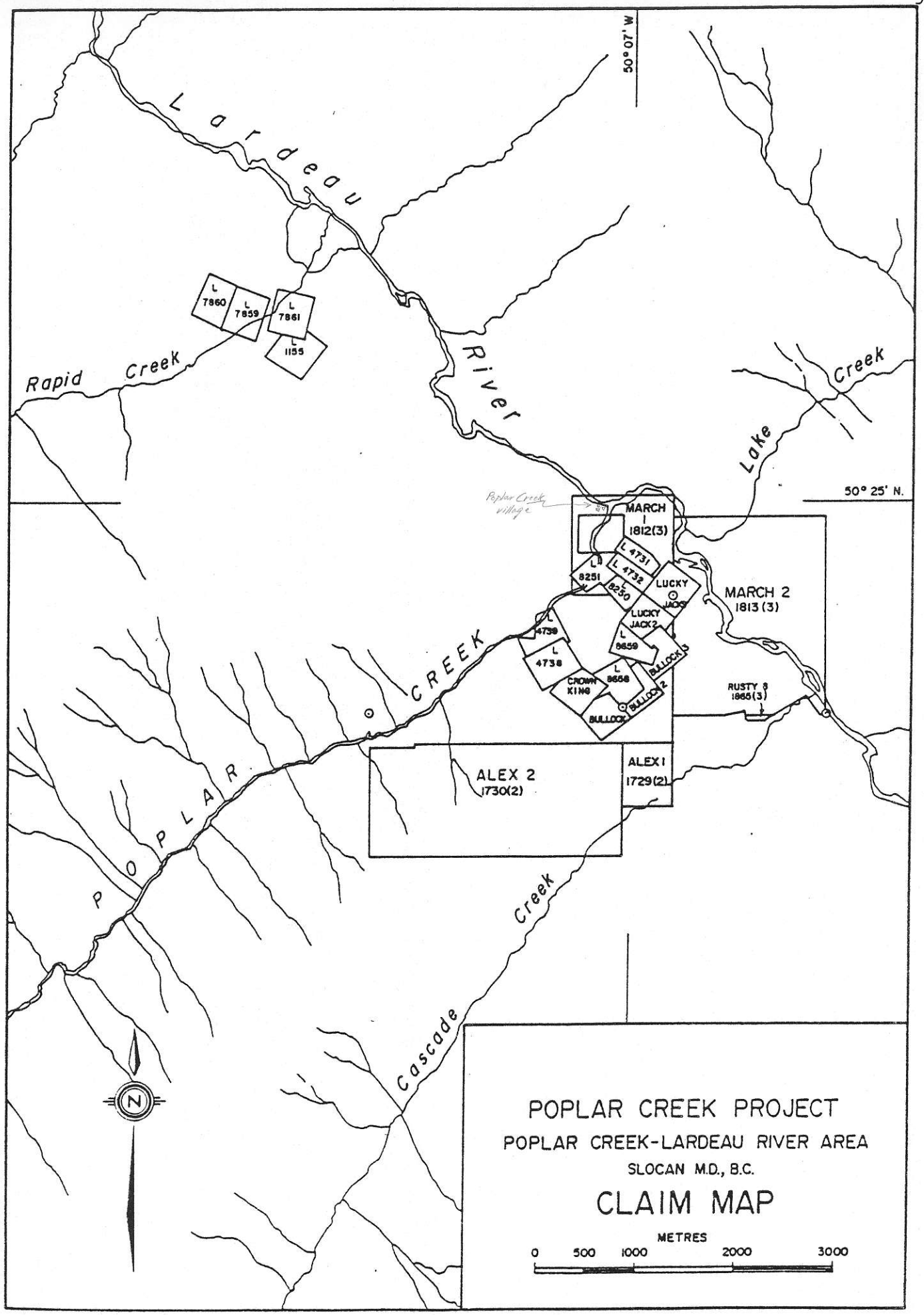
POPLAR CREEK-LARDEAU RIVER AREA

SLOCAN M.D., B.C.

LOCATION MAP

KILOMETRES

0 100 200 300 400


50° 07' W
Lardeau River
Rapid Creek
Lake Creek
50° 25' N.
Poplar Creek Village
L 7860
L 7859
L 7861
L 1155
MARCH 1812(3)
L 4731
L 4732
L 8251
L 8250
LUCKY JACK
LUCKY JACK 2
MARCH 2 1813(3)
L 4739
L 4738
L 8659
BULLOCK 3
CROWN KING
L 8658
BULLOCK 2
BULLOCK
RUSTY 8 1865(3)
ALEX 2 1730(2)
ALEX 1 1729(2)
POPLAR CREEK
Cascade Creek
N
POPLAR CREEK PROJECT
POPLAR CREEK-LARDEAU RIVER AREA
SLOCAN M.D., B.C.
CLAIM MAP
METRES
0 500 1000 2000 3000

to mature cedar on tributary walls.

Access to the property is from Provincial Highway 31 which traverses it, or on foot from Forest Service Roads which follow the Poplar Creek and Cascade Creek drainages. Drill access trails had previously been built in the Lucky Jack vicinity. A steep, barely negotiable, four-wheel-drive road winds up the hill, traversing most of the old Crown Grants and workings. At the time of fieldwork, surveying was completed for a 12% grade haulage road being proposed by local forestry industries. This new road would provide valuable access and information, especially if constructed shortly.

HISTORY

The history of the claimed area has been extensively reported by F. Marshall Smith, P.Eng., (May, 1983) and the reader is referred to that report for details. The claims are as depicted on fig. 2, which is excerpted from Smith (1983).

REGIONAL GEOLOGY

Regional geology is similarly reported in F. Marshall Smith P.Eng., (1983) report. Several Government publications report the geology and mineralization of the area from 1914 onwards. The most recent being by P.B. Read, 1973 and 1976. Westmin Resources Ltd. explored a large tract in the late 1970's and earliest 1980's.

PROPERTY GEOLOGY

Extensive mapping, geochemistry and limited diamond drilling by Westmin Resources had investigated the property and defined an eleven unit stratographic sequence based on macroscopic observations. Unit 10 of this sequence, described as "weak to moderately foliated, feldspar, porphyry andesite" had been tentatively classified as of probable intrusive origin. Two drill intersections of gold mineralization were encountered in separate locations of volcanic host-rock. Recent discoveries elsewhere, along with unexplained features of the volcanics, suggest a more likely extrusive

porphyrite origin. Current investigations including relogging of core, limited remapping and trenching were supportive of this interpretation.

FIELDWORK

Current activities were primarily concerned with the areas of most intense exploration and drilling in an attempt to better apply the "gold porphyrite" model to previously discovered gold mineralization. 1980 drilling had focused on the Lucky Jack area with its historic workings, and the Goldsmith Crown Grant area with its high gold in soil anomalies.

Two additional silver-lead occurrences were investigated.

(A) LUCKY JACK AREA

The core from seven drill holes was relogged and any known mineralization bounded by additional splitting and sampling. Particular attention was paid to porphyrite sequences and core recovery. The area of drilling was remapped in an endeavour to determine the surface extent and geomoetry to confirm an exhalative origin.

The Lucky Jack Grid was re-established and resampled (utilizing the previous grid stations where feasible) and analysed for gold in whole pulverized soil. This was intended to confirm and define the existing anomaly and also as a sample comparison of the whole soil technique with the "-80 mesh fraction only" coverage of the property.

(B) GOLDSMITH AREA

A new detailed grid was established over the area to spatially assist in locating workings and elucidating geology, particularly with reference to the mineralized section in D.D.H. 80-5. The accessible Goldsmith No. 2 and No. 3 workings were inspected. Quartz veins exposed in trenches were located and tested for wallrock mineralization, and in the hope of defining particular sets by orientation.

The drill core was inspected and a sulphide bearing section, adjacent to reported mineralization, split and sampled.

Backhoe trenching exposed projected or obscured quartz veins, and stripped

a sequence of the volcanic pile immediately above, and immediately below a sedimentary sequence.

(C) MOTHERLODE

A silver/lead occurrence on the south flank of Poplar Creek on the ALEX II mineral claim was located; the one accessible level inspected and sampled and various selected grab samples collected.

(D) SILVER SHOWING

The existence and origin of a small pile of silver/lead mineralization near the Big Hope access trail, was described by Mr. Ernie Alexander of Cooper Creek. The mineralization was located and sampled and limited trenching was conducted in an unsuccessful attempt to locate its source.

(E) MISCELLANEOUS

Reconnaissance in the vicinity of the Bullock Mine workings located two old collapsed adits. One of these was accessed from the road and reopened with a loader/backhoe. The level was mapped and sampled.

RESULTS

(A) LUCKY JACK AREA

The goal was to examine Westmin's Unit 10 as a porphyrite and investigate the extent of low-grade gold mineralization in hostrock.

Surface mapping, confirmed by drill records indicate at least two northward dipping sheets (to 40 m thick) of Unit 10. These are underlain by tuffaceous Unit 7, and interdigitated with sedimentary Unit 11. Quartz veining is frequent within Unit 10, and proximal to its contacts. Previous mapping proved spatially adequate. A sedimentary septum projects from either side into the porphyrite (Unit 10) and may separate discrete flows, or may be

plastically squeezed out.

Geochemical soil sampling for gold proved more detailed than previous work. Anomalies 'A' and 'B' correspond with the previous work. These are coincident with the expanses of porphyrite, evident topographically and indicate an elevated background content in this lithology. Anomalies 'C' and 'D', which were not recognized in earlier work, are attributable to downslope migration of the system developed in the Good Hope workings. Anomaly 'E' is attributable to the trenching upslope and on trend with the Good Hope host lithology. No mineralization was discovered here but quartz float and carbonated mafic volcanic rocks are evident near a limestone contact. The values may be enhanced by surface disturbance.

Visual drill core logs of holes 7 to 13 are appended and should be used with the previous Westmin data for a more complete record. The lower 0.5 m of porphyrite in hole 7, immediately above 36 cm of tuff yielded high background gold values. Hole 8 yielded only one weakly anomalous gold value in ankeritized tuff. Hole 9 had one slightly anomalous gold sample at the pyritiferous lower contact of a volcanic unit. A sequence of porphyrite/tuff bands caps the known mineralization in hole 12. The tuffaceous sections yielded higher background values than the porphyrite. A 1 m section of porphyrite from below the reported mineralization in hole 12 yielded 0.02 ounces per ton of gold. All results of additional sampling of core are sub-economic, and are appended (Certificate A8313591-001).

