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#### ASSESSMENT REPORT ON VLF ELECTROMAGNETIC,

#### AND MAGNETOMETER SURVEYS, GEOLOGICAL

#### MAPPING AND SAMPLING

ON THE



JUN 1 3 1991

Gold Commissioner's Office VANCOUVER, B.C. KLU MINERAL CLAIMS

Liard Mining Division British Columbia Canada

NTS 94F/16E

Latitude 57° 57'N / Longitude 124° 06'W Mineral Claims: KLU #1 to KLU #8 (incl) Record Nos: 7457 to 7464 (incl) Work Period: September 19 to 29, 1990 Title: Isca Exploration Ltd.

for

GOLD PARL RESOURCES LTD. 507 - 595 Howe Street Vancouver, B.C. V6C 2T5 ᆂᄃ ບ **ຂ** ZC < ₽ 22 60 Cž \_\_ F Z <u>د</u> ک Σ 3 Ø ල ග <u>\_</u> \_ 0 0 **国** の ථ 🗸



by

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> October 26, 1990 Amended: March 20, 1991



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#### SUMMARY AND CONCLUSIONS

Gold Parl Resources Ltd. holds an option to acquire the KLU #1 to 8 mineral claims comprised of 63 units in the Liard Mining Division, British Columbia. The property is located in the Muskwa Ranges of the Northern Rocky Mountains approximately 140 kilometres southwest of Fort Nelson. Access was by fixed wing aircraft and helicopter based in Fort Nelson.

The property is in the Cordilleran Foreland Fold and Thrust Belt and is underlain by northwesterly trending Precambrian to Devonian platformal sediments. These have been deformed by northerly trending folds and thrust faults.

Copper mineralization, with associated silver values, occurs within recrystallized dolostones and quartzite of the Lower Ordovician Kechika Group sediments in exposures along creeks, cliffs and gullies on the KLU property. This mineralization is of hydrothermal origins and is deposited along structurally controlled zones within the crests of folds, fracture zones and in association with thrust faulting.

Nine zones of copper mineralization are found on the property within an area of 5.5 kms by 1.5 kms. Bornite, chalcopyrite and pyrite occur in varying proportions with bornite predominant in the Upper Showing area and chalcopyrite predominant in the Lower Showing area.

The earliest reports of exploration on the "Blue property", as it was previously known, are from 1970-1971 when it was under option to McIntyre Porcupine Mines Ltd. They conducted a program of mapping, trenching, sampling, 10 miles of induced polarization survey, and over 1,650 metres of diamond drilling. The best drill results reported were from Holes #2B and #3B, drilled within a "Y" shaped IP anomaly. These holes intersected 7.6 vertical metres of 2.5% to 3% copper. Two other holes (#1B and #4B) returned values of 5.8 metres of 0.56% copper and 9.05 metres of 0.60% copper. Trench sample results by McIntyre Porcupine yielded assays up to 1.14% Cu over 6.10 m (Zone 1, Trench 3), 2.45% Cu over 12.19 m (Zone 2, Trench 6) and 3.66% Cu over 9.14 m (Zone 3, Trench 8). These trenches have since sloughed.

In 1984, E5 Resource Corporation conducted mapping, sampling and VLFelectromagnetic and induced polarization surveys in the Upper Showing Area. Since that time the only work performed was sampling and mapping.

Grab and chip samples collected by others yielded values up to 6.0% Cu, 12.6 g/t Ag (Zone 1, chip, 1 m x 20 cm by Dr. C.J. Westerman) and selected grab samples of up to 60.0% Cu, 220 g/t Ag (Zone 1 by D. Moore, vendor), and 17.40% Cu, 28.9 g/t Ag (Zone 1, #107 by T.G. Hawkins, P.Geol.).

The 1990 program, conducted over the Upper and Lower Showings areas, consisted of 8.6 kms of grid preparation, geological mapping, channel sampling at Zones 1, 2, 3 and 4 and VLF-electromagnetic and magnetometer surveys.

Results of channel sampling by the writer returned values of up to 1.07% Cu across 2.5 m (Zone 1), 5.36% Cu across 1.5 m (Zone 2) and 1.25% Cu across 1.0 m (Zone 3) and 0.46% Cu across 1.0 m (Lower Showing, Zone 4). All widths represent true thickness of the beds.

The results of the VLF-EM survey on the Upper Showing area indicated a number of medium to weak northeast trending anomalies. Two anomalies plus a single point anomaly, extending from L50N, 125E to L190S, 80E may comprise a single off-faulted conductor; this appears to be associated with sulphide mineralization. The weak anomalies may be due to conductive structures. On the Lower Showing area, a good VLF-EM conductor exists striking east-west across the mineralized zone (Zone 4). The magnetometer survey data indicated no anomalies on either area.

Excellent exploration potential exists on the KLU property to locate additional significant copper mineralization. Silver, cobalt and nickel values also occur with high grade copper values. Further testing of the mineralized structures and an evaluation of the underlying dolostone unit are warranted. Continued exploration is recommended.



Respectfully submitted, Sanguinetti Engineering Ltd.

M.H/Sanguir(etti,

#### INTRODUCTION

The KLU property is located in northeastern British Columbia and covers copper mineralization occurring in dolostones and quartzites of the Lower Ordovician Kechika Group. It was previously known as the "Blue" property.

A program consisting of grid preparation, geological mapping, channel sampling, a magnetometer survey and a VLF-electromagnetic survey was conducted on the KLU claim group in September, 1990 at the request of the directors of Gold Parl Resources Ltd. Total cost of this work is approximately \$30,000.

This report is based on a review of all available data pertaining to the property and on the results of the 1990 exploration program conducted by the writer and Mr. D.A. Howard, P.Eng.

#### LOCATION, ACCESS AND TOPOGRAPHY (Figures 1, 2)

The property, situated in northeastern British Columbia approximately 140 kilometres southwest of Fort Nelson, is centred at latitude 57° 57' north and longitude 124° 06' west (NTS map sheet 94F/16E).

Access from Fort Nelson may be directly by helicopter or a combination of fixed wing Islander aircraft to a bush strip 10 kilometres to the north of the property and then by helicopter to the camp. The closest major supply point to the property where trucking, rail and air services are available is Fort Nelson.

The settlement of Trutch on the Alaska Highway is located 80 kilometres to the east; winter-road access is feasible but the route would require permitting.



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The claims cover part of the northeast trending valley of Grayling (Grannie) Creek, a glacial valley of 500 to 1,000 metres in width. Topography is moderate along the valley but elsewhere is steep to precipitous with relief from the valley floor to cliff tops in the order of 1,200 metres. Sections of the creek occupy steep sided gorges.

Vegetation in the lower valley consists of sub-economic coniferous trees (spruce, fir, pine) mixed with willows, aspen and alder (Lower Showing area). At higher elevations (Waterfall and Upper Showing areas) the vegetation is alpine. Sufficient timber and water for exploration needs are available on the property.

The region has a relatively moderate climate, annual precipitation may average 100 centimetres. The area of the property is snowfree from about June 1st to October 1st.

#### PROPERTY

(Figure 3)

The property consists of 63 units in eight modified grid system claims in the Liard Mining Division, British Columbia. These are as follows:

	Record		Expiry			
Claim	<u>No.</u>	Units	Date	Title*		
KLU I	7457	12	June 30, 1991	Isca		
KLU 2	7458	4	N	Exploration		
KLU 3	7459	8	11	Ltd.		
KLU 4	7460	12	tt	11		
KLU 5	7461	12	17	11		
KLU 6	7462	3	11	11		
KLU 7	7463	6	19	11		
KLU 8	7464	6	11	11		

\* C. Nass, staker; B/S #489 Dec 12, 1990

These claims were staked in June, 1990 to cover property which has been held intermittently over several years and is referred to as the "Blue Group".