(B) GOLDSMITH AREA

The goals were to attempt to classify the abundant quartz veins as to dip direction and determine if the gold mineralization was confined to a particular set. Concurrently the wallrock was tested for mineralization. A 0.9 m section of hole 5 had yielded an averaged assay of 1.2 ounces per ton gold in weakly carbonated pyrrhotiferous massive greenstone. Determination of the nature, occurrence and extent of this unit was also sought.

All veins tend to strike northwesterly. The wider, more continuous structures tend to have a dip similar to hostrock; that is, steeply northeast. The quartz veins occur in any of the observed lithologies. The samples taken (G.A, G.S. 14, G.S. 18 & G.G. series - numbered after the respective Westmin trenches) failed to detect any preference for a particular orientation. Results, all of sub-economic value are appended (Certificate A8313694). Two veins were

found bearing massive fine grained sulphide, predominantly arsenopyrite, which crosscut hostrock, dipping steeply south to shallowly north. These sulphide veins carry from 0.144 to 0.358 ounces gold per ton (Toban Tock A8313592 and GS 5 A8314864 appended).

Three areas of markedly redder, friable soil with abundant quartz fragments were noted upslope of sedimentary inliers. Upslope trenching of one of these was only able to find an intensely carbonated, friable horizon of mafic volcanics. The quartz content, distinct demarcation and extent of these zones remains inadequately justified.

The three major lithologies observed were: i) Greenstone. A fine grained, silicic chloritic schistose volcanic; generally highly resistant, forming ovate to lenticular outcrops. Dip slopes of about 70° N common on north side. The distinctive occurrence of these belies their being continuous bands. Topographically they form aligned knolls and ridges. ii) Carbonated mafic volcanics. A distinctly softer, more friable, foliated unit, weathers with limonitic speckles after mafic inclusions. Often interbanded with very foliated, green to limonitic brown, weathered mafic tuffs, and lesser sediments. iii) Carbonaceous sediments. Very fine grained, dark grey to black, weakly calcareous, laminated slates shales and argillites. These generally weather recessive, forming scarps or steps in a 'tread and riser' effect when bounded by greenstone.

The mineralized section in D.D.H 5 (56.7 m to 57.6 m of to 1.404 oz/t Au, Westmin 1982) occurs in a section of greenstone bearing 5% pyrrhotite trace pyrite and 5% to 10% carbonate in an aureole bounding a reported 2 cm quartz carbonate vein. The vein was net evident in the intensely fractured core remnants. A section above this was inspected in core, found to have approximately 7% combined sulphides (pyrite dominant) but without significant gold values (A 8313694 attached).

No sulphide rich section of greenstone could be found in outcrop, but would be oxidised and preferentially eroded. It was hoped the red soil zones could be traced to such a horizon but this could not be confirmed.

(C) MOTHERLODE

A 30m adit running 144° was located on the ALEX II claim at approximately 3,500 feet above sea level, driven along a contact between argillite to the west

and an ankeritized, limonite speckled intrusive to the east. The contact is invaded by an irregular quartz vein to 1 m wide with apophyses into the intrusive. Several samples of argillite, quartz and intrusive were collected but did not yield significant values of silver or gold (Samples A1 to A5, appended Cert. 83-1987). Some 10 m upslope at 115° is a collapsed adit and dump. Two dump samples A2-1, showed visible galena lenses and assayed to 8.46 percent lead, 9.62 percent zinc and up to 20.18 ounces per ton silver. A 20 cm channel from a vein in the portal floor, possibly in place, yielded similar values from sample A2-2. A selection waste rock grabs A2-3 was barren. Results are appended (Cert. 83-1987).

(D) SILVER SHOWING

The Big Hope access trail was reopened and a shear trending 325°/70° NE stripped with the backhoe. The shear is at the contact of a sedimentary inlier to the south and light green, limonite speckled mafic volcanics to the northeast. Minor quartz veinlets existed in the 40 cm wide shear but no mineralization was detected. A small cobbed pile nearby had specimen of red lead oxide coated galena. Samples E.A.V. 1, 2 and 3 of hostrock, shear and cobbed pile are appended on certificate A 8314864. The cobbs assayed 18.34 ounces per ton silver but this material would not be found in place.

(E) MISCELLANEOUS

An old tunnel on the Crown King claim had been reported to carry silver values. The tunnel was reopened with a backhoe during the course of which a speck of free gold was noted in quartz muck. The level extends 31.5 m at 244°. At the face is a 1 m quartz vein at 310°/48° N underlain by 1 m of black graphitic gouge with to 20% mariposite. Sample CK 1 is a 1 m channel of the gouge at the face; CK 2 is a 1 m channel of the vein at the face; sample CK 3 is a 1 m channel of the vein 5 m from the face. Sample CK 4, the only significant value (o.24 oz/t Ag, 0.102 oz/t Au) is of a 20 cm intersecting quartz vein trending 310°/68° N. These samples

and CK 5 to 11 are annotated on the appended certificate A 8314864. Generally the tunnel showed major quartz veins striking 310°, and dipping 40° N, which truncate a smaller, less continuous set striking 310? to 315° and dipping 47° to 68° S. Hostrock of intercalated calcareous schistose sediments strikes uniformly 300° and dips 49° N.

Trenching in the Goldsmith area was confined to 5 significant trenches. The first was to expose and deepen the pit from which Westmin's GS 18 J had yielded 0.51 ounces per ton. The vein was found to be south dipping. Channel samples over 40 cm of adjacent hanging-wall, 40 cm of vein and 50 cm of footwall ran 0.02, less than 0.003 and 0.18 ounces of gold respectively (GS-18E-3, 4, 5, Cert. A 8314864).

The second trench was to deepen a previous cut immediately below a major greenstone outcrop. A low angle quartz vein dipping 15° south crosscuts both the fissile mafic volcanics and the greenstone. A 30 cm north 50° dipping quartz vein is truncated by this former structure which is there totally replaced by arsenopyrite. Sample GSC 1 is grabs of lesser discontinuous quartz veins and veinlets. Sample GSC 2 is of the 30 cm quartz vein, being floor, east and west walls combined. Samples GSC 3 and 4 are 50 cm of hangingwall and 50 cm of footwall to the previous sample. Sample GSC 5 is channels of 15 cm and 25 cm over the east and west walls of the arsenopyrite. Only the latter, localised arsenopyrite had significant gold. (o.358 oz/ton Cert. 8314864).

The third trench was a major cut exposing a complete mafic volcanic sequence between an underlying greenstone and an overlying sedimentary inlier, in the carbonated red soil zone. Minor intensely carbonated bands to 0.75 m and small discontinuous quartz veinlets were found, but neither adequately justify the marked soil horizon. Sample NT 8-1 was a 55 cm channel taken over a hematite banded vein and apophesy with 30 cm intervening, friable lime/hematitic hostrock. Sample NV 10.7 was a 50 cm chip over a 30% minor quartz gashes (to 3 cm) trending 310°/090°, with intervening hostrock. Sample GS 81-1 was of a vuggy open space filled quartz veinlet (15 cm) oriented 310°/50° N located 2 metres east and 4 metres upslope of the easternmost GS 18 trench. Results are appended on Certificate 8314864.

CONCLUSION

The Lucky Jack area has a sequence of porphyritic andesite flows of apparent extrusive origin which contain high background gold values. Economically significant gold values are, on the evidence to date, attributable to quartz veining and immediately bounding hostrock. These veins are predominantly close to contacts.

The Lucky Jack vein with its historic bonanza type gold mineralization is not one and the same as that intersected on drill hole 12. Potential remains for higher grade, low tonnage vein deposits in this vicinity.

The Good Hope workings and the area west of them has not been examined and tested for gold. Whole soil geochemistry indicates a source or sources in this vicinity.

The historic records of the Bullock Mine, the visible gold found at the Crown King, and lack of reproducibility of vein samples such as Westmin's GS 18 J, indicate gold in quartz veins is erratic, silica encapsulated and a very difficult exploration target.

On the Goldsmith, the drill intersection is of gold in hostrock with sulphides, especially pyrrhotite. While this could not be found in outcrop, a subcropping of same may explain the previously discovered gold in soil anomalies. This may explain the low coincidence of anomalies of arsenic in soil. Arsenopyrite veins carry gold values but are of limited extent and width. These veins crosacut hostrock and may be derived from sulphides at depth.

The intersection in drill hole 5 remains a prime target of unknown extent, with widespread similar lithology and potential.

RECOMMENDATIONS

Soil geochemistry controlled by a superior grid to that used previously, should be conducted in the vicinity of known anomalies in the Goldsmith area, to delineate potential subcropping sulphides in greenstone. Geophysical tools should then he used to determine the probable extent of buried sulphides.

Areas found anomalous in gold, underlain by greenstone and with coincident induced polarization anomalies should be tested by drilling.

Percussion drilling may be considered, especially once the tenor of mineralization is indicated.

The gold mineralization discovered in drill hole 5 should be targeted again from a small step-out to test its extent. If continuity is established, a program to delineate tonnage should be designed.

Any roadwork, especially blast cuts, opened during the building of the proposed forestry road should be inspected. Any sulphide bearing volcanics so encountered should be mapped and sampled.

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Plus extensive Drawings, Plans, Sections, Geochemistry and Drill Logs of the Westmin Armco Joint Venture. Supplies by Eros Resources Inc.

STATEMENT OF QUALIFICATIONS

I. Norman W. Stacey, of 304-2320 Trinity Street, Vancouver, B.C. V5L 4W7, do state that:

1) I am a graduate of the University of Auckland, New Zealand, with a B.Sc. in Applied Geology and Geophysics.

2) Since graduating in 1974, I have worked continuously as a Geologist in New Zealand, Western Australia and western and northern North America.

3) I have written this report titled "Geological Report of Fieldwork on the Lucky Jack - Bullock Group, Poplar Creek, Lardeau Area, Slocan Mining Division, British Columbia," based on fieldwork conducted personally or under my direct supervision and the references cited.

4) I have no pecuniary interest in the subject claims, nor any in the vicinity nor in the securities of the proprietor nor operator.

Norman Stacey

Norman W. Stacey,
Geologist,
New Denver, B.C.
December 15, 1983

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
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TELEPHONE: (604) 984-0221
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-001-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
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BL 0+50SE 3+25S	217	<5	--	--	--	--	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by Stewart Richlen.....

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Sample description	Prep code	Au ppb FA+AA					
BL 0+50SE 3+50S	217	<5	--	--	--	--	--
BL 0+50SE 3+75S	217	<5	--	--	--	--	--
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BL 1+00SE 5+25S	217	<5	--	--	--	--	--
BL 1+00SE 5+50S	217	<5	--	--	--	--	--
BL 1+00SE 5+75S	217	<5	--	--	--	--	--
BL 1+00SE 6+00S	217	5	--	--	--	--	--
BL 1+50SE 0+00S	217	<5	--	--	--	--	--
BL 1+50SE 0+25S	217	25	--	--	--	--	--
BL 1+50SE 0+50S	217	85	--	--	--	--	--

Certified by Hawt Bichler

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-003-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 1+50SE 0+75S	217	25	--	--	--	--	--
BL 1+50SE 1+25S	217	20	--	--	--	--	--
BL 1+50SE 1+50S	217	5	--	--	--	--	--
BL 1+50SE 1+75S	217	45	--	--	--	--	--
BL 1+50SE 2+00S	217	<5	--	--	--	--	--
BL 1+50SE 2+25S	217	140	--	--	--	--	--
BL 1+50SE 2+50S	217	10	--	--	--	--	--
BL 1+50SE 3+00S	217	<5	--	--	--	--	--
BL 1+50SE 3+25S	217	<5	--	--	--	--	--
BL 1+50SE 3+50S	217	<5	--	--	--	--	--
BL 1+50SE 3+75S	217	5	--	--	--	--	--
BL 1+50SE 4+00S	217	<5	--	--	--	--	--
BL 1+50SE 4+25S	217	5	--	--	--	--	--
BL 1+50SE 4+50S	217	<5	--	--	--	--	--
BL 1+50SE 4+75S	217	15	--	--	--	--	--
BL 1+50SE 5+00S	217	<5	--	--	--	--	--
BL 1+50SE 5+50S	217	<5	--	--	--	--	--
BL 2+00SE 0+25S	217	140	--	--	--	--	--
BL 2+00SE 0+50S	217	20	--	--	--	--	--
BL 2+00SE 0+75S	217	5	--	--	--	--	--
BL 2+00SE 1+00S	217	<5	--	--	--	--	--
BL 2+00SE 1+25S	217	900	--	--	--	--	--
BL 2+00SE 1+50S	217	20	--	--	--	--	--
BL 2+00SE 1+75S	217	<5	--	--	--	--	--
BL 2+00SE 2+00S	217	25	--	--	--	--	--
BL 2+00SE 2+25S	217	10	--	--	--	--	--
BL 2+00SE 2+50S	217	<5	--	--	--	--	--
BL 2+00SE 2+75S	217	<5	--	--	--	--	--
BL 2+00SE 3+00S	217	<5	--	--	--	--	--
BL 2+00SE 3+25S	217	<5	--	--	--	--	--
BL 2+00SE 3+50S	217	<5	--	--	--	--	--
BL 2+00SE 3+75S	217	<5	--	--	--	--	--
BL 2+00SE 4+00S	217	30	--	--	--	--	--
BL 2+00SE 4+25S	217	10	--	--	--	--	--
BL 2+00SE 4+75S	217	<5	--	--	--	--	--
BL 2+00SE 5+00S	217	5	--	--	--	--	--
BL 2+00SE 5+25S	217	<5	--	--	--	--	--
BL 2+00SE 5+50S	217	<5	--	--	--	--	--
BL 2+00SE 5+75S	217	<5	--	--	--	--	--
BL 2+00SE 6+00S	217	<5	--	--	--	--	--

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CANADA V7J 2C1

TELEPHONE: (604) 984-0221
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CERTIFICATE OF ANALYSIS

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-004-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 2+50SE 0+00S	217	10	--	--	--	--	--
BL 2+50SE 0+25S	217	350	--	--	--	--	--
BL 2+50SE 0+75S	217	65	--	--	--	--	--
BL 2+50SE 1+00S	217	30	--	--	--	--	--
BL 2+50SE 1+25S	217	15	--	--	--	--	--
BL 2+50SE 1+50S	217	125	--	--	--	--	--
BL 2+50SE 1+75S	217	10	--	--	--	--	--
BL 2+50SE 2+00S	217	95	--	--	--	--	--
BL 2+50SE 2+25S	217	155	--	--	--	--	--
BL 2+50SE 2+50S	217	<5	--	--	--	--	--
BL 2+50SE 2+75S	217	<5	--	--	--	--	--
BL 2+50SE 3+00S	217	<5	--	--	--	--	--
BL 2+50SE 3+25S	217	<5	--	--	--	--	--
BL 2+50SE 3+50S	217	<5	--	--	--	--	--
BL 2+50SE 3+75S	217	<5	--	--	--	--	--
BL 2+50SE 4+00S	217	10	--	--	--	--	--
BL 2+50SE 4+25S	217	10	--	--	--	--	--
BL 2+50SE 4+50S	217	35	--	--	--	--	--
BL 2+50SE 4+75S	217	<5	--	--	--	--	--
BL 2+50SE 5+00S	217	<5	--	--	--	--	--
BL 2+50SE 5+25S	217	5	--	--	--	--	--
BL 2+50SE 5+50S	217	110	--	--	--	--	--
BL 3+00SE 0+00S	217	<5	--	--	--	--	--
BL 3+00SE 0+25S	217	65	--	--	--	--	--
BL 3+00SE 0+50S	217	45	--	--	--	--	--
BL 3+00SE 0+75S	217	15	--	--	--	--	--
BL 3+00SE 1+00S	217	15	--	--	--	--	--
BL 3+00SE 1+25S	217	<5	--	--	--	--	--
BL 3+00SE 1+50S	217	15	--	--	--	--	--
BL 3+00SE 1+75S	217	<5	--	--	--	--	--
BL 3+00SE 2+00S	217	5	--	--	--	--	--
BL 3+00SE 2+25S	217	<5	--	--	--	--	--
BL 3+00SE 2+50S	217	5	--	--	--	--	--
BL 3+00SE 2+75S	217	135	--	--	--	--	--
BL 3+00SE 3+00S	217	20	--	--	--	--	--
BL 3+00SE 3+25S	217	35	--	--	--	--	--
BL 3+00SE 3+50S	217	<5	--	--	--	--	--
BL 3+00SE 3+75S	217	5	--	--	--	--	--
BL 3+00SE 4+00S	217	<5	--	--	--	--	--
BL 3+00SE 4+25S	217	<5	--	--	--	--	--

Certified by Ian Bichler.....

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
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CERTIFICATE OF ANALYSIS

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-005-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 3+00SE 4+50S	217	5	--	--	--	--	--
BL 3+00SE 4+75S	217	5	--	--	--	--	--
BL 3+00SE 5+00S	217	10	--	--	--	--	--
BL 3+00SE 5+25S	217	5	--	--	--	--	--
BL 3+00SE 5+50S	217	<5	--	--	--	--	--
BL 3+00SE 5+75S	217	5	--	--	--	--	--
BL 3+00SE 6+00S	217	5	--	--	--	--	--
BL 0+50NW 0+00S	217	5	--	--	--	--	--
BL 0+50NW 0+25S	217	5	--	--	--	--	--
BL 0+50NW 0+50S	217	10	--	--	--	--	--
BL 0+50NW 0+75S	217	10	--	--	--	--	--
BL 0+50NW 1+00S	217	5	--	--	--	--	--
BL 0+50NW 1+25S	217	5	--	--	--	--	--
BL 0+50NW 1+50S	217	<5	--	--	--	--	--
BL 0+50NW 1+75S	217	<5	--	--	--	--	--
BL 0+50NW 2+00S	217	<5	--	--	--	--	--
BL 0+50NW 2+25S	217	<5	--	--	--	--	--
BL 0+50NW 2+50S	217	<5	--	--	--	--	--
BL 0+50NW 2+75S	217	<5	--	--	--	--	--
BL 0+50NW 3+00S	217	5	--	--	--	--	--
BL 0+50NW 3+25S	217	20	--	--	--	--	--
BL 1+00NW 0+00S	217	5	--	--	--	--	--
BL 1+00NW 0+25S	217	5	--	--	--	--	--
BL 1+00NW 0+50S	217	10	--	--	--	--	--
BL 1+00NW 0+75S	217	5	--	--	--	--	--
BL 1+00NW 1+00S	217	<5	--	--	--	--	--
BL 1+00NW 1+25S	217	5	--	--	--	--	--
BL 1+00NW 1+50S	217	<5	--	--	--	--	--
BL 1+00NW 1+75S	217	<5	--	--	--	--	--
BL 1+00NW 2+00S	217	5	--	--	--	--	--
BL 1+00NW 2+25S	217	<5	--	--	--	--	--
BL 1+50NW 0+00S	217	5	--	--	--	--	--
BL 1+50NW 0+25S	217	<5	--	--	--	--	--
BL 1+50NW 0+50S	217	10	--	--	--	--	--
BL 1+50NW 0+75S	217	85	--	--	--	--	--
BL 1+50NW 1+00S	217	<5	--	--	--	--	--
BL 1+50NW 1+25S	217	5	--	--	--	--	--

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TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-001-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 0+00 025S	217	<5	--	--	--	--	--
BL 0+00 050S	217	<5	--	--	--	--	--
BL 0+00 075S	217	5	--	--	--	--	--
BL 0+00 100S	217	<5	--	--	--	--	--
BL 0+00 125S	217	<5	--	--	--	--	--
BL 0+00 150SA	217	<5	--	--	--	--	--
BL 0+00 150SB	217	<5	--	--	--	--	--
BL 0+00 175SA	217	<5	--	--	--	--	--
BL 0+00 175SB	217	<5	--	--	--	--	--
BL 0+00 200SB	217	<5	--	--	--	--	--
BL 0+00 225S	217	<5	--	--	--	--	--
BL 0+00 250S	217	<5	--	--	--	--	--
BL 0+00 275S	217	<5	--	--	--	--	--
BL 0+00 300S	217	<5	--	--	--	--	--
BL 0+00 325S	217	<5	--	--	--	--	--
BL 0+00 350S	217	10	--	--	--	--	--
BL 0+00 375S	217	<5	--	--	--	--	--
BL 0+00 400S	217	5	--	--	--	--	--
BL 0+00 425S	217	25	--	--	--	--	--
BL 0+00 450S	217	10	--	--	--	--	--
BL 0+00 475S	217	15	--	--	--	--	--
BL 0+00 500S	217	<5	--	--	--	--	--
BL 0+00 525S	217	10	--	--	--	--	--
BL 0+00 550S	217	5	--	--	--	--	--
BL 0+00 575S	217	5	--	--	--	--	--
BL 0+00 600S	217	5	--	--	--	--	--
BL 0+50SE 0+00S	217	55	--	--	--	--	--
BL 0+50SE 0+25S	217	85	--	--	--	--	--
BL 0+50SE 0+50S	217	<5	--	--	--	--	--
BL 0+50SE 0+75S	217	<5	--	--	--	--	--
BL 0+50SE 1+00S	217	<5	--	--	--	--	--
BL 0+50SE 1+25S	217	<5	--	--	--	--	--
BL 0+50SE 1+50S	217	<5	--	--	--	--	--
BL 0+50SE 1+75S	217	<5	--	--	--	--	--
BL 0+50SE 2+00S	217	10	--	--	--	--	--
BL 0+50SE 2+25S	217	5	--	--	--	--	--
BL 0+50SE 2+50S	217	<5	--	--	--	--	--
BL 0+50SE 2+75S	217	<5	--	--	--	--	--
BL 0+50SE 3+00S	217	<5	--	--	--	--	--
BL 0+50SE 3+25S	217	<5	--	--	--	--	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by .Stewart Richlen....