#### HISTORY AND PREVIOUS WORK

Descriptions of the property date from 1970 when McIntyre Porcupine Mines Ltd. optioned this property, known as the "Blue Group", from a Fort Nelson prospecting group. During 1970 and 1971 a total of 356 claims were acquired. Work programs included geological mapping, trenching, sampling and over 1,650 m (5,400 ft) of diamond drilling in 36 holes. All of this core has been dumped at the old drill camp with the exception of core from two holes which is stored at drill sites. A 10 mile induced polarization survey outlined a "Y" shaped anomaly (Appendix F, #3). The results from five of the diamond drill holes (Appendix F, #1) shows that two holes (#2B, #3B) within this anomaly "...intersected 7.6 vertical metres (25 feet) of 2.5 - 3% copper." (B.C. Dept. of Mines, 1971, pg. 72). Drill logs and sections of Holes #1B and #4B indicate values of 5.8 metres (19 feet) of 0.56% Cu and 9.05 metres (29.7 feet) of 0.60% Cu respectively; no assays are shown for Hole #5B. Most of the exploration data from this early work by McIntyre are unavailable and were reportedly destroyed.

The property was restaked as the Cup claims in 1981 and a preliminary review of the work to that date was prepared by T.G. Hawkins of Sawyer Consultants Inc. on behalf of Jemco Resources Inc. (T.G. Hawkins, 1986). The property was acquired by E5 Resource Corporation in 1983 or 1984 and a program of work by MPH Consulting Limited included reconnaissance geological mapping and rock sampling. Thirty grab samples were collected from trenches and mineral showings of which 117 yielded values of from 126 ppm to greater than 40,000 ppm Cu. Silver values were up to 80 ppm (T.G. Hawkins, 1984). Geophysical work conducted for E5 Resource Corporation in 1985 consisted of VLF-electromagnetic and induced polarization surveys in the Upper Showing area. This work was carried out by Interpretex Resources Ltd. (E.R. Rockel, 1985) with the objectives to delineate a mineralized zone described by previous work, to obtain at-depth information indicative of sulphide mineralization and to suggest additional exploration targets. These surveys delineated a near surface anomaly which was explained by previous (McIntyre) work. In addition, the IP results identified possible "limbs" of deeper mineralization on the sides of the near surface feature (northwest striking anticline mineralized on the fold axis and limb). Drilling was recommended to test these

targets. The geophysical interpretation map from these surveys is appended (Appendix "F"-2).

In 1986, the property was examined for New Holland Mining N.L. by Dr. C.J. Westerman who reviewed all the available data and collected several samples for assay. He concluded that several of the mineral showings had not been adequately tested by the early drilling and that "...there is a large area with potential for future discoveries." (C.J. Westerman, 1986).

He recommended a two-phase, success-contingent program of prospecting, geological mapping, geochemistry and an IP survey followed by diamond drilling.

In 1988, the property was acquired by Atlas Management Canada Inc. A property examination was conducted in 1989 during which time further lithogeochemical samples were collected (Appendix "F"-3) (T.G. Hawkins, 1989). An assessment of the property was made by Al Maynard in April 1989 for Atlas Management Canada Inc. and again in February, 1990 for Isca Exploration Ltd.

The property was restaked as the KLU claims in the summer of 1990 and an option acquired by Gold Parl Resources Ltd.

### REGIONAL GEOLOGY

(Figure 4)

The property is situated within the Muskwa Ranges of the Northern Rocky Mountains in the Cordilleran Foreland Fold and Thrust Belt. Rocks in the region consist of northwesterly trending Precambrian to Devonian platformal sediments (Taylor, G.C., 1979; Ziegler, P.A., 1969).

The sediments have been deformed by open folds and by flat to north-south trending thrust faults which have also been gently folded (Westerman, C.J., 1986). East of the property Cretaceous siltstones and sandstones have been thrust over Paleozoic sediments. This Cretaceous sedimentary package contains numerous folds which parallel the thrust faults. West of the property, Paleozoic sediments are thrust over Lower Ordovician limestones (Hawkins, T.G., 1984).

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LOWER CRETACEOUS	
KD BUCKINGHORSE FORMATION siderific shole, sills	tone, minor sondstone (marine)
TRIASSIC (Undivided)	ONNEL, LUDDINGTON, B PARDONET FM' dolomitic sillstone,
Ru sondstone, sandstone, shale, limestone (marine)	
DEVONIAN AND CARBONIFEROUS Dbr BESA RIVER FM: block siticeous shale, minor siltst	one (morine) · · · · · · · · · · · · · · · · · · ·
DE VONIAN	
Dd DUNEDIN FORMATION limestone, rare dolostone	(marine) 10
MIDDLE AND LOWER DEVONIAN	(marine)
LOWER DEVONIAN	
D m MUNCHO - McCONNELL FM: doistone, rare sandsta	ne shale (marine, may include Upper Silurian bed near base)
SILURIAN	
5 n NONDA FORMATION, dolostone, sandstone, mino	r nnesione (morne)
Ob UPPER ORDOVICIAN Sondstone, dolostone, mino	r siltstone and shale (marine) Unit 4
ON LOWER ORDOVICIAN, KECHIKA FM. limestone, a	rgillaceous limestone (marine) Unit 3
	Unit 1,2
Cim minor shale; thick basal sandstones, conglom -	GOLD PARL RESOURCES LTD.
upper part of carbonate unit )	KLU CLAIM GROUP
Note: Units 1 to 5 refer to previous property mapping	LIARD MINING DIVISION, B.C.
by D.D. Brown of McIntyre Porcupine Mines Ltd., 1971. From T.G. Hawkins, 1981.	NTS 94F/16E
	REGIONAL GEOLOGY
Scale 1: 125,000	SANGUINETTI ENGINEERING ITD
Ref. Taylor , 1979	OCTOBER, 1990 FIGURE 4

#### PROPERTY GEOLOGY

(Figures 4A, 5, 6, Appendix "F"3)

The property was mapped by D.D. Brown for McIntyre Porcupine Mines Ltd. in 1971 and by geologists for MPH Consulting Limited (Hawkins, T.G., 1989). The following description is taken largely from previous work by Hawkins (1989), Westerman (1986), and the B.C. Dept. of Mines & Petroleum Resources (1971).

Copper mineralization is hosted by grey to tan weathering dolostones of the Lower Ordovician Kechika Group (Unit 3) which overlies a folded thrust fault and by quartzites of the Cambrian Atan Group (Unit 2) which underlies the thrust fault. Mineralized exposures are restricted to outcropping along creeks and in narrow canyons where exposed by erosion.

The lithologies were divided into five units by Brown (1971) (Figure 4 and Appendix "F"-3); these units, from youngest to oldest, are described as follows:

- Unit 5: Upper unit: massive, grey weathering, white to grey dolostone with interbedded dark grey to black limestone; thickness greater than 300 metres.
- Unit 4: White quartzite interbedded with light grey dolostone; thickness approximately 60 metres.
- Unit 3: Grey to buff weathering, white to light grey dolostone with interbedded, frequently cross-bedded, white quartzite; overall thickness approximately 120 metres with individual beds from 15 cm to 1.5 m thick.

This unit hosts the majority of copper occurrences reported on the property. The dolostone is generally sandy and has commonly been recrystallized to a sparry, light grey, medium-grained rock in areas of brecciation and folding. Sulphides, calcite and fine quartz may occur as replacement minerals in fractures and vugs. Brecciated quartzite bodies with dolomite cement occur within the dolostone unit. This brecciation may have been "...caused by solution of the carbonate, collapse of the quartzite interbeds, and subsequent cementation by recrystallized dolomite and some sulphides." (B.C. Dept. of Mines, 1971).



Figure 6. Geology of Blue claim group, McIntyre Porcupine Mines Limited (from company plans).





Source: B.C. Dept. of Mines, 1971.

K	LU CLA	IM GR	OUP
LIA	RD MINING	DIVISIC	N, B.C.
una tortan	NTS	94F/18E	
	GEO	OLOGY	
AND	DRILL	HOLE	PLAN

Figure 7. Drill-hole plan, Blue claim group, No. 3 showing, McIntyre Porcupine Mines Limited.