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-002-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 0+50SE 3+50S	217	<5	--	--	--	--	--
BL 0+50SE 3+75S	217	<5	--	--	--	--	--
BL 0+50SE 4+00S	217	<5	--	--	--	--	--
BL 0+50SE 4+25S	217	<5	--	--	--	--	--
BL 0+50SE 4+50S	217	5	--	--	--	--	--
BL 0+50SE 4+75S	217	5	--	--	--	--	--
BL 0+50SE 5+00S	217	<5	--	--	--	--	--
BL 0+50SE 5+25S	217	<5	--	--	--	--	--
BL 0+50SE 5+50S	217	115	--	--	--	--	--
BL 0+50SE 5+75S	217	<5	--	--	--	--	--
BL 0+50SE 6+00S	217	<5	--	--	--	--	--
BL 1+00SE 0+25S	217	10	--	--	--	--	--
BL 1+00SE 0+50S	217	130	--	--	--	--	--
BL 1+00SE 0+75S	217	<5	--	--	--	--	--
BL 1+00SE 1+00S	217	5	--	--	--	--	--
BL 1+00SE 1+25S	217	5	--	--	--	--	--
BL 1+00SE 1+50S	217	<5	--	--	--	--	--
BL 1+00SE 1+75S	217	<5	--	--	--	--	--
BL 1+00SE 2+00S	217	<5	--	--	--	--	--
BL 1+00SE 2+25S	217	<5	--	--	--	--	--
BL 1+00SE 2+50SA	217	<5	--	--	--	--	--
BL 1+00SE 2+56SB	217	<5	--	--	--	--	--
BL 1+00SE 2+75SA	217	<5	--	--	--	--	--
BL 1+00SE 2+75SB	217	<5	--	--	--	--	--
BL 1+00SE 3+00S	217	<5	--	--	--	--	--
BL 1+00SE 3+25S	217	<5	--	--	--	--	--
BL 1+00SE 3+50S	217	<5	--	--	--	--	--
BL 1+00SE 3+75S	217	<5	--	--	--	--	--
BL 1+00SE 4+00S	217	<5	--	--	--	--	--
BL 1+00SE 4+25S	217	<5	--	--	--	--	--
BL 1+00SE 4+50S	217	<5	--	--	--	--	--
BL 1+00SE 4+75S	217	<5	--	--	--	--	--
BL 1+00SE 5+00S	217	<5	--	--	--	--	--
BL 1+00SE 5+25S	217	<5	--	--	--	--	--
BL 1+00SE 5+50S	217	<5	--	--	--	--	--
BL 1+00SE 5+75S	217	<5	--	--	--	--	--
BL 1+00SE 6+00S	217	5	--	--	--	--	--
BL 1+50SE 0+00S	217	<5	--	--	--	--	--
BL 1+50SE 0+25S	217	25	--	--	--	--	--
BL 1+50SE 0+50S	217	85	--	--	--	--	--

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ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 1+50SE 0+75S	217	25	--	--	--	--	--
BL 1+50SE 1+25S	217	20	--	--	--	--	--
BL 1+50SE 1+50S	217	5	--	--	--	--	--
BL 1+50SE 1+75S	217	45	--	--	--	--	--
BL 1+50SE 2+00S	217	<5	--	--	--	--	--
BL 1+50SE 2+25S	217	140	--	--	--	--	--
BL 1+50SE 2+50S	217	10	--	--	--	--	--
BL 1+50SE 3+00S	217	<5	--	--	--	--	--
BL 1+50SE 3+25S	217	<5	--	--	--	--	--
BL 1+50SE 3+50S	217	<5	--	--	--	--	--
BL 1+50SE 3+75S	217	5	--	--	--	--	--
BL 1+50SE 4+00S	217	<5	--	--	--	--	--
BL 1+50SE 4+25S	217	5	--	--	--	--	--
BL 1+50SE 4+50S	217	<5	--	--	--	--	--
BL 1+50SE 4+75S	217	15	--	--	--	--	--
BL 1+50SE 5+00S	217	<5	--	--	--	--	--
BL 1+50SE 5+50S	217	<5	--	--	--	--	--
BL 2+00SE 0+25S	217	140	--	--	--	--	--
BL 2+00SE 0+50S	217	20	--	--	--	--	--
BL 2+00SE 0+75S	217	5	--	--	--	--	--
BL 2+00SE 1+00S	217	<5	--	--	--	--	--
BL 2+00SE 1+25S	217	900	--	--	--	--	--
BL 2+00SE 1+50S	217	20	--	--	--	--	--
BL 2+00SE 1+75S	217	<5	--	--	--	--	--
BL 2+00SE 2+00S	217	25	--	--	--	--	--
BL 2+00SE 2+25S	217	10	--	--	--	--	--
BL 2+00SE 2+50S	217	<5	--	--	--	--	--
BL 2+00SE 2+75S	217	<5	--	--	--	--	--
BL 2+00SE 3+00S	217	<5	--	--	--	--	--
BL 2+00SE 3+25S	217	<5	--	--	--	--	--
BL 2+00SE 3+50S	217	<5	--	--	--	--	--
BL 2+00SE 3+75S	217	<5	--	--	--	--	--
BL 2+00SE 4+00S	217	30	--	--	--	--	--
BL 2+00SE 4+25S	217	10	--	--	--	--	--
BL 2+00SE 4+75S	217	<5	--	--	--	--	--
BL 2+00SE 5+00S	217	5	--	--	--	--	--
BL 2+00SE 5+25S	217	<5	--	--	--	--	--
BL 2+00SE 5+50S	217	<5	--	--	--	--	--
BL 2+00SE 5+75S	217	<5	--	--	--	--	--
BL 2+00SE 6+00S	217	<5	--	--	--	--	--

Certified by Ian Bichler

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
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CERTIFICATE OF ANALYSIS

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-004-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 2+50SE 0+00S	217	10	--	--	--	--	--
BL 2+50SE 0+25S	217	350	--	--	--	--	--
BL 2+50SE 0+75S	217	65	--	--	--	--	--
BL 2+50SE 1+00S	217	30	--	--	--	--	--
BL 2+50SE 1+25S	217	15	--	--	--	--	--
BL 2+50SE 1+50S	217	125	--	--	--	--	--
BL 2+50SE 1+75S	217	10	--	--	--	--	--
BL 2+50SE 2+00S	217	95	--	--	--	--	--
BL 2+50SE 2+25S	217	155	--	--	--	--	--
BL 2+50SE 2+50S	217	<5	--	--	--	--	--
BL 2+50SE 2+75S	217	<5	--	--	--	--	--
BL 2+50SE 3+00S	217	<5	--	--	--	--	--
BL 2+50SE 3+25S	217	<5	--	--	--	--	--
BL 2+50SE 3+50S	217	<5	--	--	--	--	--
BL 2+50SE 3+75S	217	<5	--	--	--	--	--
BL 2+50SE 4+00S	217	10	--	--	--	--	--
BL 2+50SE 4+25S	217	10	--	--	--	--	--
BL 2+50SE 4+50S	217	35	--	--	--	--	--
BL 2+50SE 4+75S	217	<5	--	--	--	--	--
BL 2+50SE 5+00S	217	<5	--	--	--	--	--
BL 2+50SE 5+25S	217	5	--	--	--	--	--
BL 2+50SE 5+50S	217	110	--	--	--	--	--
BL 3+00SE 0+00S	217	<5	--	--	--	--	--
BL 3+00SE 0+25S	217	65	--	--	--	--	--
BL 3+00SE 0+50S	217	45	--	--	--	--	--
BL 3+00SE 0+75S	217	15	--	--	--	--	--
BL 3+00SE 1+00S	217	15	--	--	--	--	--
BL 3+00SE 1+25S	217	<5	--	--	--	--	--
BL 3+00SE 1+50S	217	15	--	--	--	--	--
BL 3+00SE 1+75S	217	<5	--	--	--	--	--
BL 3+00SE 2+00S	217	5	--	--	--	--	--
BL 3+00SE 2+25S	217	<5	--	--	--	--	--
BL 3+00SE 2+50S	217	5	--	--	--	--	--
BL 3+00SE 2+75S	217	135	--	--	--	--	--
BL 3+00SE 3+00S	217	20	--	--	--	--	--
BL 3+00SE 3+25S	217	35	--	--	--	--	--
BL 3+00SE 3+50S	217	<5	--	--	--	--	--
BL 3+00SE 3+75S	217	5	--	--	--	--	--
BL 3+00SE 4+00S	217	<5	--	--	--	--	--
BL 3+00SE 4+25S	217	<5	--	--	--	--	--

Certified by Ian Buchler

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313547-005-A
INVOICE # : I8313547
DATE : 19-AUG-83
P.O. # : NONE
ALMINE RES.

ATTN: ROLAND WOOD CC: NORM STACEY, KASLO

Sample description	Prep code	Au ppb FA+AA					
BL 3+00SE 4+50S	217	5	--	--	--	--	--
BL 3+00SE 4+75S	217	5	--	--	--	--	--
BL 3+00SE 5+00S	217	10	--	--	--	--	--
BL 3+00SE 5+25S	217	5	--	--	--	--	--
BL 3+00SE 5+50S	217	<5	--	--	--	--	--
BL 3+00SE 5+75S	217	5	--	--	--	--	--
BL 3+00SE 6+00S	217	5	--	--	--	--	--
BL 0+50NW 0+00S	217	5	--	--	--	--	--
BL 0+50NW 0+25S	217	5	--	--	--	--	--
BL 0+50NW 0+50S	217	10	--	--	--	--	--
BL 0+50NW 0+75S	217	10	--	--	--	--	--
BL 0+50NW 1+00S	217	5	--	--	--	--	--
BL 0+50NW 1+25S	217	5	--	--	--	--	--
BL 0+50NW 1+50S	217	<5	--	--	--	--	--
BL 0+50NW 1+75S	217	<5	--	--	--	--	--
BL 0+50NW 2+00S	217	<5	--	--	--	--	--
BL 0+50NW 2+25S	217	<5	--	--	--	--	--
BL 0+50NW 2+50S	217	<5	--	--	--	--	--
BL 0+50NW 2+75S	217	<5	--	--	--	--	--
BL 0+50NW 3+00S	217	5	--	--	--	--	--
BL 0+50NW 3+25S	217	20	--	--	--	--	--
BL 1+00NW 0+00S	217	5	--	--	--	--	--
BL 1+00NW 0+25S	217	5	--	--	--	--	--
BL 1+00NW 0+50S	217	10	--	--	--	--	--
BL 1+00NW 0+75S	217	5	--	--	--	--	--
BL 1+00NW 1+00S	217	<5	--	--	--	--	--
BL 1+00NW 1+25S	217	5	--	--	--	--	--
BL 1+00NW 1+50S	217	<5	--	--	--	--	--
BL 1+00NW 1+75S	217	<5	--	--	--	--	--
BL 1+00NW 2+00S	217	5	--	--	--	--	--
BL 1+00NW 2+25S	217	<5	--	--	--	--	--
BL 1+50NW 0+00S	217	5	--	--	--	--	--
BL 1+50NW 0+25S	217	<5	--	--	--	--	--
BL 1+50NW 0+50S	217	10	--	--	--	--	--
BL 1+50NW 0+75S	217	85	--	--	--	--	--
BL 1+50NW 1+00S	217	<5	--	--	--	--	--
BL 1+50NW 1+25S	217	5	--	--	--	--	--

Certified by .Hart.T.Bichler.....

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : ~~UNITED~~ GREENWOOD EXPLORATION LTD

903-1030 WEST GEORGIA STREET
VANCOUVER, B.C.
V6E 2Z4

CERT. # : A8313591-001-
INVOICE # : I8313591
DATE : 19-AUG-83
P.O. # : NONE
LARD CORE SAMPLES

ATTN: HOWARD TOBAN, CC: NORM STACEY

Sample description	Prep code	Au FA oz/T					
(7) 3.78-5.20	207	<0.003	--	--	--	--	--
(7) 5.2-7.4A	207	<0.003	--	--	--	--	--
(7) 5.2-7.48	207	<0.003	--	--	--	--	--
(7) 14.2-15.55	207	0.003	--	--	--	--	--
(7) 15.55-17.07	207	<0.003	--	--	--	--	--
(7) 17.07-17.90	207	<0.003	--	--	--	--	--
(7) 36.8-37.3	207	0.022	--	--	--	--	--
(7) 37.3-37.66	207	<0.003	--	--	--	--	--
(7) 37.66-38.06	207	<0.003	--	--	--	--	--
(8) 3.41-5.18A	207	<0.003	--	--	--	--	--
(8) 3.41-5.183	207	<0.003	--	--	--	--	--
(8) 5.18-6.20	207	<0.003	--	--	--	--	--
(8) 22.87-23.60	207	<0.003	--	--	--	--	--
(8) 23.60-25.00	207	<0.003	--	--	--	--	--
(8) 37.36-38.71	207	<0.003	--	--	--	--	--
(8) 39.75-40.35	207	0.008	--	--	--	--	--
(9) 3.78-5.18	207	<0.003	--	--	--	--	--
(9) 5.18-6.78	207	<0.003	--	--	--	--	--
(9) 6.78-8.23	207	<0.003	--	--	--	--	--
(9) 8.23-10.90A	207	<0.003	--	--	--	--	--
(9) 8.23-10.903	207	<0.003	--	--	--	--	--
(9) 29.56-30.53	207	<0.003	--	--	--	--	--
(9) 32.61-33.05	207	0.010	--	--	--	--	--
(9) 33.05-33.50	207	<0.003	--	--	--	--	--
(10) 3.41-5.18	207	<0.003	--	--	--	--	--
(10) 46.3-47.85	207	<0.003	--	--	--	--	--
(10) 44.8-46.3	207	0.003	--	--	--	--	--
(11) 4.68-5.10	207	<0.003	--	--	--	--	--
(11) 5.18-9.75	207	<0.003	--	--	--	--	--
(11) 9.75-11.5	207	<0.003	--	--	--	--	--

Registered Assayer, Province of British Columbia

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8313202-C01-A
INVOICE # : I8313202
DATE : 8-AUG-83
P.O. # : NONE
LARD

Sample description	Prep code	Au FA oz/T						
(13)7.5-8.23'	207	<0.003	PORPH	--	--	--	--	--
(13)8.23-8.84'	207	0.003	TUFF	--	--	--	--	--
(12)9.95-10.45'	207	0.006	PORPH	--	--	--	--	--
(12)10.45-10.59'	207	0.012	TUFF	--	--	--	--	--
(12)10.59-10.93'	207	0.003	PORPH	--	--	--	--	--
(12)10.93-11.28'	207	0.008	TUFF	--	--	--	--	--
(12)18.4+1M	207	0.020	TUFF SS.	--	--	--	--	--

B. Stewart

Registered Assayer, Province of British Columbia

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : UNITED GREENWOOD EXPLORATION LTD

#600-885 Dunsmuir V6C 1N5

903-1030 WEST GEORGIA STREET
VANCOUVER, B.C.
V6E 2Z4

CERT. # : A8313694-001-A
INVOICE # : I8313694
DATE : 23-AUG-83
P.O. # : NONE
LARD

ATTN: HOWARD TOBAN CC: NORM STACEY

Sample description	Prep code	Au FA oz/T					
GA # 3-1	207	0.010	--	--	--	--	--
GA # 3-2	207	0.028	--	--	--	--	--
GG 220 SE	207	0.010	--	--	--	--	--
GS 14SE 2NW	207	0.020	--	--	--	--	--
GS 18A - 1	207	0.086	--	--	--	--	--
GS 18A - 2	207	0.022	--	--	--	--	--
GS 18A - 3	207	0.022	--	--	--	--	--
GS 18A - 4	207	0.026	--	--	--	--	--
GS 18E - 1	207	0.072	--	--	--	--	--
GS 18E - 2	207	0.016	--	--	--	--	--
50.1 -> 50.9	207	0.006	--	--	--	--	--
50.9 -> 52.4	207	0.003	--	--	--	--	--
DH 5 52.4 -> 53.95	207	0.003	--	--	--	--	--
53.95 -> 55.3	207	<0.003	--	--	--	--	--
55.3 -> 56.7	207	<0.003	--	--	--	--	--

B. Grant

Registered Assayer, Province of British Columbia

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

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CERTIFICATE OF ASSAY

TO : ~~UNITED GREENWOOD~~ EXPLORATION LTD

903-1030 WEST GEORGIA STREET
VANCOUVER, B.C.
V6E 2Z4

CERT. # : A8313592-CC1-
INVOICE # : I8313592
DATE : 18-AUG-83
P.O. # : NONE

"LANDFALL"

Sample description	Prep code	Au FA oz/T					
TOBAN ROCK	207	0.144	--	--	--	--	--

Registered Assayer, Province of British Columbia

MEMBER
CANADIAN TESTING
ASSOCIATION

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS, VANCOUVER B.C.
PH:253-3158 TELEX:04-53124

DATE RECEIVED SEPT 2 1983

DATE REPORTS MAILED Sept 16-

ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PULVERIZED TO -100 MESH.

ASSAYER DEAN TOYE, CERTIFIED B.C. ASSAYER

HARDY INTERNATIONAL DEVELOPMENTS INC. FILE # 83-1987 PAGE# 1

	SAMPLE		PB %	ZN %	AG OZ/TON	AU OZ/TON
50cm CHANNEL	A-1	FACE HNG. 302/SAE> QTZ	.01	.01	.03	.001
GRAB	A-2	INTR. 1m FROM FACE	.01	.02	.01	.001
30cm CHANNEL	A-3	QTZ + EARTHY LIM. 10m FROM FACE	.01	.04	.06	.001
50cm CHANNEL	A-4	35% QTZ + 50% INTR. INCL^NS - 16.5m	.11	.21	.10	.001
3 GRABS	A-5	QTZ, INTR + ARG. 19.3m	.01	.03	.01	.001
chip from wk'ngs 2m apart	A2-1	OFF DUMP, QTZ BNDS TO 2cm WITH GRAPH^C LAMINAE + MNR	2.25	7.62	4.34	.001
	A2-1-A	Ga LENSES TO 10cm x 0.5cm	8.46	5.54	20.18	.003
20cm CHIP - POSS IN STU.	A2-2	AS ABOVE WITH CRS Ga.	9.84	4.43	23.15	.010
GRABS DUMP WASTE	A2-3	SILICIC BAND^S CHASTOSE METASEDIMENTS. NO VIS MIN^N	.06	.08	.16	.001

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : STACEY, NORMAN

600-885 DUNSMUIR STREET
VANCOUVER, B.C.
V6C 1N5

CERT. # : A8314864-001-A
INVOICE # : I8314864
DATE : 29-SEP-83
P.O. # : NONE

CC: HOWARD TOBAN - UNITED GREENWOOD EXPLORATIONS

Sample description	Prep code	Ag FA oz/T	Au FA oz/T				
CK-01	207	0.01	0.006	--	--	--	--
CK-02	207	0.01	0.005	--	--	--	--
CK-03	207	0.12	0.020	--	--	--	--
CK-04	207	0.24	0.102	--	--	--	--
CK-05	207	0.08	0.006	--	--	--	--
CK-06	207	0.06	0.006	--	--	--	--
CK-07	207	0.06	0.003	--	--	--	--
CK-08	207	0.12	0.008	--	--	--	--
CK-09	207	0.22	0.022	--	--	--	--
CK-10	207	0.04	0.008	--	--	--	--
CK-11	207	0.10	<0.003	--	--	--	--
EAV-1	207	0.04	0.003	--	--	--	--
EAV-2	207	0.06	0.003	--	--	--	--
EAV-3	207	18.34	0.026	--	GRABS FROM BULLISH RIDGE	--	--
GS-18E-3	207	0.01	0.020	--	--	--	--
GS-18E-4	207	0.04	<0.003	--	--	--	--
GS-18E-5	207	0.06	0.018	--	--	--	--
GSC-1	207	0.34	0.024	--	--	--	--
GSC-2	207	0.04	0.003	--	--	--	--
GSC-3	207	0.06	0.022	--	--	--	--
GSC-4	207	0.07	0.010	--	--	--	--
GSC-5	207	0.10	0.358	--	--	--	--
LGS-1	207	0.01	0.014	--	--	--	--
LGS-2	207	0.03	0.004	--	--	--	--
NT-8.1	207	0.01	0.010	--	--	--	--
NV-10.7	207	0.04	0.008	--	--	--	--
GS-81-1	207	0.05	<0.003	--	--	--	--

Registered Assayer, Province of British Columbia

Diamond Drill Core Logs

Holes 81 - 7 to 81 - 13

Lucky Jack Project

Poplar Creek

Lardeau Area

Slocan Mining Division

Note: 1) These logs should accompany a report on the property for Hardy International Development Inc., by Norman W. Stacey dated December, 1983.