- Unit 2: White, massive quartzite; well-sorted, cross-bedded with abundant ripple marks; estimated thickness 60 metres.
- Unit 1: Lowermost unit: light grey, submassive dolostone, unknown thickness.

Three distinctive anticlines have been mapped in the claim area (Hawkins, T.G., 1984) of which one, a north-south trending, gently-dipping, open fold, contains most of the copper mineralization in the Upper Showing area. Several small anticlines were observed on the flanks of the larger structure. Small anticlinal folds were mapped at the Lower Showing. Open jointing, brecciation and intense fracturing generally occur across the crests of these folds.

Minor north-south and northwest-southeast faulting occurs with displacements in the order of a few metres to more than 30 metres.

#### MINERALIZATION AND SAMPLING

(Figures 3, 7, 8, 9, 10 and Appendices "D", "E", "F")

Nine zones of copper mineralization have been recorded on the property; designations used by McIntyre Porcupine in 1981 have been retained (Appendix "F"-3, Hawkins, T.G., 1989).

Only the Upper Showing area, consisting of Zones 1, 2, 3 (Figures 5, 7, 8, 9 and Appendix "F"-3), and the Lower Showing area, Zone 4 (Figures 6, 10 and Appendix "F"-3), were mapped and sampled during the current program. Grid locations are shown on Figure 3.

Zone 1 (Figure 7) consists of irregular pods and fracture fillings of bornite, chalcopyrite and pyrite in the brecciated crest and core of an anticline. The host is Unit 3 buff weathering, light grey sparry dolostone which is overlain by sandy dolostone and dolomitic quartzite and underlain by massive, blocky and brecciated

quartzite. This mineralization is exposed in outcrops along the walls of the creek/canyon and occurs as open space fillings and replacement both cross-cutting and parallel to bedding and with dolomite and silica in quartzite breccia. It occurs through a total stratigraphic thickness of about 5.5 metres. Individual pods of massive sulphide may be up to 40 cm thick over 3 to 5 metres along bedding planes. Old trench sites were observed but all had sloughed.

Zone 2 mineralization consists primarily of bornite with lesser chalcopyrite and pyrite within Unit 3 light grey sparry dolostone near the crest of an anticline (Figure 8). This mineralization occurs over a stratigraphic thickness of more than 3 metres and is exposed over a length of 15 metres. Patchy bornite mineralization occurs mainly along and adjacent to bedding planes and as replacement within the recrystallized dolostone. Chalcopyrite is concentrated within fractures and brecciated host rock. The old trenches had sloughed.

Mineralization in Zone 3 (Figure 9) is very similar to that found in Zone 2 except it is more intensely weathered and fractured. Mineralization exists in an exposed thickness of at least 4.5 metres of recrystallized dolostone with some interbedded lenses of cross-bedded quartzite and "...consists of bornite, chalcopyrite and pyrite occurring as semi-massive replacement lenses as much as 3 feet long and 18 inches thick, intersecting veinlets, thin lenses and coarse disseminations, as well as encrustations on drusy cavities lined with dolomite crystals." (B.C. Dept. of Mines, 1971). The diamond drill holes (#2B and #3B; McIntyre, 1971, Appendix "F"-1) which tested this showing "...indicated a thickness of some 30 feet of mineralized material grading between 2.5 and 3 percent copper." (B.C. Dept. of Mines, 1971). Holes peripheral to the zone reportedly failed to intersect significant mineralization. Most of the old trenches had sloughed.

Mineralization at the Lower Showing area, Zone 4 (Figure 10) consisted of pyrite, chalcopyrite and minor bornite with calcite in crackle breccias, along bedding and fracture planes and as sparse disseminations in a relatively tight, sandy dolostone. Recrystallization was not as intense at Zone 4 as at the Upper Showing area.

Mineralized breccias appear to extend over areas of 1 metre thick along lengths of 3 to 4 metres and appear to occur in the crests of anticlinal structures.

Because of the timing of the 1990 program, not all of the showings could be examined. The following descriptions of showings (zones) 5 and 6 and the Waterfall showing (No. 4?) have been quoted from the 1986 report by Dr. C.J. Westerman:

"The No. 6 showing is comprised of irregular pods and veins of massive pyrite, bornite, chalcopyrite and minor tetrahedrite. The mineralization, hosted by dolomite, is exposed over an area of 16 metres by 5 metres in the main creek. Open space filling and replacement by sulphide minerals is both parallel to bedding and cross cutting, through a total stratigraphic thickness of 5.5 metres. The dolomite is locally completely replaced by fine grained silica and fracture fillings of coarse white calcite are also present. Individual pods of massive sulphide are up to 40 cm thick and extend 3 to 4 metres along bedding planes. Representative sampling of this type of mineralization is extremely difficult so the author collected a composite sample of about 50 rock chips (WR30) from the massive mineralized pods which returned an assay of 1.4% Cu, 10.2 g/t Ag. Previous grab sampling by the property owner (No. 14) returned up to 32.0% Cu and 2.5 g/t Ag. The showing is open in both directions along strike ...

The (Waterfall) No. 4 showing is located at the base of a 15 metre waterfall in a narrow creek canyon and was inacessible at the time of the property examination. Surrounding rocks are rusty weathering, heavily fractured quartzites which carry 2-5% disseminated pyrite (Sample WR35). The showing is described by the property owner as being irregular pods of massive bornite and chalcopyrite which assayed 15.2% Cu, 2.5 g/t Ag and 15.5% Cu, 20.0 g/t Ag in two grab samples.

The No. 5 showing was also inaccessible at the time of the property examination but its location is approximately coincident with the same structural level as the No. 6 showing. The property owner describes pods of massive bornite and chalcopyrite which assayed 29.2% Cu, 15.0 g/t Ag; 34.8% Cu, 5.0 g/t Ag; and 34.8% Cu, 5.0 g/t Ag in three samples (No. 2, 9 & 12)."

Zone 7 occurs at the top of the Unit 1 dolostone. This unit is stratigraphically below the Unit 2 quartzite of the Upper Showing area and is significant as far as the potential for locating mineralization at this stratigraphic depth. A grab sample (#109) of coarse crystalline chalcopyrite, malachite/azurite vein material yielded 11.52% Cu and 27.8 ppm Ag and 375 ppm Sb (Hawkins, T.G., 1989) (see Appendix "F"-3).

Zone 8 was not described.

Representative channel samples were cut by Sanguinetti and Howard from mineralized areas at Zones 1, 2, 3 and 4. Due to the irregularity of the mineralization, some samples were cut across structures but most were cut across the true thickness of the beds. The results of this sampling are shown on Figures 7, 8, 9 and 10. The sample record and assay certificate are appended (Appendices "D" and "E"). A summary of these results and results of the 1986 sampling by Dr. C.J. Westerman and the vendor (D. Moore) are reported as well as results from trench sampling by McIntyre Porcupine in 1971.

#### SAMPLE RESULTS

Zone	Sample No.	Thickness (m)	Cu %	Ag _oz/t_	
I (Upper)	U1-1	1.0	0.35	.01	quartzite brx.
	U1-2	1.0	0.19	.01	quartzite brx.
	U1-3	2.5	1.07	.06	dol.
2 (Upper)	U2-1 U2-2 U2-3 U2-4 U2-5 U2-6 U2-7	1.1 1.0 0.7 0.7 0.5 1.0 1.5	0.02 0.02 0.98 0.01 0.01 5.36	.02 .01 .01 .08 .03 .02 .06	sparry dol. sparry dol. sparry dol. bo. sparry dol. bo. sparry dol. bo. sparry dol. dol., cp. brx.
3 (Upper)	U3-1	1.5	0.93	.04	dol. brx. bo.
	U3-2	1.0	0.15	.03	sparry dol. bo.
	U3-3	1.0	1.25	.06	sandy dol. bo.