2) They are intended to supplement and not replace the initial core logging by Western Mines Ltd., personnel, done in 1981.

These should be utilized in conjunction.

Norman Stacey

Norman W. Stacey, Geologist

January, 1984.

Diamond Drill Core Log DDH 81 - 7

Project:	Poplar Creek	Operator:	Hardy International
Coords:	1 plus 02 S 1 plus 30 E	Elevation:	
Azimuth:	110 degrees	Angle:	- 45 degrees
Drilled:	1981 (Westmin)	Driller:	
Date Drilled:	October 1984	Logged:	August 2, 1983
		By:	N.W. Stacey

00.00 m to 03.78 m

Overburden - No Core Recovered

03.78 m to 37.66 m

Porphyrite - light and medium to dark grey salic, weekly calcareous, generally foliated volcanic. Partially devitrified feldspathoid phenocrysts (to 1 mm) generally approximately 7% to 10% especially in less foliated portions. Minor, very fine pyrite disseminated throughout matrix; very rare drusy white calcite veinlets to 1 cm.

03.78 m to 07.5 m
More calcareous interval with frequent limonitized speckles (to 2 mm) and zones to 2 cm bounding fractures. Distinctly foliated at 40 degrees to c.a with rare rehealed shearing at 25 degrees to c/a.

07.5 m to 08.35 m
Medium grey competent core with foliation at 35 degrees to c/a and 5% drusy calcite ovate inclusions to 3 mm.

08.35 m
Marginally increased mafic content in groundmass imparts darker colouration.

09.5 m to 09.7 m
Common (5% to 7%) vugs to 1.5 mm x 4 mm; l.a. parallel to foliation at 35 degrees to c/a.

09.8 m
Minor limonitic scale on, and 1 cm colouration bounding open fracture at 40 degrees to c/a.

14.3 - 15.6
Minor limonitic scale on fracture parallel to c/a.

22.0
Marginally more salic downsection

25.7 - 26.3
Very weakly ankeritized with minor limonite staining on rare tight fractures.

20.5
Increased, although still rare white calcite or quartz-carbonate veinlets to 2 cm generally at between 30 degrees and 70 degrees to c/a.

27.6 - 2.5
Thick quartz dominant, quartz carbonate vein at 40 degrees to c/a.

29.0 - 37.3
Finer textured generally very weakly to non-porphyritic texture. Continued foliation at approximately 40 degrees to c/a. Sharp lower limit at 30 degrees to c/a.

37.3 - 37.66
Distinctly lighter grey, more salic finely limonite speckled (15%) interval. Finely crystalline pyrite and pyrrhotite accentuates banding at 25 to 35 degrees to c/a.

37.66
Sharp discordant contact at 50 degrees to c/a.

37.66 m to 41.78 m

Carbonaceous sediments. Black and very dark grey, laiminated, slates, shales and minor very fine sandsize limestone bands. Minor to 10% sulphide throughout more carbonaceous portions, frequently as lenses or lamellae to 1 mm thick. Bedding generally at 45 degrees to 50 degrees to c/a. Only minor soft sediment deformation features.

37.66 m - 37.9 m
Sulphide rich section with bedding at 40 degrees to 45 degrees crosscut by rare rehealed shears paralleling above contact at 50 degrees to c/a.

38.45 m - 38.60 m
A 7 cm white quartz dominant lesser calcite and hostrock section, overlying 10 cm very light grey-greenish band of possibly tuffaceous rich sediments. Bedding at 55 degrees to 60 degrees to c/a.

39.2 m - 39.5 m
40% light greyish white very calcareous bands. Lenses and banding to 2.5 cm thick. Bedding at 35 degrees to 40 degrees to c/a. Sulphide (mostly pyrite) to 15% especially as lamellae.

41.0 m - 41.2 m
Discordant, weakly sheared sparry calcite dominant vein or disrupted band to 4 cm thick.

41.77 m
Bedding at 45 degrees to c/a.

41.78 m
End of hole.

Diamond Drill Core Log DDH 81 - 8

Project:	Poplar Creek	Operator:	United Greenwood
Coords:	1 plus 02 S 1 plus 30 E	Elevation:	
Azimuth:	Vertical	Angle:	- 90 degrees
Drilled:	1981 (Westmin)	Driller:	
Date Drilled:	October 1981	Date Logged:	30 July 1983
		By:	N.W. Stacey

00.00 m to 03.5 m
Overburden - No Core Recovered

03.5 m to 29.96
Porphyrite - medium to dark grey, lesser sections light grey; weakly to non-calcareous variedly ankeritized, salic volcanic. Distinctly foliated and minor white felsic to calcareous phenocrysts to 1.5 cm. Minor sparry or drusy white calcite veinlets, rare quartz veins and minor limonitized sections.

03.5 m to 06.25 m
Medium light grey, moderately ankeritized especially adjacent to fractures. Pronounced foliation generally at 60 degrees to c/a.

06.9 m
A 25 cm wide, white sparry calcite vein at 35 degrees to c/a with minor (to 3%) pyrite and inclusions of hostrock to 1.5 cm l.a.

08.88 m to 09.70
Lighter grey bounding minor limonite coating on fracture at 20 degrees to c/a.

09.73 m
Quartz vein to 10 cm. Broken core makes extent and orientation indeterminate.

09.83m - 11.00m
Minor limonite staining on and 0.25 cm adjacent to tight fractures in light grey section.

14.12 - 14.32m
Sparry white calcite dominant in broken core.

15.32
Foliation weaker than upsection at 45 degrees to c/a.

17.60 - 20.00
Minor limonitic scale on tight fractures. Minor white calcite, lesser limonitic stained quartz carbonate veinlets (to 2cm) at between 30 and 65 degrees to c/a.

23.0 - 24.2
Distinctly lighter grey ankeritized interval bounding quartz carbonate veins to 3 cm wide at 40 degrees to c/a.

25.0 - 26.8
Minor limonite scale on and stain adjacent to fractures in light and medium grey hostrock.

29.96
Lower contact broken but evidently marked by 3 cm plus banded quartz vein at 35 degrees to c/a.

29.96m - 37.36m
Carbonaceous sediments. Dark grey or black laminated, generally calcareous slates, shales and phyllites with rare, very fine grained very calcareous sandstone bands to 15 cm. Minor pyrite as dissemination and as minor laminae or lenses to 1 mm wide. Abundant soft sediment deformation with bedding tending 50 degrees to 70 degrees to c/a, evidently increasing downsection. Minor drusy white calcite veinlets (to 1.5 cm) at 35 degrees to 40 degrees to c/a. Lower contact conformable at 50 degrees to c/a.

37.36m - 47.85m

Tuffaceous Metasediments. Medium grey with greenish hue, coarse sandsize to gritty unit, extensively weakly calcareous. Minor ankeritization especially in upper half, minor drusy white calcite veinlets throughout. One significant quartz vein. Distinctly foliated or banded in upper portion tending less so but finely white speckled downsection.

37.36 - 38.00
Distinct cross banding similar to cross bedding; possibly reworked.

38.0 - 41.70
Distinctive ankeritization especially to 1.5 cm bounding open joints or fractures trending 40 degrees to 45 degrees to c/a.

43.5 - 44.00
Quartz vein. Light fractures accentuated by limonite stain of increased intensity down-section. Broken core.

44.0 - 47.85
Massive core with fine, partially devitrified feldspathoid calcic speckles, trace to very minor disseminated pyrite and foliation almost absent. Possibly marginally increased mafic content in groundmass.

47.85
End of hole.

Diamond Drill Core Log DDH 81 - 9

Project:	Poplar Creek	Operator:	United Greenwood
Coords:	0 plus 73 S 1 plus 60 E	Elevation:	
Azimuth:	215 degrees	Angle:	- 45 degrees
Drilled:	1981 (Westmin)	Driller:	
Date Drilled:	October 1981	Date Logged:	29 July 1983
		By:	N.W. Stacey

00.00m to 03.78m
Overburden - No Core Recovered

03.78m to 32.91m
Volcanic. Medium to dark grey, lesser lighter grey with greenish hue sections of dense very weakly porphyritic, weakly foliated unit. Only very rare fine (to 0.5 cm) white calcite veinlets. Minor more limonitic sections. Weakly calcareous in lowermost third 2% to 3% disseminated sulphide throughout.

3.78 - 4.50
Weakly limonitic stained bands to 5 cm in darker grey mafic rich section.

5.18 - 8.23
Weakly porphyritic with 3% salic grains to 1 mm in medium grey section.

6.70
Weak foliation at 45 degrees to c/a.

8.23 - 12.60
Distinctly lighter grey section with abundant salic grains - andesitic appearance.

12.6
Abrupt change over 5 cm to darker grey mafic rich matrix. Sulphide increased to 5% with rare pyrite cubes to 1.5 mm.

20.5 - 23.17
Limonitic speckled and fracture coated, weakly ankeritized section.

23.17 - 26.12
Darker grey mafic rich section with rare white calcite veinlets to 0.6 cm. Weak foliation at 80 degrees to c/a.

26.12 - 32.70
Medium grey dense, only trace very finely porphyritic texture with minor fine white calcite veinlets to 3 mm, often parallel to foliation at 75 degrees to c/a. Interval very weakly calcareous.

29.92
0.5 cm slatey sulphide rich (70% Pyrite) lamina at 75 degrees to c/a, bounded by 7 cm limonite stained hostrock.

32.7 - 32.9
Lighter grey with 5% to 7% disseminated sulphide. Pyrite dominant over arsenopyrite.

32.91
Lower contact broke n at 70 degrees to c/a.

32.91m to 41.76m

Carbonaceous Sediments. Dark grey or black, laminated argillites with minor lighter grey very fine grained sandstone sections to 20 cm. Abundant lenses of syngenetic pyrite to 5% of more carbonaceous sections. Bedding generally approximately 50 degrees to c/a. Weakly calcareous throughout, especially in sandier portions. Sparry white calcite veins to 2 cm parallel to bedding.

41.76
End of hole.

Diamond Drill Core Log DDH 81 - 10

Project:	Poplar Creek	Operator:	Hardy International
Coords:	0 plus 73 S 1 plus 60 E	Elevation:	
Azimuth:	Vertical	Angle:	- 90 degrees
Drilled:	1981 (Westmin)	Driller:	
Date Drilled:	October 1981	Date Logged:	28 July 1983
		By:	N.W. Stacey

00.00m to 3.41m
Overburden - No Core Recovered.

03.41m to 34.10m
Volcanic. Medium to dark grey dense competent very weakly porphyritic Weakly foliated unit. Mafic rich matrix dominant with 2% to 5% fine (to 1.5mm) drusy feldspathic phenocrysts and coarser salic grains. Rare Limonite coated quartz veins to 40 cm and very minor calcite on fractures. Alteration minimal with only trace ankeritization and weak limonite stain adjacent to contacts or fractures.

3.41 - 6.00
Minor pitting or limonite speckling of coarser grains especially bounding fractures, frequently at low angle to c/a. Foliation widens at 40 degrees to c/a.

17.37 - 17.60
Limonitic scale on open fracture at 20 degrees to c/a. Minor bleaching. Foliation at 70 degrees to c/a.

19.52 - 21.37
Broken, sampled quartz veins dominant. See prevous Alex Marr - Westmin log for whole core description.

21.37 - 22.90
Minor bleaching and limonite staining and coating.

32.81 - 34.10
Weakly bleached, weak limonitic stained non-porphyritic basal section.

34.10
Lower contact disconformable with 2 to 6 cm white quartz veinlet.

34.10m to 44.65m
Carbonaceous sediments. Dark-grey or black and medium grey laminated calcareous argillites. Abundant soft sediment deformation. Bedding generally 50 degrees to 60 degrees to c/a. Minor sparry calcite veinlets 0.5 to 2.0 cm. Lower contact sharp and disconformable; sinuous near parallel to c/a.

44.65m to 50.90m
Tuffaceous Metasediments. (?) Light to medium grey trace greenish, coarse sandsize to gritty unit with varied but extensive ankeritization. Minor sparry calcite veinlets (to 7cm) and minor disseminated pyrite.

47.65 - 47.90
Intensely limonite stained zone.

49.45 - 49.65
Section of 40% sparry calcite in anastomosing veinlets to 1.5 cm.

50.90
End of hole.

Diamond Drill Hole Log DDH 81 - 11

Project:	Poplar Creek	Operator:	Hardy International
Coords:	1 plus 53 S 0 plus 97 E	Elevation:	
Azimuth:	100 degrees	Angle:	- 50 degrees
Drilled:	1981 (Westmin)	Driller:	
Date Drilled:	October 1981	Date Logged:	28 July 1983
		By:	N.W. Stacey

00.00m to 04.68 approximately
Overburden. No core recovered.

04.68m to 09.75m
Broken core. Pieces to 10 cm of very light grey, very salic porphyrite with weak to moderate calcite; and limey dark grey or black carbonaceous sediments with vermiform drusy calcite bands to 1.5 mm thick. Rare pieces to 4 cm of soft devitrified grey green schist.

09.75m to 11.5m
Contact zone. Broken core of iron oxide stained, limey, graphitic argillite with pronounced foliation (relict bedding?) at 30 degrees to c/a.

11.28 - 11.5
Soft friable, khaki coloured calcareous gouge.
Sharp disconformable lower contact at 25 degrees to c/a.

11.50m to 23.15m
Carbonaceous Sediments. Dark grey or black very graphitic, weakly to moderately calcareous, very fine grained argillite. 5% to 7% pyrite throughout as very fine grained crystal aggregates and bands to 1 mm parallel to bedding. Rare white quartz carbonate or calcite bands to 3 cm, generally parallel to bedding. Bedding generally 55 degrees to c/a with soft sediment deformation including convolutions abundant, especially in more graphitic sections to 0.5 m. Sharp lower contact at 55 degrees to c/a.

23.15m - 38.75m

A Tuffaceous Metasandstone. Light to medium grey, coarse sandsize to gritty textured unit with minor sparry calcite veins (to 5 cm) and minor pyrite cubes. Recrystallization increased downsection.

23.15 - 24.75

Transitional zone 25% laminated dark grey graphitic argillite concentrated in bands to 15 cm. 3% to 5% pyrite as cubes and fine lamellae in coarse sandstone to gritty sections to 0.5 cm. Bedding at 60 degrees to c/a. Predominantly salic composition.

25.00 - 38.5

Slightly increased mafic content, slightly darker grey with greater recrystallization. Sections to 1 m of weak pseudoporphyritic texture of larger white feldspathic grains. Graduational limits. Weak foliation or relict bedding at 65 degrees to c/a.

38.50 - 38.75

Brown speckled with limonitic stain of devitrified feldspar grains. Marginally increased pyrite content near base.

38.75

Lower contact at 70 degrees to c/a.

38.75m to 44.80m

Argillite. Medium light grey sandstone and lesser dark grey or black carbonaceous laminae. Bedding planar at 65 degrees to 70 degrees to c/a.

39.8

30 cm section with earthy limonite scale on fractures.

41.76

20 cm limonite stained section.

44.8m End of hole.

Diamond Drill Hole Log DDH 81 - 12

Project:	Poplar Creek	Operator:	Hardy International
Coords:	0 plus 35 S 0 plus 77 E	Elevation:	
Azimuth:	150 degrees	Angle:	- 47 degrees
Drilled:	1981 (Westmin)	Driller:	
Date Drilled:	October 1981	Date Logged:	22 July 1983
		By:	N.W. Stacey

00.00m to 09.95m approximately
Overburden

09.95m to 13.98m
Light grey, salic porphyrite with minor fissile tuffaceous horizons. Light grey, lesser pale green groundmass with to 15% feldspar phenocrysts (to 2 mm) and to 5% pyrite as very finely crystalline lensoid aggregates. Possible trace chalcopyrite. Variable, generally weak, limonite stain, rare white calcite inclusions (to 1.5 cm). Light limonitic stained, friable, fissile chloritic tuffaceous horizons to 50 cm.

9.95 - 10.05
Porphyrite with limonite stain average 1 cm bounding joints.

10.05 - 10.59
Friable tuffaceous band. Lower contact at 35 degrees to core axis.

10.59 - 10.93
Porphyrite with iron oxide scale on tight fractures at 20 degrees to c/a.

10.93 - 11.3
Intercalated friable tuffaceous bands and soft devitrified porphyrite bands to 12 cm. Foliation at 35 degrees to c/a.

11.3 - 13.98
Porphyrite.

11.3 - 12.1
Weak limonitic stain pervasive and accentuated bounding joints.

13.34
White ovate calcite inclusion with pyrite rim.

13.55
4 m wide white quartz calcite veinlet at 80 degrees to c/a.

13.98
Lower contact at 15 degrees to c/a.

13.98m to 15.0m
Quartz Vein. Drusy white quartz with to 7% pyrite as very fine crystal aggregates and limonite stain on irregular tight fractures Minor inclusions to 7cm of porphyrite.

15.00m to 18.05m
Light grey salic porphyrite as above without tuffaceous horizons.

15.00 - 16.15
Only 20cm of core

16.50 - 17.20
Limonitic scale on parted fractures frequently at 20 degrees to c/a.

17.77 to 17.93
Earthy limonite and hematite alteration of groundmass.

18.05m to 23.50m
Medium dark grey volcanic. Graduational upper contact over 30 cm to increased mafic constituents in dense groundmass. Generally less than 5% feldspar phenocrysts to 1 mm. Ovate white calcite inclusions more frequent, to 5% of intervals to 30 cm and rare inclusions to 1 cm.

18.05 - 20.00
Good competent core with only rare tight fractures.

20.00 - 23.50
Increased fracturing or jointing with only very minor limonite hematite coating. Fractures frequently at low angle (15 degrees to 20 degrees) to c/a.

23.50m to 28.60m
Predominantly light grey salic porphyrite with lesser darker, less porphyritic sections.

23.50 - 25.00
More mafic, less porphyritic section

25.00 - 26.52
Lighter grey porphyrite with increased, although still minor limonite staining especially bounding joints.

26.52
Evident ground core.

27.00 - 28.6 approximately
Evidently better recovery of more mafic section.

28.60m to 29.56m
Quartz vein. Very poor recovery of drusy white bull quartz with minor limonite stain on tight fractures. Minor inclusions to 2 cm of dark green silicate (pyroxene?).

29.56m to 30.06m
Medium grey volcanic. Weakly porphyritic increasing downsection. Lower contact disconformable trending 30 degrees to c/a, with vertical shearing and foliation in lowermost 20 cm.

30.06m to 32.61m
Dark grey to black carbonaceous Argillite. Finely banded soft sediment deformation with general trend at 50 degrees to 55 degrees to c/a. Disconformable quartz veinlet (1 - 2cm wide) with minor earthy limonite inclusions (to 1 mm) at 45 degrees to c/a.

32.61
End of hole.

Diamond Drill Hole Log DDH 81 - 13

Project:	Poplar Creek	Operator:	Hardy International
Coords:	0 plus 35 S 0 plus 77E	Elevation:	
Azimuth:	210 degrees	Angle:	- 45 degrees
Drilled:	1981 (Westmin)	Driller:	
Date Drilled:	October 1981	Date Logged:	22 July 1983
		By:	N.W. Stacey

00.00m to 07.25m
Overburden - Distance Estimated

07.25m to 10.86m
Light Grey salic porphyrite. Light grey to very weak pale green groundmass almost devoid of mafics, with 10% feldspar phenocrysts (1 mm). Minor weak limonite stain bounding fractures only very rare pyrite. Very minor devitrification.

7.98
Minor limonite stained calcite veneer on fractures trending 50 degrees to c/a. Several in porous 6 m interval.

9.7
Minor secondary calcite scale on undulating fracture trending 30 degrees to c/a.

10.0
Minor quartz stringers (to 0.5cm) subparallel at 10 degrees to c/a.

10.86m to 29.56m
Dark grey, weakly porphyritic, weakly foliated volcanic. Very fine textured, dark grey or black mafic rich groundmass with 10% to 15% white feldspar phenocrysts (usually less than 1mm) and minor calcite grains to 1mm. Foliation of less mafic lamellae generally at high angle 70 degrees to 80 degrees to c/a. Drusy disconformable white calcite bands or veinlets (0.1 to 1.5 cm) common.