#### Sanguinetti - 1989 (all channel samples)

#### SAMPLE RESULTS CONT'D

Zone	Sample No.	Thickness (m)	Cu _%_	Ag _oz/t	
4 (Lower)	L-1 L-1A	2.0 1.0	0.04 0.04	.02	across structure across bedding
	L-2 L-3	1.5	0.01	.01	across structure dol & qtzite
	L-4 L-5	1.5	0.06	.02	dol.

Westerman - 1986

Showing	Sampler	Sample No.	% 	g/t _Ag	
No. 1	Westerman	WR 32	23.1	13.5	grab sampl <del>e</del>
	Westerman	WR 34	6.0	12.6	chip 1 m x 20 cm
	Moore	6	60.0	220	grab sample
	Moore	15	29.2	2.5	"
No. 2	Moore	1	10.0	ND	U
	Moore	4	60.0	220	A
	Moore	13	37.0	147	H
No. 3	Moore	3	5.2	12.5	11
	Moore	7	3.9	ND	11
	Moore	8	0.21	ND	11
No. 4	Moore	10	15.2	2.5	n
	Moore	11	15.5	20.0	n
No. 5	Moore	2	29.2	15.0	13
	Moore	9	34.8	5.0	14
	Moore	12	34.8	5.0	14
No. 6	Westerman	WR 30	1.4	10.2	composite grab/chip sample
	Moore	5	1.7	ND	grab sample
	Moore	14	32.0	2.5	grab sample
			Cu ppm	Ag ppm	
Adjacent No. 6	Westerman	WR31	172	2.9	massive pyrite boulder, grabs
Adjacent No. 3	Westerman	WR33	850	2.2	pyritic quartzite - drill core
Adjacent No. 4	Westerman	WR35	580	0.5	pyritic quartzite - grabs

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Results from samples collected by McIntyre Porcupine (1971) from five of the nine trenches in the Upper Showing area, shown on Figure 5 in Appendix "F"-3, are summarized below:

Location	Width 	Cu %
Zone 1 - Trench 3	6.10	1.14
Zone 1 - Trench 4	6.10	0.59
Zone 1 - Trench 5	9.14	0.17
Zone 2 - Trench 6	12.19	2.45
Zone 3 - Trench 8	9.14	3.66

Previous assay results (Hawkins, T.G., 1984) have shown elevated silver values from grab samples of massive sulphides. These values were up to 27.8 ppm Ag with 11.52% Cu from a grab sample of coarsely crystalline chalcopyrite with malachite/azurite (Sample 109 from Zone 7), see Appendix "F"-3.

At the Lower Showing elevated nickel and cobalt values were noted from samples with high pyrite and chalcopyrite content. Samples L-3 returned up to 803 ppm Ni and 694 ppm Co from a 1 metre channel sample well mineralized with pyrite and chalcopyrite. Previous sampling in the Lower Showing had returned assay values up to 0.50% Ni and 0.56% Co from a grab sample (#100, Hawkins, 1989) containing approximately 40% massive sulphides.

The origin of the copper mineralization is open to debate, but possible sources are from shale horizons or buried intrusive bodies. The genetic process of hydrothermal fluid transport is believed responsible for emplacement of the copper-sulphur-iron rich fluids within the recrystallized dolostone and brecciated quartzites.



-19-



-20-





#### GEOPHYSICAL SURVEYS

(Figures GU-5, GL-5)

Picketline grids totalling 8.6 line kilometres were established over the Upper Showing area (6.3 km) and the Lower Showing area (2.3 km). Lines were spaced at 50 metre intervals with 25 metre stations. Orientation of the baselines was determined by topography and by the strike direction of the anticlinal structures. Magnetometer and VLF-electromagnetic surveys were conducted over each grid with readings taken at the 25 metre stations. The results were tabulated, plotted and interpreted by S.J. Visser, B.Sc., geophysicist of S.J.V. Consultants Ltd. A discussion of these results by S.J. Visser is quoted below and is contained in Appendix "G".

#### VLF-Electromagnetic Surveys

The survey was conducted by M.H. Sanguinetti, P.Eng. using a Geonics EM-16 instrument. Transmitting stations used were Annapolis, Maryland for the Lower Showing area grid and Seattle, Washington for the Upper Showing area grid. The in-phase (dip angle), out-of-phase (quadrature) and slope readings were measured in percent at each station.

Fraser filter values (after Fraser, 1969) were calculated for the in-phase readings and contours (positive values only) plotted for each showing.

#### "Upper Showing Area

The compilation of the VLF-EM and magnetics results is plotted on Plate GU-5.

The VLF-EM indicates a number of medium to weak anomalies trending in a northeast direction as shown on Plate GU-5. The two anomalies striking from approximately 125E on line 50N to 100E on line 0 and the apparent continuation of this anomaly at approximately 120E on line 50S to 40E on line 150S appear to be the best anomalies and may be associated with sulphide mineralization. The single anomaly on at approximately 80E on line 190S may be the southern extension of this anomalous trend although there is not sufficient data in this area to confirm this. This anomalous trend appears to be open both to the north and the south. The remaining anomalies are likely due to structures "such as weakly conductive shear zones are faults. The whole survey area appears to be cut by numerous cross-structures.

#### Lower Showing Area

The compilation of the VLF-EM and magnetics results is plotted on Plate GL-5.

The VLF-EM indicates a good anomaly striking across lines 50E and 0 and continuing weakly to the west and the east where it may be offset as shown on the compilation map Plate GL-5 (S.J. Visser, 1990)."

#### Magnetometer Surveys

The survey was conducted by D.A. Howard, P.Eng. using a Geometrics G-816 proton magnetometer. Readings were corrected for diurnal variation and the results plotted. Results from both grids show no significant anomalies; there is magnetic relief of less than 75 gammas over each showing area. This lack of relief is normal for a carbonate/quartzite environment with no igneous activity and no magnetic mineralization present.

### APPENDIX "A"

#### STATEMENT OF COSTS AND PERSONNEL

•

Personnel		
M.H. Sanguinetti, P.Eng.	\$ 9,000.00	
D.A. Howard, P.Eng.	5,850.00	\$14,850.00
Field Costs		
Mob-Demob (helicopter & fixed wing & freight)	7,034.86	
Travel (airfare, hotel, meals)	1,929.84	
Camp equipment, radio	898.13	
Geophysical rental	530.00	
Food, fuel, misc. supplies	701.51	
Assays, analyses	479.75	
Miscellaneous maps, telephone, etc.	272.66	11,846.75
Report Costs		
M.H. Sanguinetti, P.Eng.	3,450.00	
Drafting	763.85	
Stenographic, binding, office	296.06	
Geophysical plotting and interpretation	600.00	
Printing	120.12	5,230.03

Total

\$31,926.78

#### SANGUINETTI ENGINEERING LTD.

422 - 470 GRANVILLE STREET VANCOUVER, B.C. V6C 1V5 TELEPHONE: (604) 662-3161

#### WRITER'S CERTIFICATE

I, Michael H. Sanguinetti of Vancouver, British Columbia hereby certify that:

- 1. I am a geologist residing at 4063 West 27th Avenue, and employed by Sanguinetti Engineering Ltd. of #422 470 Granville Street, Vancouver, British Columbia.
- 2. I am a graduate of the University of British Columbia, B.Sc., in 1965, and have practiced my profession since that time.
- 3. I am a member of the Association of Professional Engineers of the Province of British Columbia.
- 4. I am the author of this report which is based on a study of private and public reports and on the results of a work program conducted on the KLU #1 to 8 mineral claims during the period September 20 to 29, 1990. I personally supervised and conducted the program on the property in the company of Mr. D.A. Howard, P.Eng.



March 20, 1991 Vancouver, B.C. SANGUINETTI ENGINEERING LTD.

Michael H. Sanguinetti, B.Sc., P. Eng. Geologist

#### APPENDIX "C"

#### REFERENCES

B.C. Dept. of Mines, 1970: Blue Property in Geology, Exploration and Mining in British Columbia, pg. 62.

\_\_\_\_\_, 1971: Blue Property <u>in</u> Geology, Exploration and Mining in British Columbia, pp. 72-75.

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Hawkins, T.G., 1981: Preliminary Assessment and Recommended Work Program, Cup Claims for Jemo Resources Inc., by Sawyer Consultants Inc.

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- Maynard, A., 1990: Summary Geological Report and Valuation of Kluachesi Lake Prospect for Isca Exploration Ltd., by Al Maynard & Associates.
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- Rockel, E.R., 1985: Report on VLF Electromagnetic and Induced Polarization Surveys on the Cup Claims for E5 Resource Corporation by Interpretex Resources Ltd. (incomplete).
- Taylor, G.C. et. al., 1979: Geology, Ware-Trutch Map Sheets, NTS 94F, 94G, Geol. Surv. Can. OF606.
- Thompson, R.I., 1988: Stratigraphy, Tectonic Evaluation and Structural Analysis of the Halfway River Map Area (94B), Northern Rocky Mountains, British Columbia, Geol. Surv. Can., Mem. 425.
- Visser, S.J., 1990: Correspondence regarding discussion of VLF-EM data from 1990 Survey.
- Westerman, C.J., 1986: The Kluachesi Lake Property for New Holland Mining N.L., Private Report.

\_\_\_\_\_, 1986: Correspondence regarding old data and assessment work.

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Ziegler, P.A., 1969; The Development of Sedimentary Basins in Western and Arctic Canada, Alberta Soc. of Petr. Geols.

#### CHANNEL SAMPLE RECORD - KLU CLAIM GROUP

Tag No.	Sample No.	True Thickness (m)	Cu %	Ag oz/t	Au oz/t	Ni ppm	Co ppm	Remarks
Lower Showing								
63326	L-1	2.0 m	0.04	.02	.001	31	19	Grey dolostone; py on bedding and fracts; across structure, W side
63327	L-1A	1.0 m	0.04	.04	.001	55	34	as L-1; across bedding, W side
63328	L-2	1.5 m	0.01	.01	.002	13	12	as L-1; across structure, W side
63329	L-3	1.0 m	0.46	.13	.001	803	694	Grey dolostone and quartzite; py, cp; well minerzd; across bedding, E side
63330	L-4	1.0 m	0.13	.02	.001	303	286	Grey dolostone and dolomitic quartzite; py, cp; well minerzd; across bedding, E side
63331	L-5	1.5 m	0.06	.03	.001	156	90	Grey sparry dolostone on hinge of anticline; py, tr cp; W side
Upper Showing								
Zone 1								
63332	U1-1	1.0 m	0.35	.01	.001	67	26	Quartzite breccia; cp on fracts; 15 m below old trench
63333	U1-2	1.0 m	0.19	.01	.001	20	17	Quartzite breccia; cp on fracts; at old trench
63334	U1-3	2.5 m	1.07	.06	.001	102	23	Dolomitic sandstone breccia; py, cp, bo in vugs, fracts, as replacement

APPENDIX "D"

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#### APPENDIX "D" CONTINUED

Tag No.	Sample No.	Tr <b>u</b> e <u>Thickness (m)</u>	Cu _%	Ag oz/t	Au _oz/t	Ni _ppm	Co _ppm_	Remarks
Zone 2								
63335	U2-1	1.1 m	0.02	.02	.001	6	4	Grey sparry dolostone; minor cp, tr bo, py; upper bed
63336	U2-2	1.0 m	0.02	.01	.001	9	6	Vuggy grey dolostone below U2-1; minor py, cp, bo
63337	U2-3	0.7 m	0.02	.01	.001	4	3	Recrystallized dolostone, vuggy; py, bo, cp
63338	U2-4	0.6 m	0.98	.08	.001	15	6	Recrystallized dolostone, vuggy; bo, py, cp mostly at top of bed
63339	U2-5	0.5 m	0.01	.03	.001	6	5	Recrystallized dolostone; minor cp; underlies bed of U2-3/U2-4
63340	U2-6	1.0 m	0.01	.02	.001	5	6	Same bed as U2-3/U2-4; weakly mineralized; S side of Cr
63341	∪2-7	1.5 m	5.36	.06	.001	47	24	Grey recrystallized dolostone, brecciated; local massive cp, py in irreg. zones
Zone 3								
63342	U3-1	1.5 m	0.93	.04	.001	88	23	Grey recrystallized dolostone, sparry, brecciated; py, cp; W end of trench
63343	U3-2	1.0 m	0.15	.03	.001	22	9	Grey sparry dolostone in bed below U3–1; py, cp
63344	U <b>3-3</b>	1.0 m	1.25	.06	.001	40	15	Grey sparry dolostone, sandy; py, cp, trace bo; S side of Cr below trench

#### ACME ANALYTICAL LABORATORIES LTD.

#### 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE(604)253-3158 FAX(604)253-1716

#### GEOCHEMICAL/ASSAY CERTIFICATE

Sanguinetti Engineering Ltd. PROJECT G.P.-1 File # 90-5023 422 - 470 Granville St., Vancouver BC V6C 1V5

SAMPLE#	Мо ррпт	Cu ppm	Pb ppm	Zr ppr		Ni ppm	Co ppm	Hn ppm	Fe X	As	U mqq	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca Y		₽ L X pp	a C m pp	ir H	a B X pp	a 门 M	ri X p	8 1971	Al X	Na X	K X P	<b>ça</b> i	Cu /	Ag** oz/t	Au** oz/t
										-															•••									
63326	1	434	119	25	Ð	31	19	736	7.63	24	5	ND	1	22	<b>.</b> 3	2	4	4	15.27	.00	4	3	5 8.6	31	9 0	01	6	.06	.01	.04	<b>.</b>	.04	.02	.001
63327	1	436	371	101	2.6	55	- 34	787	13.71	61	19	NÐ	1	19	1.5	Z	2	- 4	13.1	00	7	32	5 8.3	71	3 🐧	01	24	.06	.01	.04 🕺	3£ .	.04	.04	.001
63328	1	87	22	14		13	12	766	2.93	30	5	ND	1	्र <b>3</b> 4	1.4	2	2	4	19.18	s <u>00</u>	6	2	1 8.9	63	1 🦹	01	6	.07	.02	.05		.01	-01	-002
63329	1	4687	807	211	3.5	803	694	566	17.57	65	11	ND	1	13	2.2	28	2	3	7.3	S 200	3 3	23	7 5.6	2	8 🖁	01	16	.01	.01	.02	÷.	.46	. 13	.001
63330	1	1672	146	. 8	1 1 30	303	286	392	6.27	71	5	ND	1	12	1.9	8	2	Ž	6.2	00	4	2 1	6 4.3	7	9 🗄	01	2	.01	.01	.02	8e -	.13	.02	-001
63331	6	590	8	838		<sup>8</sup> 156	90	357	.64	36	5	ND	1	22	1.9	2	2	2	8.19	> 00	8	2 2	5 4.2	7 2	4 🗄	01	3	.08	.01	.05	20	.06	.03	.001
63332	74	3855	47	27	· 🔅	67	26	46	2.88	33	5	ND	1	2	1.2	6	2	3	. 11	1 02	6	3	1.1	0 3	5 🥻	01	4	.12	.01	.08	81 -	.35	.01	.001
63333	21	2052	22	ć		2 20	17	126	.85	12	5	ND	1	4	.2	4	2	2	1 1	2 01	1	3	8.7	0 10	ା୨ ୍ଲି	01	4	.08	.01	.05		.19	.01	.001
63334	3	11351	28	14		) 2 102	23	769	3.75	318	5	ND	1	23	2.3	40	2	10	15.9	200	7	2	1 7.9	4 3	iz 🖁	01	3	.05	.01	.04	<b>8</b> 10 1	.07	.06	.001
63335	3	182	2 5	2	1	6	4	709	1.17	10	5	ND	1	44	5	2	2	2	21.7	00	8	2	1 9.7	8 52	2	01	3	.03	.01	.02	÷.	.02	.02	-001
63336	2	247	2	4		Ë 9	6	835	1.30	13	5	ND	1	42	2	2	2	2	21.5	0	1 <sup>8</sup>	ž	1 9.5	3 15	1 3	01	3	.05	.02	.04		.02	.01	.001
63337	1	178	3 2	1		6 4	3	801	1.08	7	5	ND	1	29	100	2	2	1	20.8	ា ព	7	2	1 9.6	5	7	01	2	.02	.02	.02	ŝ.	.02	.01	.001
63338	1	10535	5 2		2.5	5 15	6	722	1.22	22	5	ND	1	31	1.5	2	2	3	19.9	3 00	8	2	1 9.0	3 14	6 ୁଁ	D1	4	.05	.01	.03		.98	.08	.001
63339	2	115	3 8			6	5	725	. 90	8	5	ND	1	20		,	2	1	20 6	7	17	2	196	2 0	ق 77	01	2	_04	-01	-02		.01	.03	.001
63340	1	42	2 9			iš 5	6	742	.89	10	5	ND	1	33		2	2	1	20.9	> 0	0	2	1 9.6	7	18	01	- 4	.04	.01	.03	80	.01	.02	.001
63341	17	48300	32	19	21	47	24	692	9.47	4.8	13	NO		16	5	6 65	12	1	11 6	ว กัก	1	2	5 6.5	3	। उंें	DÍ	ż	.04	.01	.03	<b>8</b> 10 5	.36	.06	.001
63342	6	9877	7 31	28	1	88	23	525	5.10	142	5	ND	1	13	21	108	2	ż	8.3	2 00	0	2	1 4.9	8 3	2	01	Ś	.08	.01	.06		.93	.04	.001
63343	3	1626	5 2			2 22	9	741	1.31	32	5	ND	1	28		2	Ž	. 3	17.4	B 00	4	2	2 8.1	0	7	01	5	.06	.01	.05		.15	.03	.001
63344	4	12065	5 23	3		۵ ۵	15	662	6.70	28	0	ND.	1	23	2		· ,	. 3	13 1	R 04	100 100	2	17.8		× 8	01	5	.04	.01	-03	<b>88</b> 10 1	.25	. 06	5 .001
STANDARD C/R-1/AG-1/AU-1	18	63	5 42	13	7.	5 72	31	1055	3.95	41	16	8	36	53	18 4	15	19	57		6 0	4	8.	59 .8	9 1	2	07	33	1.89	.06	.13	81 ·	.84	.98	3 .096

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3HL 3-1-2 HCL-HN03-H20 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 1S 3 PPM. - SAMPLE TYPE: ROCK AG\*\* + AU\*\* BY FIRE ASSAY FROM 1 A.T.

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#### APPENDIX "F"

#### RECORD OF PREVIOUS WORK

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- McIntyre Porcupine Mines Limited, 1971: Drill Logs and Sections for DDHs #1B - 5B.
- 2. E5 Resource Corporation, 1985: Claim Map, Geophysical Interpretation Map (VLF-EM and IP Surveys), Upper Showing Area.
- 3. Atlas Management Canada Inc., 1989: Property Plan, Geology and Sample Locations, Blue Property (on 3 pages), Detailed Geological Plan (Upper Showing Area).

EXPLORATION DEPARTMENT			MCINTYRE		DIAMOND DRILL LO						G			
Prope		FURT-NELSUH-CUPPER	PORCUPINE MINES LIMITED		Teneth o	f Hole		······	June 1	1 110	••••••••••	•		
Claim	No				Date Star	red. Jun	a. 6171.			pleted Jun	9.171			
Locati	on of Co	re			Core Log	ged by	D. L. )	cKelvie						
		Surveys			Date									
<u></u>	At	Dip Bearing	-		Elevation					im				
	<u>0'</u>				North		C	.0-ordinates	or Collar					
					East									
	1				- <del>1</del>		<del></del>	<del></del>				ć		
From	Te		Description of Core	Sample	<b>F00</b>	Width			COR	CORE ASSAYS				
			<b>/</b>	Ne.	From	To		Cu						
	2.0													
u	U	LASING			-		+				1	•		
											<u>†</u>	•		
<u>ر</u>	29.5	polenie - Recrystallized - hum	Brous patches calcite - no distinctive structure				+	++			+	,		
	·	3' - 7' scattered sulphides	mainly chalco - less than 1%	45552	3.0	7.0	4.0	0.18						
	ļ	7' 12' sulphides - more th	an 2%	10651	7.0	9.0	2.0	0.16			<u> </u>			
	ļ	18' - 29.5' minor disseminated	sulphides only	10652	9.0	4.0	5.0	0.54						
			·	10653	14.0	19.0	5.0	1.17						
29.5	32.3 .	DOLLATTIC LIMESTONE - Ccc. blob	& stringer of pyrite well banded 10° C.A.	10654	19.0	22.0	3.0	0.34				_		
												-		
32.3	43.0	DOLUMITE - Recrystallized - occ	. limestone section. Fatches of calcite -									-		
	<u> </u>	minor dissem. sulphides.												
43.0	49.0	UAETZITE - White, mod. grained	- occ. rusty section banding ~ 23° C.A									-		
	ļ	pinor pyrite												
49.0	52.8	DOLCHITE - Recrystallized - as	above.											
												•		
51.8	71.0	WARTZITE - white - some greying	th patches - banding 3° to core. END OF HULE.						, <b>i</b>	1	1			

)p. F-1-i

### EXPLORATION DEPARTMENT

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Property	FORT NELSUN	COPPER
Location	Lierd M.J	).
Claim No.		· · · · · · · · · · · · · · · · · · ·
Location of Core		J
	Surveys	
At	Dip	Bearing
0	-45	S 63° E

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#### MCINTYRE PORCUPINE MINES LIMITED

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### DIAMOND DRILL LOG

Hole No.	2-B	Sheet No. 1
Length of Hole	91.0'	
Date Started	June 10, 1971	Completed June 18,
Core Logged by	D. L. McKalv	Le.
Date		
Elevation		Datum
	Co-ordinates of	Collar
North		
East		•

-		_	Description of Core	Sample	F007	TAGE	Width			CORE	344224		
	From	10	Description of Core	No.	From	To		X Cu					
	0	7.0	CASING										
													Ι
	7.0	91.0	DOLCHITE - Recrystallized - patchy calcite, dolomite	10655	7.0	12.0	5.0	2.28					
			8.0 - 17.0 - Heavy sulphides - 10% chalco & bornite	10656	12.0	17.0	5.0	3.45					
			17.0 - 20.0 - Very minor sulphides - dissem. pyrite	45551	17.0	20.0	3.0	0.50					
			20.0 - 40.0 - Coarse dolomite - patchy chalco 10%	10657	20.0	25.0	5.0	2.70				L	
			63.0 - 64.0 - Limey alate section	10658	25.0	30.0	5.0	3.08				L	
			67.0 - 80.2 - Heavy calcite sections	10659	30.0	35.0	5.0	2.39					
	-	1	80.2 - 81.0 - Vuggy, rusty section	10660	35.0	40.0	5.0	2.75					
		1	82.0 - 86.0 - Small patches of wavy chlorite & pyrite										
		1	91.0 END OF HOLE										
		1											
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EXPLO	RATION DI	PARIMENI
Property	FORT NELSON C	UPPER
Location	Liard M.D	•
Claim No		
Location of	Core On Prope	rt.y
	Surveys	
	t Dip	Bearing

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MCINTYRE PORCUPINE MINES LIMITED

### DIAMOND DRILL LOG

Hole No.	3-B	Sheet No	<b>l</b>
Length of Hole			••••••
Date Started	June 18, 1971	Completed	Juna 20, 1971
Core Logged by	D. L. HcKelvie	···· ······	
Date	June 27, 1971		
Elevation	••••••••••••••••••••••••••••••••••	Datum	·
	Co-ordinates	of Collar	
North		····· ····	
East		· · · · · · · · · · · · · · · · · · ·	

T	En T		Description of Core	Sample	F00'	FAGE	Width	CORE ASSAYS					
	From	10	beschption of core	No.	From	To		\$ Cu				-	-
	0	7.0	CASING										
	7.0	48.0	DULOMITE - recrystallized - patches calcite - heavy chalcopyrite to 10%	•									
			44.0 - 48.0 - sulphides decrease to 33	45553	44.0	48.0	4.0	0.04					
	48.0	52.5	DOLOMITIC LIMESTONE - Dark grey - well banded. 45° to C.A occ. 1/8" band					ļ			ļ		ļ
			sulphides (py) - finely diss. pyrite.								ļ		
	52.5	57.0	DOLOMITE - recrystallized - occ. small patch sulphides.								ļ		
			57.0 END OF HOLE										
													L
			· · · · · · · · · · · · · · · · · · ·										
													L.
													Apr

<b>EXPLO</b>	RATION DEPARTMENT
Property	FORT NELSON CCPPER
Location	Liard H.D.
Claim No	
Location of	Core

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At 

To

10.0

14.8

49.0

From

ο

10.0

14.8

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#### DIAMOND DRILL LOG

F-1-iv

FORT NELSON CCPPER Liard M.D. Surveys Dip Bearing	MCINTYRE Porcupine Mines Limited		Hole No. Length of Date Starn Core Logg Date Elevation North East	Hole	ນກຸຍ 21 D. ອາເ ດ	4-B. 49.0 1971 L. Yck une 27. p-ordinates	elvie 1971	Sheet N Complet Datum Ilar	o. 1 ed June	ne.23, 1971				
	Description of Core	Sample FOOTAGE Width CORE								ASSAYS				
<u></u>		No.	From	To		\$ Cu			<u> </u>					
CASING											<u>.</u>			
ITHESTONE DOLCHITTE -	$a_{\rm r}$ indistinct handing at 20° C /										·			
LIFLOIDAS - DOLOGITIC - DATE EF	aj - Midlebillice validitig av av vere													
DULOHITE - Recrystallized, patc	hes of calcite, sulphides - no distinct structur	•												
- conglomeratic appearance in s	ections													
14.8 - 20.6 - sulphides, mainly	chalcopyrite, 4%	45554	14.8	20.6	5.8	0.57								
20.6 - 32.5 - less sulphides, h	igher propertion pyrite, 2%	45555	20.6	32.5	11.9	0.68								
32.5 - 34.5 - patchy chalcopyri	te - 5%	45556	32.5	34.5	2.0	0.68			ļ					
34.5 - 44.5 - disseminated pyri	te - occ. speck and patch of chalcopyrite	45557	34.5	44.5	10.0	0.53			<b> </b>					
	· · · · · · · · · · · · · · · · · · ·		_											
HOLE ABANDONED AT 49.0	· · ·							ļ						
	-													
					1	1				ļ	AI			
											·dc			

XPLOR.	ATION	DEPARTMENT
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Property	FURT-NELSCH	GOPPER
Location	Liand Mining	Civision
Claim No.	······ ·······························	
Location of Cor	e	roperty
	Surveys	
At	Dip	Bearing
0.	-90 <sup>°</sup>	

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MOINTYRE PORCUPINE MINE® LIMITED

## DIAMOND DRILL LOG

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Hole No	-B	Sheet No. 1
Length of Hole	119.0	· · · · · · · · · · · · · · · · · · ·
Date Started	uly 5. 1971	Completed July 6 1921
Core Logged by	D. L. Kchelvie	
Date July 9	, 1971	
Elevation	· · · · · · · · · · · · · · · · · · ·	Datum
•	Co-ordinates of	Collar
North	•••	····
East		

			Description of Core	Sample	FOOTAGE		Width	COBE ASSAYS						
P	om	10		No.	From	То	WIGE							
C		15.0	CASING											
15	.0	23.5	DULUMITE - Rusty, badly broken, pour core recovery - some sinor sulphides and	45558	12.6									
			malachite stain.	1.5559	20.0	<u>77.5</u>	3.5							
23	.5	30.0	DOLUMITE - hassive, recrystallized, dark gray - minor acattored submides				·							
30	0.0	38.5	DLLUMITE - Rusty, as section 15.0 - 23.5	45560	30.0	37.5	7.5							
				45561	37.5	47.5	10.0	ļ	ļ	···				
34	3.5	39.5	LDESTONE - Dolomitic - Dark gray, banded 20° CA.	45562	47.5	57.5	10.0	ļ						
				45563	57.5	60.5	3.0		<u> </u>					
3'	7.5	65.5	DOLUMITE - Gray, recrystallized - indistinct banding 30° CA - scattered patchy	1		· ·							ļ	
			chalco approx. 1%.			 								
6	5.5	69.0	UARTZITE - fine grained - light gray to white - rusty patches - banded 30° CA.	•				<u> </u>		<u> </u>	ļ			
		<u> </u>	69.0 - 11.0 LP EOLE	·		ļ			<u> </u>		ļ			
			· · · · · · · · · · · · · · · · · · ·	ļ		ļ	ļ		<u> </u>					

DOH 18

**%** Cu

0.16

0.54

<u>8.56</u> 19'

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FORT NELSON COPPER DDH 1B June 29, 71 ZONE 3 AM





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App. F-2-ii





App. F-3-11





App. F-3-iv

App. F-3-v



Samp	te Description	Cu S	<b>Ад</b> рр <b>т</b>	Pb ppm	Mo ppr	Zn ppm	NI X	Co \$	Fe ≴	As ppm	Hg ppm	Sb ppm	Pt ppb	Poh ppb
100	Lower showing - coarse recrystallized carbonate in limestone + pyrite, pyrrhotite, <u>+</u> chaicopyrite, to 40%, grabs	1.70*	6.1	1585		692	0.50*	0.56*	22.46		14	·.		~
101	Lower showing ~ massive fine- grained pyrite, trace chalco- pyrite in doiomitized limestone	0.25	4.0	344	310	•	0.04*	0.08*	23.75	3508			30•	
102	Waterfall showing — medium— grained quærtzite; highly rust weathering; 10≸ pyrite disseminated	134 ppm	0.3											
103	Waterfall "trap dyke" - medium- grained crystalline mafic with pure carbonate veinlets and stringers to 1 cm with selvedge; pyrite, chalco(7), grabs of local float	20 ppm	0.1											
104	Lower discovery showing - massive velned pyrite to 3 cm, in brecclated carbonate	0.82*	3.3	828		114	0.51*	0.45*		347	10		60 <b>*</b>	30*
105	Upper zone - split drill core samples of fine-grained crystalline limestone and finely bedded calcareous mudstone, with fracture controlled chalcopyrite + bornite to 1\$		- 1	iot anal	yzed	-								
106	Lower showing — massive very fine-grained pyrite/marcasite with minor wispy chalcopyrite to 0.1\$	3.16*	15.1* (14.0)	392* (400)	38	940* (1110)	960* (1034) ppm	650* (700) ppm	28.38	2622	50	1278		
107	Upper showing, Zone 1 - massive very fine-grained pyrite and interstitiai bornite to 10\$	17+40*	24.2* (28.9)	162* (160)	15	660* (736)	690* (791) ppm	344* (388) ppm	23.53	2503	46	437	•	
108	Upper showing, Zone 3 - veined, coarse crystalline chalcopyrite with malachite/ azurite in coarse crystalline remobilized carbonate	<b>4.64</b> *	3.5* (4.7)			170 <b>*</b> (243)	292* (271) ppm			1350		358		
109	Central showing trench, Zone 7 - as above	11-52*	27-8* (33-4)	100* (110)	15	200* (264)	740* (725) ppm			908	31	375		

#### Blue Group; Kluaches! (Cup) Claims - Rock Sample Descriptions

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check assays

#### SJ GEOPHYSICS LTD.

11762 94TH AVE. DELTA, B.C. V4C 3R7 Phone (604) 582-1100 Fax (604) 589-7466

November 27, 1990

Sanguinetti Engineering Ltd. 422-470 Granville Street, Vancouver, B.C. V6C 1V5

Dear Mr. Michael Sanguinetti,

Re: Gold Parl Resources LTD VLF-EM and magnetic survey on the Klu claim group.

The following is a discussion of the VLF-EM data collected by Sanguinetti Engineering Ltd., and plotted by SJ Geophysics Ltd. on the upper and lower showing areas of the Klu claims:

UPPER SHOWING AREA

The VLF-EM and magnetics are plotted on Plates GU1 to GU4 and the compilation of the results is plotted on Plate GU5.

The VLF-EM indicates a number of medium to weak anomalies trending in a north east direction as shown on Plate GU5. The two anomalies striking from approximately 125E on line 50N to 100E on line 0 and the apparent continuation of this anomaly at approximately 120E on line 50S to 40E on line 150S appear to be the best anomalies and may be associated with sulphide mineralization. The single anomaly on at approximately 80E on line 190S may be the southern extension of this anomalous trend although there is not sufficient data in this area to confirm this. This anomalous trend appears to be open both to the north and the south. The remaining anomalies are likely due to structures such as weakly conductive shear zones are faults. The whole survey area appears to be cut by numerous crosstructures.

The Magnetic data indicates no significant anomalies in the survey area.

LOWER GRID

The VLF-EM and magnetics are plotted on Plates GL1 to GL4 and the compilation of the results is plotted on Plate GL5.

The VLF-EM indicates a good anomaly striking across lines 50E and 0 and continuing weakly to the west and the east where it may be offset as shown on the compilation map Plate GL5.

The magnetic response shows no significant anomalies.

Syd J. Visser B.Sc., F.G.A.C. Geophysicist

SJ Geophysics Ltd.



Do	DOLOSTONE ; white to light grey fine grained often sandy, ragged weathering
/DoSs	DOLOSTONE; white to light grey sandy dolostone, dolomitic sandstone.
Dox	DOLOSTONE; light grey; medium grained, recrystallized, sparry, ragged weathering
o Qt	DOLOMITIC QUARTZITE ; white to light grey ; fine dolomite cement includes interbedded quartzite and dolostone.
Qt	QUARTZITE ; white to light grey ; locally cross-bedded , ripple marks ; usually massive.
_ S	LIMESTONE; dark grey to black; thin-bedded; includes pebbly mudstone

15°	JOINTING
$\searrow$	BEDDING
	ANTICLINE
~~~~~	RIPPLE MAR
$\triangle \ \triangle \ \triangle$	BRECCIA
	EDGE OF BA
1111111	CLIFF
L-I	CHANNEL SAM
$\otimes$ $\odot$	DIAMOND DRI
Cu ▲ x	COPPER MIN
Ср	CHALCOPYRII
Рy	PYRITE
Ca	CALCITE
Во	BORNITE

ING		-
NG		
LINE		
E MARKS		
IA		
OF BANK		
NEL SAMPLE SITE	;	
ND DRILL HOLE; vertical, inclined	·	
R MINERALIZATION; in place, float		
COPYRITE		





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DIP ANGLE - SOLID LINES	DIP ANGLE & QUADRATURE	
PROFILE SCALE: 10% / CM	DIT INCLE 4 GONDINITONE	
BASE VALUE: 0% QUADRATURE - DASHED LINES	N.T.S. 94 F / 16E	
PROFILE SCALE: 10% / CM base value: 0%	SCALE: 1:1,000	
INSTRUMENTATION: GEONICS EM-16	<b>25</b> 0 25 50 75	
STATION: NEK. 24.8 (SEATTLE)		
	METRES	
	FALL 1990 PLATE GU	1

### SJ GEOPHYSICS LTD. & SANGUINETTI ENGINEERING LTD.

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SURVEY DIRECTION FACING WEST PROFILES POSITIVE UP

SURVEY TOPOGRAPHY VLF EM

GEOLOGICAL BRANCH ASSESSMENT REPORT



FRASER FILTER PROFILE SOLID LINE PROFILE SCALE: 10% / CM BASE VALUE: 0% TOPOGRAPHY IN % SLOPE DASHED LINE PROFILE SCALE: 25% / CM BASE VALVE: 0% INSTRUMENTATION: GEONICS EM-16 STATION: NLK, 24.8 KHZ (SEATILE)



PLATE GU2 FALL 1990

SJ GEOPHYSICS LTD. & SANGUINETTI ENGINEERING LTD.



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SURVEY DIRECTION FACING WEST	FRASER FILTER	R CANTALIRS
NEGATIVE CONTOURS SUPPRESSED		CONTOONO
CONTOUR INTERVAL: 2% Posted contour intervals: 10%	N.T.S. 94 F	/ 16E
INSTRUMENTATION: GEONICS EM-16 Station: NLK, 24,8 KHZ (Seattle)	SCALE: 1:	1,000
		50 75
	METRES	
	FALL 1990	PLATE GU3

## SJ GEOPHYSICS LTD. & SANGUINETTI ENGINEERING LTD.









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PROFILES POSITIVE UP PROFILE SCALE: 10 NT / CM MAXIMUM VALUE: 59119 NT MINUMUM VALUE: 59057 NT BASE VALUE: 59090 NT INSTRUMENTATION: GEOMETRICS G-816 PROTON MAGNETOMETER

TOTAL FIELD PROFILES

N.T.S. 94 F / 16E SCALE: 1:1,000 25 0 25 S0 75 

PLATE GU4

METRES

FALL 1990

# SJ GEOPHYSICS LTD. & SANGUINETTI ENGINEERING LTD.





PLATE GUS

![](_page_58_Figure_0.jpeg)

SURVEY DIRECTION FACING SE PROFILES POSITIVE LEFT DIP ANGLE - SOLID LINES PROFILE SCALE: 20% / CM BASE VALUE: 0% QUADRATURE - DASHED LINES PROFILE SCALE: 10% / CM BASE VALUE: 0% INSTRUMENTATION: GEONICS EM-16 STATION: NSS. 21.4 KHZ (ANNAPOLIS) SJ GEOPHYSICS LTD. & SANGUINETTI ENGINEERING LTD.

![](_page_58_Figure_5.jpeg)

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ш Ш Ш 2 ЦJ 100 150 200 ເມ ເມ 20  $\Box$ 250 N 250 N 200 N 200 N 1 150 N 150 N 100 N 100 N ----Ì 1 ١ 1 1 ١ 1 1 ۱ 50 N 50 N

![](_page_59_Figure_1.jpeg)

GOLD PARL RESOURCES LTD.

KLU CLAIM GROUP, LIARD MINING DIVISION, B.C.

LOWER SHOWING AREA

SURVEY DIRECTION FACING SE PROFILES POSITIVE LEFT FRASER FIFTER PROFILES SOLID LINE PROFILE SCALE: 30% / CM BASE VALUE: 0% TOPOGRAPHY PROFILES DASHED LINE PROFILE SCALE: 20M / CM BASE VALVE: 0M INSTRUMENTATION: GEONICS EM-16 STATION: NSS. 21.4 KHZ (ANNAPOLIS)

SJ GEOPHYSICS LTD. & SANGUINETTI ENGINEERING LTD.

![](_page_59_Figure_8.jpeg)

![](_page_60_Figure_0.jpeg)

Ш Ш Ш цJ  $\Sigma$ 200 100 150 0 10 20  $\Box$ 250 N 250 N 200 N 200 N 150 N 150 N 100 N 100 N 50 N 50 N

![](_page_61_Figure_1.jpeg)

L ш ய 111 Σ 200 100 150 20 20  $\Box$ 250 N 250 N 200 N 200 N 150 N 150 N 100 N 100 N

50 N

![](_page_62_Figure_2.jpeg)

![](_page_62_Figure_3.jpeg)

![](_page_62_Figure_4.jpeg)

- $\neg \nabla$
- $\nabla$

50 N