15.7
Drusy white calcite veinlet 1.5 cm at
85 degrees to c/a.

29.56
Lower contact broken at 70 degrees to c/a.

29.56m to 30.56m
Carbonaceous Argillite. Dark grey or black, lesser light grey and limonite stained slatey argillite. Minor soft sediment deformation with mostly regular banding at 60 degrees to c/a. Degree of induration decreasing, and intensity of fine banding increasing downsection. More friable and very calcareous in mid-section.

30.56m to 32.61m
Argillite derived Gouge. Poor recovery of soft, black, friable very calcareous carbonaceous gouge. Rare sections to 10cm with white calcite stringers and minor limonite stain.

32.61m to 34.54m
Calcite Gouge. Poor recovery of totally structureless, soft, friable, very light khaki brown coloured, very calcareous gouge.

34.54m approximately
End of hole.

Core Recovery Logs

Lucky Jack Project, Lardeau Area

DDH 81 - 7

Core Marker	Distance	Length Core	% Recovery	
3.78	3.78	0	0	
5.18	1.40	1.40	100	
6.40	1.22	1.35	110	
8.23	1.83	1.75	96	
11.28	3.05	2.90	95	
14.02	2.74	3.00	109	
17.02	3.00	3.00	100	
20.12	3.10	3.05	98	
23.30	3.18	3.05	96	
26.30	3.00	3.00	100	
29.56	3.26	3.10	95	
32.61	3.05	3.30	99	
35.66	3.05	3.05	100	
38.71	3.05	3.05	100	
41.78	3.07	3.05	99	end
		38.05		total

i.e. Full recovery within limits of technique after 3.78 m of overburden.

Core Recovery Logs

Lucky Jack Project, Lardeau Area

DDH 81 - 8

Core Marker	Distance	Length Core	% Recovery	
0	-	-	-	
3.53	3.53	0	0	
5.18	1.65	1.65	100	
8.23	3.05	3.05	100	
11.28	3.05	2.95	98	
14.32	3.04	3.00	99	
17.37	3.05	3.05	100	
20.42	3.05	3.05	100	
23.47	3.05	2.95	97	
26.52	3.05	3.00	98	
29.56	3.04	3.04	100	
32.61	3.05	3.05	100	
35.66	3.05	3.05	100	
38.71	3.05	3.05	100	
41.76	3.05	2.90	95	
44.80	3.04	3.04	100	
47.85	3.05	3.05	100	end
		43.88		total

i.e. Full recovery after initial collaring run of 3.53 except for minor loss in intervals preceeding 11.28 and 41.76 markers.

Core Recovery Logs

Lucky Jack Project, Lardeau Area

DDH 81 - 9

Core Marker	Distance	Length Core	% Recovery	
0	-	-	-	
3.78	3.78	0	0	
5.18	1.04	1.30	93	
8.23	3.05	2.95	97	
10.67	2.44	2.40	98	
11.28	0.61	0.70	115	
14.72	3.44	2.90	84	
16.15	1.43	1.80	126	
17.37	1.22	1.20	98	
20.42	3.05	3.00	98	
22.55	2.13	1.90	89	
23.47	0.92	1.20	130	
26.52	3.05	3.10	102	
29.56	3.04	3.05	100	
32.61	3.05	3.05	100	
35.66	3.05	3.05	100	
38.71	3.05	3.00	98	
41.76	3.05	3.10	102	end
41.76		37.70		total

i.e. Nearly full recovery after initial collar run of 3.78 m. Some core markers slightly erroneous, especially after short runs.

Core Recovery Logs

Lucky Jack Project, Lardeau Area

DDH 81 - 10

Core Marker	Distance	Length Core	% Recovery	
0	-	-	-	
3.41	3.41	0	0	
5.18	1.77	1.57	89	
8.23	3.05	3.00	98	
11.28	3.05	3.05	100	
14.32	3.05	2.90	95	
17.37	3.05	3.05	100	
20.42	3.05	3.05	100	
23.41	2.99	2.80	94	
26.52	3.11	2.50	80	grinding
29.56	3.04	2.85	94	
32.61	3.05	3.04	100	
35.66	3.05	3.05	100	
38.71	3.05	3.05	100	
41.76	3.05	3.05	100	
44.8	3.04	3.04	100	
47.85	3.05	2.95	97	
50.90	3.05	3.00	98	
50.90		45.95		total

i.e. Nearly full recovery after 3.41 m collaring run. Minor core loss in initial coring run to 5.18 m and on long run prior to 26.52 m.

Core Recovery Logs

Lucky Jack Project, Lardeau Area

DDH 81 - 11

Core Marker	Distance	Length Core	% Recovery	
0	-	-	-	
5.18	5.18	(0.50)	(10)	
9.75	4.57	1.15	25	
11.28	1.53	1.00	65	
14.32	3.04	3.00	99	
17.37	3.05	3.30	108	
20.42	3.05	3.05	100	
23.47	3.05	3.04	100	
26.52	3.05	3.00	98	
29.56	3.04	3.00	99	
32.61	3.05	3.05	100	
35.66	3.05	3.05	100	
38.74	3.08	3.00	97	
41.76	3.02	3.04	101	
44.80	3.04	2.95	97	
44.80		35.63		total

i.e. Only minor recovery in overburden to 5.18 m. Poor recovery to 11.28 m in broken ground of probable fault trace. Full recovery within limits of technique from 11.28 m to end of hole at 44.8 m.

Core Recovery Logs

Lucky Jack Project, Lardeau Area

DDH 81 - 12

Core Marker	Distance	Length Core	% Recovery
0	0	0	0
11.28	11.28	1.26	11
13.72	2.44	1.82	75
16.15	2.43	1.65	68
17.37	1.22	0.88	72
20.42	3.05	3.05	100
23.40	2.98	0.90	30
26.52	3.12	1.95	63
29.56	3.04	1.90	63
32.61	3.05	0.78	26

i.e. Very poor recovery of an important hole. It is unlikely that overburden conditions predominated to 11.28 m. The ground may have been broken due to its proximity to the Lucky Jack adit. Some of the broken and friable core may have been removed in its entirety by Westmins sampling. Only 12.93 m of core length represents 21.33 m of drilling from 11.28 giving an average recovery of 60.6%.

Core Recovery Logs
Lucky Jack Project, Lardeau Area
DDH 81 - 13

Core Marker	Distance	Length Core	% Recovery	
0	-	-	-	
8.23	8.23	(0.98)	(12)	*
8.84	0.61	0.38	62	
10.36	1.52	1.40	92	
12.50	2.14	1.98	93	
14.32	1.82	1.49	82	
17.37	3.05	2.85	93	
19.81	2.44	2.35	96	
20.43	0.62	0.45	73	
23.41	2.98	2.60	87	
26.52	3.11	2.65	85	
29.56	3.04	2.35	77	
32.61	3.05	1.45	48	
34.14	1.53	0.55	36	**

* includes 8 cm removed sample
** includes 40 cm removed sample

Poor recovery in ground, similar to DDH - 12. Only 20.2 m of core length represents 25.91 m depth from assumed overburden to 8.23 m for an average recovery of 78%.

Note: Core recovery is generally very good in holes 7 to 11 and poor in 12 and 13. Very difficult ground is indicated in holes 12 and 13, in the vicinity of the Lucky Jack auriferous vein system. Any further drilling in this vicinity should utilize N.Q. size equipment.

*

1+00 S
2+00 S
1+50 W
3+00 S
4+00 S
1+00 W
5+00 S
0+50 W
6+00 S
BASELINE SOUTH
7+00 S
0+50 E
1+00 E
1+50 E
2+00 E
2+50 E
3+00 E

11
10
11
DDH 12 & 13
10
11
10
10
QTZ FLOAT
7
12
DDH 9 & 10
DDH 7 & 8
DDH 11
10
55°
11
10
36°
75°
75°
7
7
?
?
CLAIMPOST

OUTCROP
CONTACT
7 MAFIC TUFFACEOUS VOLCANIC
10 PORPHYRITE
11 CARBONACEOUS SEDIMENTS
FAULT
WORKING
TRENCH
DDH 7 DIAMOND DRILL HOLE SITE (AND SURFACE PROJECTION OF ANGLE HOLES)
ROAD (4 W.D.)
DOZER TRACK
QUARTZ VEIN
35° DIP & STRIKE OF VEIN
53° DIP & STRIKE OF HOSTROCK

N
20°
290°

0 20 40 60 80 METRES
0 250 FEET

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

HARDY INTERNATIONAL DEV. INC.

POPLAR CREEK OPERATION
LUCKY JACK PROJECT
SLOCAN MINING DIVISION N.T.S. 82 K

GEOLOGY
LUCKY JACK AREA

PLAN 83 L.J. 3	DRAWN NWS	AUG 1983

GOLD IN SOIL

HARDY INTERNATIONAL DEV. INC.

POPLAR CREEK OPERATION
LUCKY JACK PROJECT
SLOCAN MINING DIVISION N.T.S. 82 K

PLAN 83 L.J. 4 | DRAWN NWS | DEC 1983

LUCKY JACK WORKINGS.
GOODHOPE WORKINGS
OLD TRENCHES
SHAFT

'A' 'B' 'C' 'D' 'E'

10 ppb Au
50 ppb Au
100 ppb Au

N.S. = NOT SAMPLED

SAMPLE SITE (new location)
RESAMPLED OLD SITE
25 PARTS PER BILLION GOLD IN WHOLE SOIL
N.S. NOT SAMPLED
BLANK = LESS THAN DETECTION LIMIT OF 5ppb
CONTOUR OF GOLD IN SOIL
RIDGE
SCARP OR BLUFF
FAULT TRACE
RIVER
UPSLOPE DIRECTION
ACCESS ROAD
DRILLSITE ACCESS
'A' ANOMALY DESIGNATION

0 20 40 60 80 METRES
1:1000
0 250 FEET

BASELINE SOUTH
1+00W 0+50S
1+00W 1+00S
1+00W 1+50S
1+00W 2+00S
1+00W 2+50S
1+00W 3+00S
1+00W 3+50S
1+00W 4+00S
1+00W 4+50S
1+00W 5+00S
1+00W 5+50S
1+00W 6+00S
1+00W 6+50S
1+00W 7+00S
0+50W
0+50E
1+00E
1+50E
2+00E
2+50E
3+00E

N
20°
29.5°

inches
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY