

DIAMOND DRILLING ASSESSMENT REPORT

on the

KURTIS PROPERTY

(BLUEHAWK, KURTIS and KURTIS 2 CLAIMS) 🕳 «

VERNON MINING DIVISION

SUB-RECORDER RECEIVED
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BRITISH COLUMBIA

Latitude: 49º 59'N Longitude: 119º 31'W

LOG NO:	0524	RD.
ACTION:		
FILE NO:		

NTS:82E/13

Owners:

Robert Yorke-Hardy

P O Box 298

Vernon, BC, V1T 6M2

and

Richard Simpson

815-850 West Hastings Street Vancouver, BC, V6C 1E2

Operator:

Pinewood Resources Ltd 530-800 West Pender Street

Vancouver, BC, V6C 2V6

Consultant:

Searchlight Consultants Inc. 505-744 West Hastings Street

Vancouver, BC, V6C 1A5

Author:

H S Macfarlane, MSc, FGAC

Date:

May 18, 1990

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INTRODUCTION

The Kurtis property consists of 3 modified grid mineral claims, comprising 32 units, situated within the Thompson Plateau, BC. The property is originally thought to have been located in the early 1930's and limited production of 5 tons was obtained from the property in 1935.

A geophysical survey was carried out on the property in early 1988 and led to the definition of diamond drilling targets. A short diamond drilling programme was performed in 1989, the results of which form the basis of this report.

Location and Access

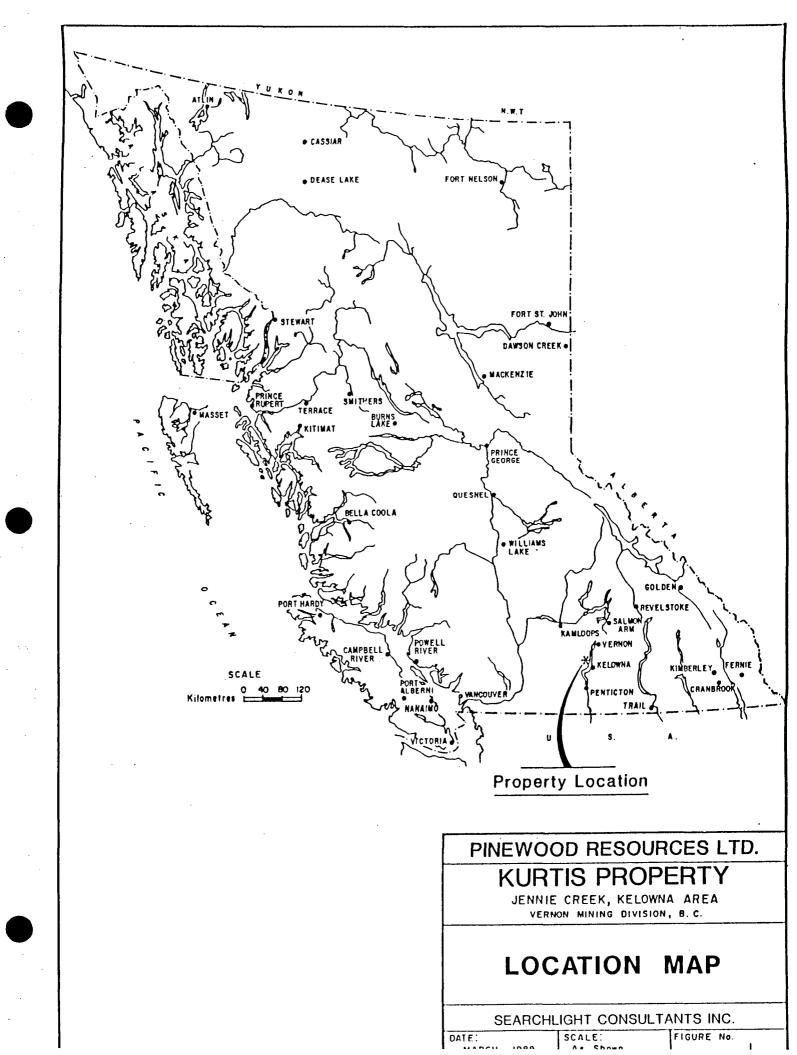
The Kurtis property is located in south central British Columbia in the Vernon Mining Division. The property is located at 049° 59'N latitude and 119° 31'W longitude, approximately 11 kilometres north of the town of Kelowna, BC, on the west side of Okanagan Lake, (fig. 1). The topographic map sheet is the Peachland sheet, NTS 82 E/13.

Access to the property may be obtained from Kelowna over Highway 97 South across Okanagan Lake. The Westside Road is taken north, for 14 kilometres, to the Bear Lake Road turnoff. From there this well maintained gravel forestry access road is taken for 3 kilometres west. The Blue Grouse Mountain road, a 2 and 4 wheel drive road, is then taken north for 6.5 kilometres to the centre of the property. The total distance from Kelowna to the property, by road, is thus 23.5 kilometres.

The closest full service town to the property is Kelowna situated at the junction of Highway 33 and 97. Accommodation and supply facilities together with a major airport are all available.

Physiography and Vegetation

The property lies within the Thompson Plateau physiographic region, part of the Interior Plateau. Elevations on the property vary from 580 to 1,220 metres giving a relief of 640 metres. The east half of the property, immediately west of Okanagan Lake, is moderately steep. The west side of the property is more subdued. The southern part of the property is drained by Jennie Creek, an easterly flowing tributary of Okanagan Lake.



The property lies within the Interior Douglas Fir biogeoclimatic zone which is characterized by low precipitation, hot summers and cool winters. Snow generally starts to accumulate on the property in November and has melted by late April.

Selective logging has taken place over the property, probably 20 to 40 years ago. Scattered ponderosa pine and light underbrush characterize the drier eastern part of the property. Larch, fir, birch and aspen are common in the western part of the property.

Claim Information

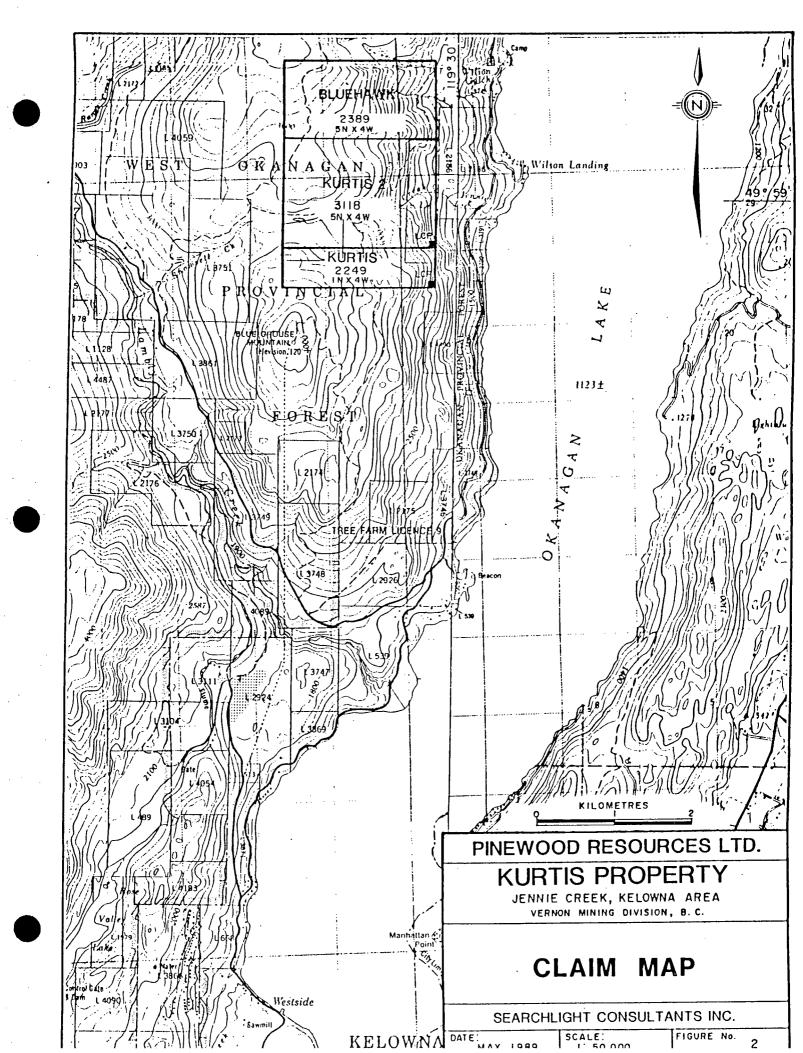
The Kurtis property (fig. 2) consists of the following three modified grid mineral claims, comprising 44 units:

Claim Name	Number of Units	Record Number	Record Date
Bluehawk 1	20	2389	November 18, 87
Kurtis	4	2249	March 20, 87
Kurtis 2	20	3118	February 19, 89

The Kurtis, 16 unit, claim was staked in March, 1987, and largely overstaked by the Bluehawk 1, 20 unit, claim in November, 1987. Both the claims have their Legal Corner Posts situated in the southeast corner of the property. The Kurtis claim was reduced in March, 1988, to a 1N x 4W claim, thus rendering the centre of the property open ground.

The Kurtis 2 claim was staked in February, 1989, to cover the open ground left as a result of the reduction of the Kurtis claim.

The Kurtis and the Bluehawk 1 claims are owned by Richard Simpson, 815-850 West Hastings Street, Vancouver, BC, V6C 1E2 and are the subject of an option agreement with Pinewood Resources Ltd, 530-800 West Pender Street, Vancouver, BC, V6C 2V6. The Kurtis 2 claim is owned by Robert Yorke-Hardy, P O Box 298, Vernon, BC, V1T 6M2, pending the filing of a Bill of Sale with Pinewood Resources.



History

Placer gold was discovered in the Okanagan in the 1860-70's east of Vernon in the Cherry Creek and Monashee Creek area. Cairnes (1931) reports that placer mining was carried out on Whiteman, Naswhito and Equesis Creeks, prominent valleys 25-33 kilometres north of the property, draining easterly into Okanagan Lake. These operations were chiefly concerned with recent stream gravels and although hydraulic leases are reported to have been acquired there is no record of operations of this sort. The focus of the mining activities changed in the 1890's towards lode mining when a number of gold bearing quartz veins were discovered west of Okanagan Lake.

In 1921 the White Elephant claim was staked, approximately 19 kilometres to the north of the Kurtis property. The mine located on this claim produced a total of 5,300 tons of ore during the years 1922-35. A total of 2,030 ounces of gold and 306 ounces of silver was obtained giving a grade of 0.38 ounces per ton of gold recovered. Production from the mine was from a body of vitreous, highly fractured, white quartz, about 18 metres long and 15 metres wide, striking a few degrees east of north and dipping 50° west. The quartz body is surrounded by granite, which may be part of the Valhalla Intrusives of Late Jurassic age. The granite and the mineral deposit are intersected by a narrow, low dipping, dark dyke, thought to be of Tertiary age, related to the volcanic rocks (Kamloops Group) which overlie the granite unconformably, Cairnes (1931). Pyrrhotite, pyrite, tetradymite (a bismuth telluride), chalcopyrite and possibly free gold are reported to be present. Scheelite (a tungsten mineral) was reported to be associated with the quartz at surface.

The Kurtis property covers old trenches and underground workings of the Blue Hawk Mine, reported in the BC Minister of Mines Reports for 1933, 1934, 1935 and 1938. Several quartz veins ranging from narrow fracture fillings to veins four feet wide were explored by the Blue Hawk Syndicate in 1933.

In 1935 a total of 5 tons of ore at a grade of 1.0 oz/ton (31 g/t) gold and 3.6 oz/ton (112 g/t) silver was shipped from the property, Meyers and Taylor (1989). This production was apparently obtained from the Blue Hawk adit, which consists of about 300 feet of underground workings.

Since 1965, the mine and surrounding area have been held by two separate groups. The first was Dawood Mines, (1965-1980), and the second was fronted by N. C. Lenard, PEng., during the period 1980-1986.

Work done by Dawood Mines consisted of trenching, linecutting and grid preparation. Geological mapping, geochemical soil sampling and a magnetometer survey were also completed in 1969, 1972 and 1974. Minor scaling of the main adit walls and roof was also undertaken.

Dawood's geochemical surveys indicated a number of areas anomalous in mercury, copper, silver and gold. Several of the anomalies coincided with the previously known showings but a definite correlation was not obtained.

Lenard's work consisted of further geochemical and geophysical work at various "sites" and further stripping of veins, as well as some reconnaissance mapping. Lenard did not identify any significant additional anomalies.

Both these groups located high grade gold mineralization in quartz veins in a diorite and at contact of the diorite with metasediments. There is a general consensus in their reports, however, that the mineralization is "spotty" and discontinuous.

In late 1987 and early 1988, Dasler supervised a programme of back hoe trenching, mapping and sampling. A total of approximately 600 metres of trenches were excavated and 130 samples were taken and analyzed for gold and silver, Dasler (1989). An induced polarization resistivity survey was also carried out over 14 northwest-southeast and northeast-southwest trending lines on the property in early 1988, Mark and Cruickshank (1988), (fig.4).

A number of high grade gold and silver grab and channel samples were obtained during this programme: a 0.1 metre channel sample with a value of 4.529 oz/ton gold and 12.4 oz/ton silver was obtained from Trench 1, a grab sample with a value of 2.010 oz/ton gold and 11.80 oz/ton silver was obtained from a trench approximately 100 metres west-north-west of Trench 1 and a grab sample with a value of 1.501 oz/ton gold and 0.51 oz/ton silver was collected from Old Trench 5. These trenches are all in the area of the old workings, (fig. 4).

Summary of Work

Trenching was performed on the Kurtis 2 ground prior to the staking of this claim. A total of 108 metres of trenching was carried out and one geochemical sample was taken. This work is not being claimed for assessment purposes.

A total of 3 NQ diamond drill holes were drilled, with a total depth of 244.8 metres (803 feet). The drill holes were drilled from one setup and were collared on the Kurtis 2 claim. A total of 24 samples were taken for analysis.

The drill core has been stored on the property at the site of the DDH 89-1, 2 and 3, just south of Jennie Lake.

GEOLOGY

Regional Geology

The Kurtis property lies within the Intermontane Belt of the Canadian Cordillera. This belt is characterized by argillaceous and calcareous sediments and volcanic rocks of Carboniferous to Early Jurassic age, Okulitch (1979).

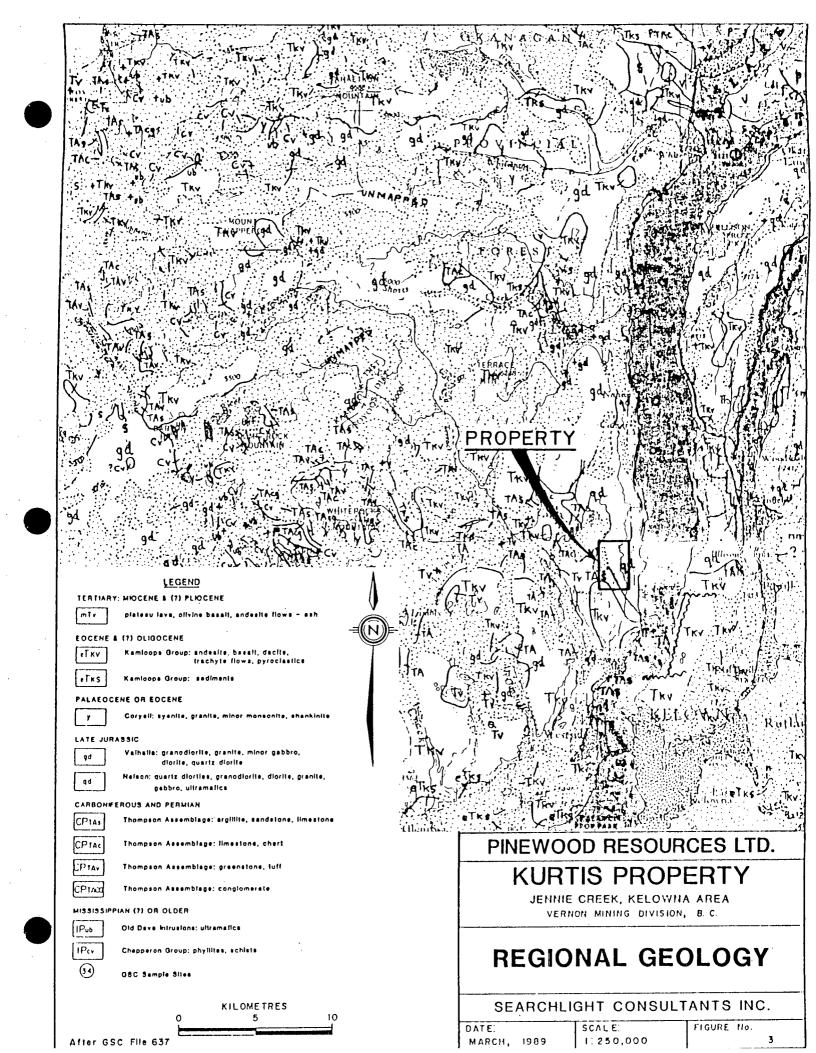
The oldest rocks in the area are the Chapperon Group of pre-Late Triassic and pre-Permian age. This Group consists of chlorite and mica schist, greenstone and minor quartzite and limestone. No basement to this group has been observed. It is intruded by serpentinized ultramafic dykes and sills of the Old Dave Intrusions of pre-Late Triassic age. The Chapperon Group was deformed and metamorphosed prior to Late Triassic time.

The Thompson Assemblage lies unconformably on the Chapperon Group, west of the property, on Dome Mountain. The Thompson Assemblage (originally classified as the Cache Creek Group in this area) is typified by argillaceous sediments, volcaniclastic rocks and limestone pods. Fossils of Carboniferous and Permian ages have been obtained from these sediments, together with Late Triassic fossils. Rocks of the Thompson Assemblage have undergone deformation, some of which may have preceded deposition of the Triassic sediments.

Mesozoic granitic rocks are exposed in the area and intrude all the older rocks. These "Valhalla" and "Nelson" - type plutonic rocks range in composition from leucocratic granite to gabbro but granodiorite, quartz monzonite, quartz diorite and granite are the most common. Emplacement of these rocks was syn and post-tectonic. Most granodioritic to quartz dioritic plutons are massive, discordant bodies and are clearly post-tectonic in age but some are foliated and sheared and have participated in at least late stages of regional deformation or have themselves caused some deformation. Field relationships support the premise that the quartz diorite ("Nelson"), which is often sheared or foliated, is older than the granodiorite ("Valhalla"), which is massive, Okulitch (1979).

A period of block faulting and regional uplift followed Mesozoic orogenic events. Movement on numerous northerly trending faults appears to have displaced units throughout the area.

Tertiary volcanic rocks occur as a dissected and faulted blanket of variable thickness over the area. Numerous small northerly trending and steeply dipping dykes are presumed to be feeders to the flow blanket. Andesite, basalt, dacite and trachyte flows and related breccia, tuff and agglomerate form much of this Tertiary, Eocene to Oligocene, Kamloops Group. This Group attains a thickness of 1,000 metres north of Vernon.



Property Geology

The Kurtis property has its main area of economic interest centred within a melanocratic diorite plug. The diorite has intruded the Thompson Assemblage metasediments and volcanics. The diorite is strongly chloritized in many of the showings and foliation and fracturing is well developed in more than one direction. These factors, together with the multi-directional shearing and silicification, locally make distinction between the diorite, and the cherts and quartzites of the sediments, difficult.

Detailed lithological mapping was not undertaken. Much of the property is overlain with a thin layer of glacial till which thickens considerably (in excess of 6 metres) within the confines of the Jennie Creek depression. The diorite is thought to have a concordant sill-like nature, although there may be a number of sills involved. The geophysical resistivity survey carried out in 1988 indicates that there may be a number of small diorite plugs on the claim group.

To the east of the main showings more obvious sediments and volcanoclastic material outcrop. South of Jennie Creek, a distinctive hornblende-biotite granodiorite outcrops on cliffs facing Okanagan Lake. This is probably part of the large Mesozoic batholith, which; on a regional scale, outcrops mainly to the north of the property.

1989 EXPLORATION PROGRAMME

The 1989 exploration programme was planned to investigate the anomalous resistivity results obtained from the geophysical survey carried out in early 1988. The majority of this survey was carried out over the area of the old workings, which cover much of the central portion of the Kurtis 2 claim.

A large east-west trending resistivity low with a length of over 1,000 metres was outlined by the survey north of, and subparallel to Jennie Creek. This feature is present from 8+20W to 2+20E. The east end of the resistivity low was thought to be the source for the north and northwest trending mineralized veins and shears present within the area of the old workings.

Trenching

A trenching programme was planned to investigate the east end of the east-west trending resistivity low. The trenching of the resistivity low and the exposure of alteration zones was intended to be a precursor to the diamond drilling of this alteration.

The trenching programme was carried out between February, 10-15, 1989. A tracked backhoe (Mitsubishi MS 180LC) was utilized to carry out this programme. Two trenches were excavated over a distance of 108 metres, (fig's 5 & 6) on Line 1+40E, from 0+89S to 2+20S. The trenches were back filled, contoured and seeded upon completion of the geological mapping and sampling.

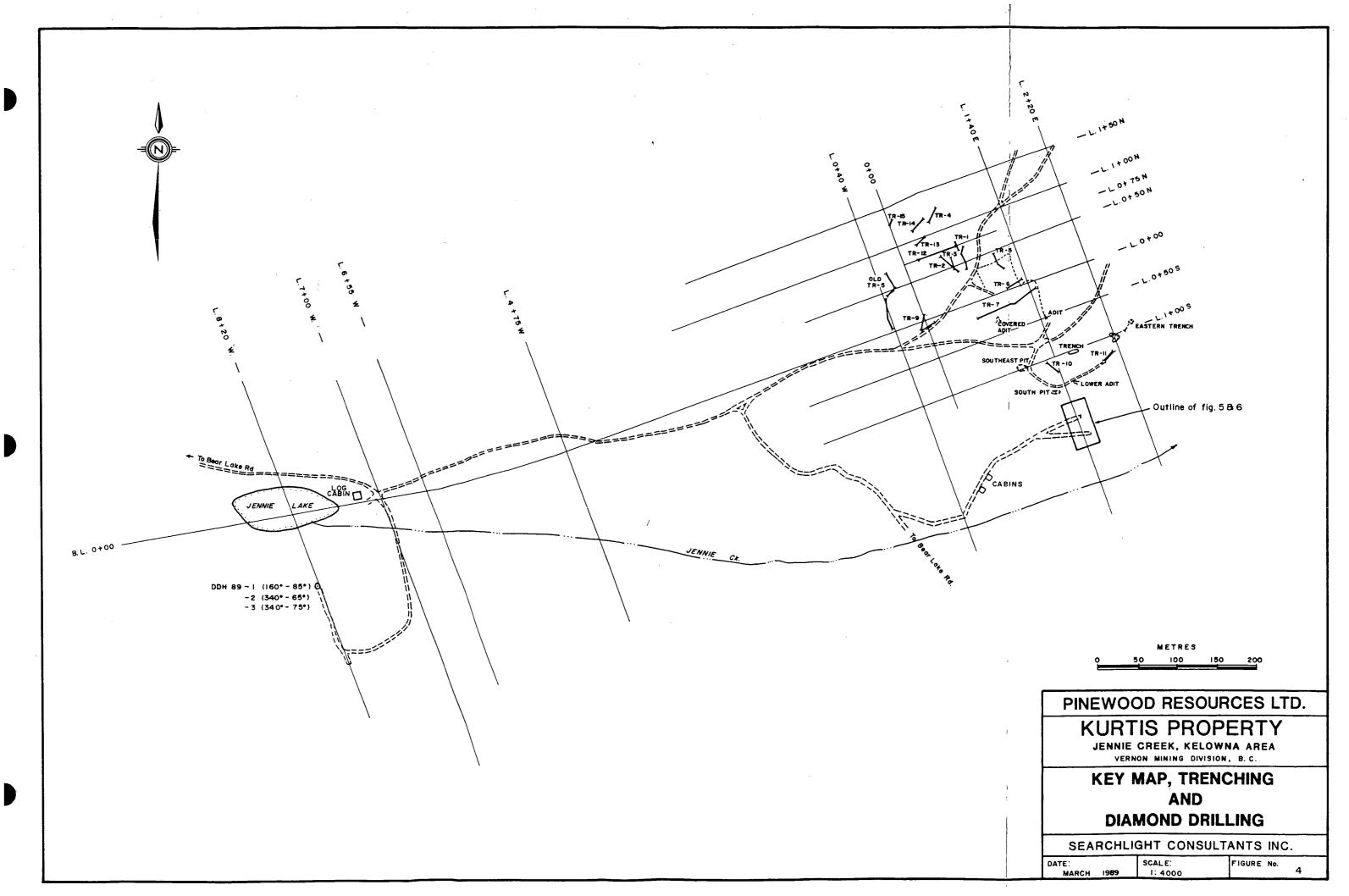
Geochemical sample KU-89-25 was obtained from a 0.05-0.14 metre wide quartz vein with minor pyrite stringers at 1+16S. The trenching revealed that the resistivity low in this area is probably caused by sheared, black graphitic shale/slate and andesite, part of the Thompson Assemblage. Alteration zoning was not found.

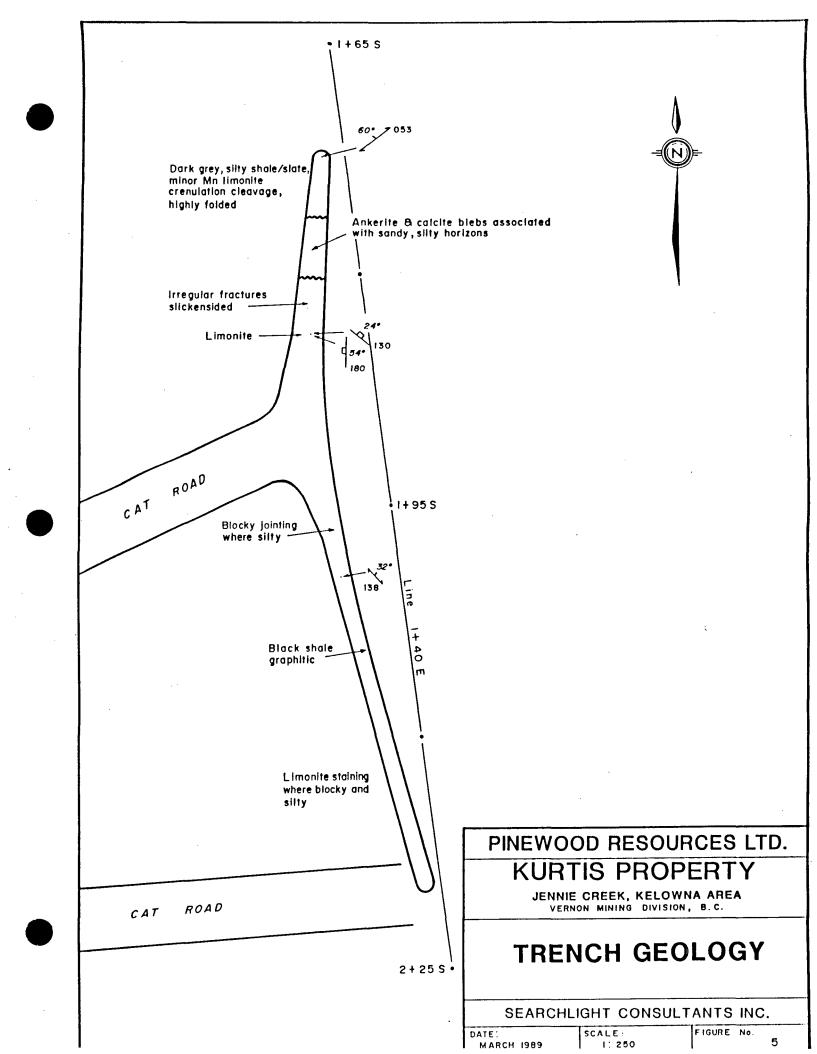
Diamond Drilling

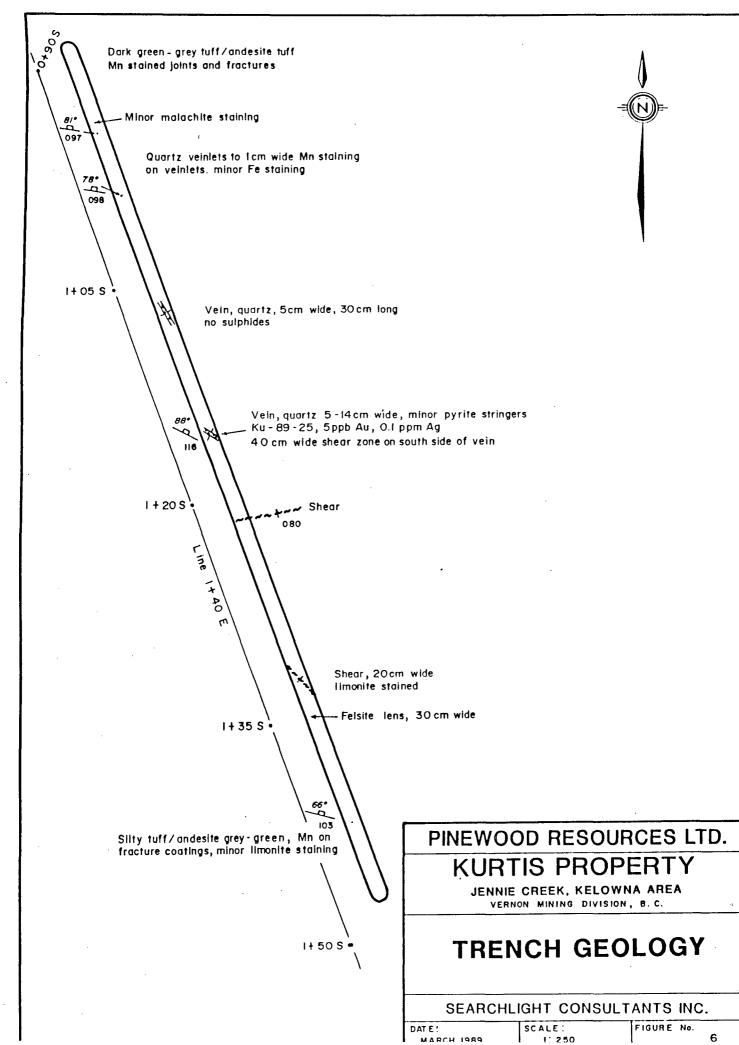
The diamond drilling programme was redirected towards an investigation of the west end of the east-west trending resistivity low. The pseudosection of Line 8+20W revealed the presence of well defined resistivity lows together with resistivity highs.

A total of 244.8 metres of NQ diamond drilling was carried out in three drill holes, from February 19-23, 1989. These three drill holes were drilled from one set up, (fig. 7).

Details of the diamond drill holes are given below:







Drill Hole	Depth (m)	Depth (ft)	Azimuth	Incl.	Collar Coordinates
89-1 89-2 89-3	61.9 121.9 61.0	203.0 400.0 200.0	160° 340° 340°	-85° -65° -75°	8+20W,0+89S 8+20W,0+89S 8+20W,0+89S
Total Depth	244.8	803.0			

Drill Hole 89-1 (160°, -85°)

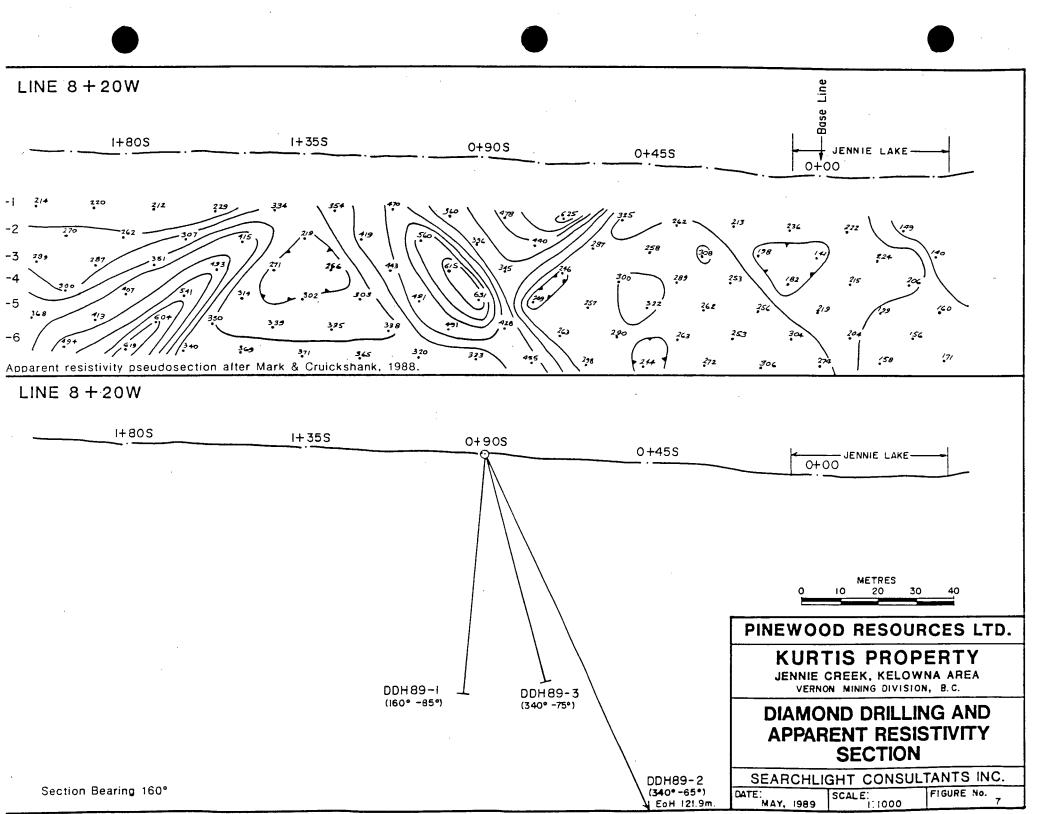
Drill Hole 89-1 intersected chloritic andesite and granodiorite porphyry. The chloritic andesite is dark grey-green to black in colour, aphanitic to speckled or finely porphyritic in texture. Minor quartz and calcite is present as veinlets and coatings on fracture surfaces. The phenocrysts present in the andesite are described in the petrographic report to consist of fine grained carbonate, muscovite, clinozoisite(?) and albite(?) (saussurite). The andesite has undergone intense saussurite alteration.

Lenses to 1-3 mm and fine disseminations of pyrite and pyrrhotite are present throughout the andesite, together with pyrite stringers-veinlets to 2 mm in width. The pyrite and pyrrhotite lenses outline a rough layering or lamination to this unit. Fracture surfaces display coatings of pyrite and chlorite, especially on slickensided surfaces.

The granodiorite porphyry was intersected at a depth of 48.4 to 51.7 metres and is dark green-grey in colour with a fine grained matrix. The granodiorite is characterized by subeuhedral phenocrysts of plagioclase, up to 4 mm in length, together with biotite flakes up to 1.4 mm in length. The matrix consists of quartz, plagioclase, orthoclase and biotite. Chlorite, sericite and saussurite have developed associated with the plagioclase phenocrysts. Sulphide mineralization was not observed in the granodiorite in the drill core.

Drill Hole 89-2 (340°, -65°)

Drill Hole 89-2 intersected a sequence of chloritic andesite intruded by granodiorite porphyry and towards the base of the drill hole chloritic andesite intruded by chloritic latite. The chloritic andesite is dark grey to black in colour, aphanitic, with occasional zones with faint feldspar phenocrysts, which were determined to have undergone intense saussurite alteration.



An alignment of the phenocrysts is thought to represent flow banding. Quartz and/or calcite and chlorite veining is concentrated in a number of zones. The veins are frequently brecciated and rehealed.

Pyrite and pyrrhotite is present up to 5 per cent as fine disseminations and as hairline to 2 mm wide veinlets, locally cross-cutting. Fracture surfaces are occasionally coated with pyrite.

A total of seven granodiorite porphyry bodies intrude the chloritic andesite. These minor intrusions vary in thickness from 1.6 to 9.8 metres. The granodiorite is green to grey in colour, with a fine grained matrix hosting indistinct feldspar phenocrysts, 2-3 mm in length, and biotite flakes. Calcite coated fractures and veinlets to 2 mm in width are ubiquitous.

Very minor amounts of pyrite, less than 1 per cent, are present within the granodiorite.

A 0.2 metre intersection of chloritic, porphyritic latite was intersected from 70.4 to 70.6 metres. This porphyritic latite is bounded by granodiorite porphyry on both upper and lower surfaces. The porphyritic latite is dark green in colour, aphanitic, with apparent calcite and chlorite filled "amygdules" and phenocrysts of biotite to 1 mm in length. The petrographic examination of the porphyritic latite revealed that the "amygdules" are in fact chloritized relict plagioclase phenocrysts. The matrix is reported to be devitrified glass, and a tuffaceous origin is ascribed to the rock.

Towards the base of the drill hole the chloritic andesite is intruded by chloritic latite. The chloritic latite is light to medium green in colour, fine to medium crystalline and equigranular. The rock is intensely fractured/brecciated with calcite as coatings on fracture surfaces and as veinlets. Some of the fracture surfaces have been slickensided.

Examination of this unit in thin section reveals that the rock is composed of quartz, plagioclase and orthoclase. Calcite is present as a late stage mineral, and has altered and masked many of the primary features. There are no sulphides visible in the chloritic latite. The rock is highly altered and is assumed to be intrusive.

Drill Hole 89-3 (340°, -75°)

Drill Hole 89-3 intersected a sequence of chloritic andesite intruded by five minor bodies of granodiorite porphyry. The chloritic andesite varies from aphanitic to equigranular to finely porphyritic, with indistinct feldspar phenocrysts altered to saussurite. A weak alignment of phenocrysts is present in part and may outline relict flow banding. Calcite is present as irregular veinlets to 2 mm in width, and as coatings on fracture surfaces. Fracture surfaces may be slickensided and chloritized. Graphite has developed in some parts of the andesite, possibly as a result of intensive shearing.

Pyrite disseminations, blebs to 10 mm in diameter, stringers and occasional veinlets to 3 mm are present in the chloritic andesite. A maximum of 3 per cent pyrite is present in this unit.

The granodiorite porphyry bodies vary in thickness from 0.2 to 6.0 metres. They are grey in colour, porphyritic, with phenocrysts of biotite and plagioclase, with the latter frequently displaying ghost outlines.

Up to 1 per cent pyrite is present as fine disseminations, rare hairline stringers and as coatings on fracture surfaces within the granodiorite.

Summary

The diamond drilling in this area south of Jennie Lake, on Line 8 + 20 W, revealed the following volcanic units: chloritic andesite and chloritic, porphyritic latite. These units have undergone intense chlorite and saussurite alteration. The volcanics are assumed to be part of the Thompson Assemblage and appear to have been intruded by granodiorite porphyry and chloritic latite. Field evidence gained during the logging of the drill core supports this relationship and shows faulted, sharp contacts and occasional chilled margins. The small granodiorite porphyry intrusives are probably off-shoots of the hornblende-biotite granodiorite, of Mesozoic age, which outcrops south of Jennie Creek. The granodiorite porphyry displays only minor alteration in comparison to the volcanics.

The majority of the sulphide mineralization, pyrite and pyrrhotite, is present within the volcanic units with only very minor amounts of sulphides within the granodiorite porphyry in Drill Holes 89-2 and 3.

GEOCHEMISTRY

Pertinent sections of the drill core were split and 24 core samples, with an approximate weight of 3 kg, were taken. These samples were placed in plastic bags, labelled with the appropriate number and shipped to Chemex Labs Ltd, 212 Brooksbank Ave, North Vancouver, BC, V7J 2C1, for the following fire assay-atomic absorption analysis:

The samples were initially dried, crushed, riffle split and pulverized to -150 mesh.

Gold analysis required 10 g subsamples to be fused with 10 mg of gold-free silver metal. The fusion was then cupelled and the resulting silver bead parted with concentrated nitric acid and treated with aqua regia. The remaining salts were then dissolved in dilute HCl and analyzed for gold via atomic absorption techniques methods with a five parts per billion (ppb) detection limit.

Silver analysis required one gram portions of each sample to be digested in concentrated nitric acid-aqua regia for approximately two hours. The digested sample was then cooled and made up to 25 mL with distilled water. The solution was then mixed and solids were allowed to settle. Silver concentration was determined using atomic absorption techniques with a detection limit of 0.1 parts per million (ppm).

One grab rock chip sample was collected from a trench on the property, (fig. 6). This sample was placed in a plastic bag, labelled with the appropriate sample number and shipped to Chemex Labs Ltd for the above fire assay-atomic absorption analysis for gold and silver.

The analytical results of these samples may be found in Appendix B.

RESULTS AND INTERPRETATION

Results obtained from the 1989 exploration programme revealed that the large east-west trending resistivity low, outlined by the 1988 geophysical survey, was not the feeder or source of the high grade mineralized veins and shears present within the area of the old workings. The trenching and diamond drilling programme indicate the presence of graphitic sediments and locally andesite, together with weak disseminated pyrite and pyrrhotite mineralization.

A total of 24 samples were taken from the three diamond drill holes: 7 from DH89-1, 15 from DH 89-2 and 2 from DH 89-3. All these samples returned values of less than 5 ppb gold. Values of 0.1 ppm silver were obtained from all these samples with the exception of KU-05 from DH 89-1 and KU-23 from DH 89-3 which returned silver values of 0.2 ppm.

Additional exploration of the property is warranted in the area of the high grade veins and shears revealed by the old workings and trenches of 1987 and 1988. This work programme should consist of possible additional trenching, and diamond drilling concentrated in the area of Lines 0+40W to 1+40E and Lines 0+00 to 1+50N.

COST STATEMENT

Kurtis Assessment Programme (February, 20-24, 1989).

Mobilization/Demobilization

H. Macfarlane: 11 & 25 February 2 man days @ \$262.50 .525.00 H. Macfarlane: 10,11 January, 9 Feb. 3.0 man days @ \$225.00 .675.00 B. Callaghan: 12 February 1 man day @ \$262.50 .262.50 Truck Rental: 11 & 25 February 2.0 days @ \$60/day .120.00 Gas, oil & parking: .112.74 Room: 11 February .32.40 Board: 11 & 25 February .128.00 Subtotal	
Field	
H. Macfarlane: 20-24 February, 5 man days @ \$262.50	
Office	
Report preparation: 5 days @ \$225.00 Petrological report	\$2,699.29
Total Value 1988 Assessment Work, Kurtis Property	φω3,440.43

CERTIFICATE OF QUALIFICATIONS

- I, H S Macfarlane, do hereby certify that:
- 1. I am a consulting geologist, resident in Vancouver, British Columbia.
- 2. I am a graduate in geology of the University of London, (BSc Honours, 1976), and of the University of Leicester, (MSc, 1981).
- 3. I am an European Engineer of the European Federation of National Engineering Associations, Paris, France (Eur Ing), a Registered Chartered Engineer of the Engineering Council, London (CEng), a Member of the Institution of Mining and Metallurgy, London (MIMM) and a Fellow of the Geological Association of Canada, (FGAC).
- 4. I have practised my profession as a geologist in Africa and North America since 1976.
- 5. The information in the attached report is based upon the supervision of the exploration programme on the Kurtis property, Vernon Mining Division, BC, from February 11-24, 1989.
- 6. I have no interest, direct or indirect, in the property herein described, nor do I expect to receive any such interest.



Dated at Vancouver, BC, this 18th day of May, 1990.

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APPENDIX A: DRILL LOGS

Drill Hole Record

	rty:												
Comm	enced:	19 February, 1989 Completed: 20 February, 1989 Elevation:	·	H	or. Com	p:	ugita i i I i i i i i i i i i i i i i i i i i i i		- Vert.	Comp:	·		·
Collar	Coordina	ates 8+20 W 0+89 S Collar Dip85 degrees Hole No. DDH 89-1	٠.	Le	enath:		61.9m	i de la	ee. Perce		very:		
Distric		Vernon Mining Objective:							- 1				
						· · · · · · ·		***		•			
	oth	Description	Rece	overy	Sample	interval	⊣ %	Sample		Au	Aq		
From	То		Run	% [4]	From	То	Recovery	Number	Length	ppb	ppm		
0	12.2	OVERBURDEN											
		No core recovered					ļ						ļ
		,											
		CHLORITIC ANDESITE											
12.2	15.1	Grev-black fine grained, massive, competent volcanic,	2.9_	74%			 						
		Andesite, no laminae visible, no bedding											ļ
		Fractures @ 30 deg60 deg., widely spaced, hairline					-		ļ				
		to 2mm, with calcite, pyrite, and green mineral									ļ		
		coating. Some surfaces slickensided.					ļ						
		Finely disseminated pyrite and pyrrhotite					-						<u> </u>
		to 5-7% locally laminated/lineation to sulphides							<u> </u>		_	<u> </u>	<u> </u>
		Pyrite veinlets to 4mm wide.					-						
							ļ						ļ
15.1	18.0	As above, @ 17.7m quartz-calcite sweat/veinlet	2.9	63%			 						
		to 20mm wide, scattered blebs of						1				İ	
100	22.7	pyrite, to 2-3%											<u> </u>
	22.7	As above, fairly competent	4.7	87%			-		<u> </u>		-		
22.7	26.8	broken core, highly fractured, slickensided	4.1	74%	<u> </u>		ļ			<u> </u>	<u> </u>		
		core, pyrite veinlets in slickensided surfaces				<u> </u>	ļ		-	<u> </u>	-	1	
		graphitic, weakly, on some fracture surfaces		1					<u> </u>		 	<u> </u>	<u> </u>
- 1		sheared surfaces talcose? weakly serpentinized		1	I		1	1		l	1		

505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Drill Hole Record

Dep	oth		Rec	overy	Sample	Interval	Sample %	Sample	ĺ	Au	Δα	
From	То	Description	Run	%	From	То	Recovery		Length	ppb	Ag ppm	
26.8	30.6	Fine white/grey feldspar? throughout	3.8	100%	!	1						
		rock, aligned fabric - flow banding?										
		an andesite?										
30.6	32.9	As above	2.3	100%	,			-1				
32.9	36.4	As Above	3.5	100%								
36.4	37.4	Dark grev-black, fine grained porphyritic	1.0		36.4	37.4	100%	KU 1	1.0	<5	0.1	
		andesite, fine, 1-2mm pyrite veinlets.										
37.4	38.1	Green-grey, altered irregular calcite blebs,	0.5		37.4	38.1	100%	KU 2	0.5	< 5	0.1	
		quartz as mottled, banded, moderately silicified										i i
		pyrite as blebs, stringers. Upper contact										
		at 40 deg. to C.A. as lower contact. Fracture										
		surfaces pyritic, to talcose/serpentinized. 3%										
		sulphides. Locally brecciated - on footwall side										
		with calcite stockworks										
38.1	39.0	Dark grey-black andesite?	0.9	100%	38.1	39.0	100%	KU 3	0.9	<5	0.1	
39.0	41.3	As above	2.3	100%								
41.3	42.2	As above, broken core	0.9	50%			<u> </u>					
42.2	45.3		3.1	87%								
45.3	45.5		0.2	100%	45.3	45.5	100%	KU 4	0.2	<5	0.1	
		banded, mottled, pyrite-pyrrhotite blebs and										
		stringers		<u> </u>						· ·		
45.5	47.2	Grev-black, fine grained, fine white-grey	1.8	.100%			-					
		indistinct feldspars. Pyrite veinlet, 8-10mm								i		
		wide @ 46.8m				i						
							<u> </u>					

Client: Pinewood Resources Ltd.

Logged By: H.S. Macfarlane

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 20 February, 1989

Hole No: DDH 89-1

Page: 2 of 3

Drill Hole Record

Dep	oth		Reco	overy	Sample	Interval	Sample %	Sample		Au	Ag		
From	То	Description	Run	% .	From	То	Recovery		Length	ppb	ppm		
47.2	48.1	As Above					1						
													-
48.1	48.4	Andesite, as above, and quartz veinlets to	0.3	100%	48.1	48.4	100%	KU 5	0.3	< 5	0.2		
		20mm branching and crosscutting and late stage											
		microbrecciation and minor late stage calcite											
		infill - to 3mm wide. Pyrite and pyrrhtite											
		blebs and stringers				•							
48.4	49.5	GRANODIORITE PORPHYRY	1.1	86%	48.4	49.5	86%	KU-6	1.1	< 5	0.1_		
		Dark grey, fine - med grained groundmass,									j		
		with white-grey feldspar phenocrysts to											
		2-3mm - Euhedral, mottled pale green											
		in part - chloritized											
		White quartz and minor chlorite vein, to 15mm		i									
		wide, @ 20 deg. to C.A.											
49.5	51.7	As above - granodiorite; sharp contact	2.2	86%									
51.7	57.9	CHLORITIC ANDESITE	6.2	100%								-	
		Dark grey - black, fine grained, as above,	1										
		minor chlorite (?) coatings on fracture surfaces											
57.9	59.0	minor pyrite on blebs and stringers and as	1.1	57%									
		disseminations					-						
59.0	60.2	Banded, mottled, light to dark grey, soft	1.2	100%	59.0	60.2	100%	KU 7	1.2	<5	0.1		
		broken core in part, minor calcite veinlets,						İ					
:		pyrite blebs to 10mm, calcite coatings on fracture											
		surfaces, brecciated core in part.			į								
60.2	61.9		1.7	100%									
		Black andesite as above, pyrite veinlets to 1mm	l		1								
		E.O.H. 61.9m											

Logged By: H.S. Macfarlane

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 20 February, 1989

Hole No: DDH 89-1

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Location:

505-744 West: Hastings: Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Property:

Client: Pinewood Resources Ltd.

Drilling Company: Beaupre Diamond Drilling Ltd.

Drill Hole Record

True Bearing: 340 degrees

Hole No: DDH 89-2

Page: 1 of 8

Comm	nenced:	20 February, 1989 Completed: 22 February, 1989 Eleva	ation:	<u> </u>	<u>- 1844 .</u> - 1845 .	н	or. Com	p:		484 J. 10 J.	- Vert.	Comp:		<u> </u>	. ·
Collar	Coordinat	res:8+20W 0+89S Collar Dip: -65 degrees Hole	No:	DDH 89-2			enath:	12.	1.9m		Perce	ent Reco	verv.		
Mining	g Division:	res: 8+20W 0+89S Collar Dip: -65 degrees Hole Vernon District: Okanagan Object	ctive:	***											
					Rec			Interval		Sample			Aq		
From	· To:	Description		4.34.	Run	%	From	То	Recovery	Number	Length	Ppb ppb	bbw		
0	4.6	OVERBURDEN			4.6	0%							j		
		No core													
										·					
4.6	9.9	CHLORITIC ANDESITE			5.3	100%									
		Dark grey-black, fine grained, possibly flow													
		banded, fine - 1mm feldspar phenocrysts/crystals													
		disseminated pyrite/pyrrhotite, and as irregular 1mm													
		veinlets, and blebs throughout. Weakly			m.t.										
		oxidized pyrite in part - near surface.													
<u> </u>						<u> </u>									
9.9	14.0	GRANODIORITE PORPHYRY			4.1	100%									
		Green-grey, fine - med. grained groundmass,													
		with biotite flakes, grey feldspar phenocrysts to													
		2-3mm, thin 1-2mm calcite coatings on													
		fractures and as veinlets. Very minor		A											
		amounts <1% pyrite disseminated throughout.													
14.0	15.8	As above			1.8	100%									
											:				
15.8	16.7	CHLORITIC ANDESITE			0.9	100%	15.8	16.7	100%	KU 8	0.9	< 5	0.1		
	<u> </u>	Dark grey-black, fine grained, as above, with quartz and													
İ		chlorite veining, brecciated and rehealed, + 5-7%.					1						İ		

Core Size: NQ

Logged By: H.S. Macfarlane

Date: 21 February, 1989

505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Drill Hole Record

Dep	th	and the second of the second o	Rec	overy -	Sample	Interval	Sample %	Sample		Au	Ag	1
rom	То	The second secon	Run	%	From	То	Recovery	Number	Length	ppb	ppm	
16.7	17.7	pyrite and pyrrhotite throughout, competent core	1.0	100%	16.7	17.7	100%	KU 9	1.0	<5	0.1	
		minor calcite (1mm) veinlets. Fresh										
		hard core.										
17.7	18.9	As above. Occasional pyrite veinlets to	1.2	92%								
		5mm.										
18.9	23.2	Possible flow banding - aligned feldspar	4.3	100%								
		phenocrysts					ļ					
23.2	24.2	As above	1.0	100%								
24.2	25.5	As above, banded in part, light and dark	1.3	85%	24.2	25.5	85%	KU 10	1.3	<5	0.1	
		grey bands, broken core in part of 25.1m.					<u> </u>					
		Pyrite on fracture planes, slickensided pyrite.										
										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
							1					
		GRANODIORITE PORPHYRY										· ·
25.5	26.5	Grev colour, fine grained groundmass, white-grey	1.0	100%	25.5	26.5	100%	KU 11	1.0	<5	0.1	
		indistinct phenocrysts of feldspar, calcite					<u> </u>					
		veinlets and fracture coatings, chloritic overprint					ļ					
	<u> </u>	in part. Approx. 20 deg. contact to C.A.										
26.5	27.7	As above, v. minor sulphides, <1%	1.2	100%								
27.7	32.6		4.9	96%			<u> </u>					
32.6	33.1		0.5	100%			<u> </u>					
33.1	34.3	Light green grey colour, chloritized,	1.0	100%		ļ		ļ				
		chilled margin with andesite country										
		rock.					<u> </u>			<u> </u>		
34.3	35.3	Chilled margin, as above, irregular	1.0	95%	34.3	35.3	95%	KU 12	1.0	<5	0.1	
		fractures - calcite infilled, soft feldspars	1	1				1			1	
		in part.					1				!	
			1									
				<u> </u>		<u> </u>	1	<u> </u>			<u> </u>	-

Client: Pinewood Resources Lid.

Drilling Company: Beaupre Diamond Drilling Ltd.

Logged By: H.S. Macjarlane

Date: 21 February, 1989

Hole No: DDH 89-2

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Drill Hole Record

Dep	th.	Description Description	Rec	overy	Sample	Interval	Sample %	Sample	1.1	Au	Ag	i i
om	То	Description Description	Run	%	From	То	Recovery	Number	Length	ppb	ppm	
5.3	35.5	CHLORITIC ANDESITE	0.2	100%	35.3	35.5	100%	KU 13	0.2	<5	0.1	
		Chilled margin - contact metamorphosed.										
		grey-green colour, siliceous minor										
		<1% pyrite, minor calcite coatings on					<u> </u>					
	_	fractures and as infill.										
5.5	37.5	Black fine grained andesite, pyrite stringers.	1.8	90%								,
		veinlets and blebs.					<u> </u>					
7.5	41.5	As above, and from 40.7 to 41.0m, quartz-calcite	4.0	78%								
		and chlorite veining, mottled green, grev colour.										
							-			-		
										-		
1.5	43.0	GRANODIORITE PORPHYRY	1.5	100%								
		Contact at approximately 60 deg. irregular, broken	1				-					
		fractured core. Calcite coating fractures and as		· ·			ļ					
		veinlets throughout. Green-grey mottled		ļ			-					
	_	blotchy nature, feldspar phenocrysts to 2-3mm	ļ									
		zoned in part.	<u> </u>						<u> </u>			
3.0	45.0	As above, contact with andesite below = gradational.	2.0	85%								
				1000								_
5.0	45.1		0.1	100%	-							
	<u> </u>	Black, fine grained, brecciated quartz blebs at	-				1	1				
	<u> </u>	lower contact. Pyrite blebs, stringers to 5%.		050				1	<u> </u>			
15.1	49.5		4.4	85%		<u> </u>	 					
		Green-grev colour, sharp contact @ 65 deg. to	 	 		<u> </u>	 -					
		C.A. at upper contact, graphitic coatings on	<u> </u>	 	 	<u> </u>		i i		-		
	1	contact and on joint, 25mm away. Pyrite	-	 	ļ	<u> </u>	 	1				-
	<u> </u>	blebs and disseminations, within 25mm of contact.		 	1	<u> </u>	-	1				
	!		-	1		<u> </u>	1	 		· · · · · · · · · · · · · · · · · · ·		
	1	H S Mactariane	!		!	<u> </u>	o: DDH	.80_2	<u> </u>			:
nt:	Putewo	ood Resources Ltd. Logged By: H.S. Macjarlane				Hole N	0: DDN	U/- <u>L</u>				

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 21 February, 1989

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505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Depth From To			Rec	overy .	Sample Interval		Sample %	Sample		Au	T	Γ	T
From	То	Description	Run	%	From	То	Recovery	Number	Length	ppo	Ag ppm		
49.5	53.7	CHLORITIC ANDESITE	4.2	100%		Ī				<u> </u>	i	İ	İ
		Soft, black, fine grained, fine white/grey										ļ	
		feldspar phenocrysts in part. Pyrite as											
		veinlets to 2mm, as blebs, and disseminated.											
		Occasional white calcite blebs and veinlets											
53.7	56.7	As above	3.0	100%									
56.7	59.7	Black andesite,	3.0	100%									
	60.8	as above, but light grey - to dark grey	1.1	100%									
		mottled, banded - contact metamorphic		<u> </u>									
		effect. Also chloritized, pyrite as stringers		İ									
		and blebs.				<u> </u>							
60.8	62.8	GRANODIORITE PORPHYRY	2.0	100%		<u> </u>							
62.8	63.7	Green-grey, mottled in part, blotchy, indistinct								<u> </u>	<u> </u>		
		feldspar phenocrysts, white calcite veinlets to											
		2mm - irregular, anastomosing.											
				<u> </u>									<u> </u>
L		CHLORITIC ANDESITE											
63.7	64.6	Black, fine grained, gradatioal contact, cross					ļ				<u></u>		<u> </u>
L		cutting pyrite stringers and veinlets.					1						
64.6	65.8	As above soft, black, graphitic, brecciated	1.2	100%	64.6	65.8	100%	KU 14	1.2	<5	0.1		
		rehealed core, calcite veinlets, with		<u> </u>									
	<u> </u>	quartz blebs (rounded) to 20mm.		<u> </u>	_		ļ				ļ		
65.8	66.8	As above, but grev-black siliceous in part	1.0	97%	65.8	66.8	97%	KU 15	1.0	<5	0.1	<u> </u>	
		slickensided fractures, graphitic.				<u> </u>	ļ. <u></u>				ļ	<u> </u>	
66.8	68.1	As above, banded, mottled, occasional	1.3	97%	66.8	68.1	97%	KU 16	1.3	<5	0.1	<u> </u>	
		feldspar phenocrysts, graphitic, slickensided,		1		<u> </u>	1			<u> </u>	<u> </u>		
		minor pyrite veinlets.		<u> </u>		<u> </u>					<u> </u>		<u> </u>
	ii										<u>i </u>	!	
										1	!	!	1

Client: Pinewood Resources Ltd.

Logged By: H.S. Macjariane

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 21 February, 1989

Hole No: DDH 89-2

Drill Hole Record

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505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 624-2361

Drill Hole Record

De	oth		Rec	overy	Sample	Interval	Sample %	Sample		A		T	
From	To:	Description	Run	%	From	То	Recovery	Number	Length	Au ppb	Ag ppm		
68.1	68.9	GRANODIORITE PORPHYRY	0.8	97%	68.1	68.9	97%	KU 17	0.8	<5	0.1	 	
		Green-grey mottled, contact zone					1	ľ					$\neg \neg$
		quartz stringer and flooding, siliceous,					1		-				\neg
		minor approximately 1% pyrite blebs, fine grained.									<u> </u>		\neg
68.9	69.6	As above, contact zone, non-porphyritic	0.7	100%	68.9	69.6	100%	KU 18	0.7	<5	0.1		\neg
		·						,			İ		
69.6	70:4	Granodiorite, porphyritic - grey 2-3mm feldspar								-			
		green-grey colour.											$\neg \neg$
		Contact with unit below @ 50 deg. to C.A.	<u> </u>										
											1		
70.4	70.6	CHLORITIC, PORPHYRITIC LATITE	0.2	100%									
		Dark green-grey, fine grained, mica (biotite)											
		phenocrysts, with 5mm chilled margin.											
		Contact below at 50 deg. to C.A.											
			<u> </u>							-			
70.6	71.9	GRANODIORITE PORPHYRY	1.3	100%									
		Grey, mottled in part, chloritized,	<u> </u>										
		grey porphyritic feldspars to 2-3mm. Calcite											
		veinlets and on fracture planes.											
		CHLORITIC ANDESITE - CONTACT ZONE											
71.9	75.0	Grey-black colour, fine	3.1	100%			<u> </u>						
		grained, silicified, chloritic patches -											
<u> </u>	<u> </u>	green-grey - and bands to 20cms.					ļ	<u> </u>					
		Minor pyrite associated with these											
	<u> </u>	patches, approximately 1%.	<u></u>										
-	1 78.0	As above	3.0	100%									
	178.7	As above	0.7	100%									
78.7	79.4		0.7	100%	78.7	79.4	100%	KU 19	0.7	<5	0.1		
L	<u> </u>	to 20mm, angular in quartz veined zone and minor calcite.	!			1	<u> </u>					<u> </u>	!
	Dinama	od Resources Ltd. H.S. Maciarlane					DDH	00.3					

Client: Pinewood Resources Ltd.

Logged By: H.S. Macjarlane

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 23 February, 1989

Hole No: DDH 89-2

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505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Depth To		Description	Rec	overy	Sample Interval		Sample %	Sample		1 4			
From	То	O Personal Description (Control of the Control of t	Run	%	From	• То	Recovery		Length	Au ppb	Ag ppm		
79.4	80.9	Andesite, with quartz, chlorite patches and bands -	1.5	100%							<u> </u>		\dashv
		contact zone still. Minor, <1% pyrite in	1										\dashv
		stringer - 1mm wide.		1					-				\dashv
			1								<u> </u>		-
80.9	82.6	CHLORITIC ANDESITE	2.7	56%									\dashv
		Black, fine grained, porphyritic feldspars to 2mm					<u> </u>	i					\neg
		in part, broken core in part. Finely									i		\dashv
		disseminated pyrite in part.						-					一
82.6	87.8	As above, broken core, hard, splintery	5.2	92%									\neg
		minor pyrite <1% as disseminations and											一
		coatings on fractures. Calcite veinlets											
		and coatings.											\neg
87.8	93.3	As above, glassy white 25mm quartz vein @ 93m.	5.5	73%									\neg
93.3	94.0	As above, silicified in part, hard.		100%									\neg
		Light - dark grey colour.		_						,,,,,,			
94.0	94.3	Light - Medium grey, brecciated zone, anhedral	0.3	100%	94.0	94.3	100%	KU 20	0.3	<5	0.1		\dashv
	i	fragments - andesite - in calcite veinlets	İ				i						ᅴ
		and coatings. No visible sulphides.											\exists
		CHLORITIC LATITE						<u> </u>					\dashv
94.3	95.1	Light olive green-grey, hard, massive, competent	0.8	100%									ᅱ
74.5	75.1	minor calcite coatings on fractures and as veinlets	0.0	100 /0						 			\dashv
		to 1mm. No visible sulphides. Broken	 	-			 						\dashv
-	 	core throughout.	 								!		
95.1	95.4	Brecciated zone, irregular fragments to	0.3	100%	95.1	95.4	100%	KU 21	0.3	<5	0.1		
75.1	1 23.1	15mm with calcite coatings, veining -	0.5	10070		70.7	10070	110 21	0.5		0.1		\dashv
-	 	healed. No visible sulphides.					 				<u> </u>		ᅱ
95.4	96.5	Broken core - felsite as above, with 20mm	1	-			<u> </u>	-					
75.4	1	brecciated zone - fault contact - at base.											
1				1							<u> </u>	i	

Client: Pinewood Resources Ltd.

Logged By: H.S. Macfarlane

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 23 February, 1989

Hole No: DDH 89-2

Drill Hole Record

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Drill Hole Record

Depth .			Recovery		Sample Interval		Sample %	Sample	1	Au	Ag	T
rom	То	Description	Run	%	From	То	Recovery	Number	Length	ppb	ppm	
5.5	97.2	CHLORITIC ANDESITE	0.7	100%								 一
		Black, fine grained, minor, <1% pyrite in										
		part, hard, massive.										
7.2	102.1	As above	4.9	63%						-		
12 1	103.0	CHLORITIC LATITE	0.9	78%								
	105.0	Light olive green-grey, fine grained, equigranular		7070							-	<u> </u>
		hard, massive, minor calcite coatings. Broken core.								 -		
												
3.0	108.3	CHLORITIC ANDESITE	5.3	74%			1				i	T
		Black, fine grained, pyrite disseminated, as blebs										
		and stringers. Minor calcite veinlets and on										
		fractures. Broken core.										
08.3	108.6	CHLORITIC LATITE	0.3	100%								
		Olive green-grey, hard, siliceous, no										
		visible sulphides. Broken core.										
08.6	111.6	CHLORITIC ANDESITE										
		Black, fine grained, equigranular, less than										
		1% pyrite as disseminations.										
												 <u> </u>
11.6	112.2	CHLORITIC LATITE	<u> </u>									 <u> </u>
		Olive green-grey. Massive, splintery, siliceous]	 <u> </u>
		with quartz and calcite veinlets. Slickensided in part.									_	 <u> </u>
	İ		.									 <u> </u>
12.2	112.81	CHLORITIC ANDESITE	0.6	100%								 1
		Black to grey, mottled in part, slickensided										 <u> </u>
		broken core.		1				<u> </u>				 <u> </u>
ent:	Pinewoo	od Resources Ltd. Logged By: H.S. Macjarlane				Hole N	o: DDH	89-2				

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 23 February, 1989

Page: 7 of 8

505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Drill Hole Record

Depth	Recovery Sample Intervals Description Run: % From To	Interval	Sample %	Sample	12.	Au	1 40	Γ	 			
From . To	Description	Run	%	From	То	Recovery	Number		ppb	Ag ppm		
112.8 114.6	Brecciated core, angular fragments to	1.8	95%	112.8	114.6	95%	KU 22	1.8	<5	0.1		i
	15mm, healed with calcite. No visible										 	
	sulphides.											Ī
114.6 118.0	CHLORITIC ANDESITE AND LATITE	3.4	100%									
	Mixed units of black-grey andesite with											
	olive green felsite - latter siliceous and											
	quartz veined to 10mm wide - irregular											
	fracture. Lower 30cm - from 117.7 to											
	118.0m = angular fragments - top of											
	volcanic flow, bottom of flow? Irregular				·							
	20-50 deg. to C.A. contact with Felsite unit					<u> </u>						
	below.											<u> </u>
118.0 118.9	CHLORITIC LATITE	0.9	100%									<u> </u>
	Light olive green, massive, with minor calcite					<u> </u>						
	veining.											
118.9 121.9	CHLORITIC ANDESITE AND LATITE	3.0	100%									
	As above, with a 15cm quartz-chlorite											
	vein at 120.0m. No sulphides.										<u>i</u>	
	Fine calcite coating on fractures.	_				<u> </u>						
		_				<u> </u>						
	E.H. @ 121.9m.											
				·		ļ ·					<u> </u>	
											<u></u>	<u> </u>
						חחש					1	!

Client: Pinewood Resources Ltd.

Logged By: H.S. Macfarlane

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 24 February, 1989

Hole No: DDH 89-2

Page: 8 of 8

Location:

Completed: 23 February, 1989

Property:

Commenced:

Drilling Company: Beaupre Diamond Drilling Ltd.

Drill Hole Record

Vert. Comp:

True Bearing: 340 degrees

Page: 1 of 3

Depth To Description	Run	Recovery Sam			Sample %	Sample		Au	. Ag		
O 3.0 OVERBURDEN No recovery - casing 3.0 11.6 CHLORITIC ANDESITE Black, fine grained groundmass, with white-grey phenocrysts of feldspar 1-2mm diameter, aligned parallel to C.A. in part. Pyrite blebs to 10mm, stringers and veinlets 2mm wide and disseminated together with pyrrhotite. Massive, uniform rock. 11.6 16.2 GRANODIORITE PORPHYRY Grey colour, fine grained groundmass, with feldspar (white-grey) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%	nun	%	From	То	Recovery	Number	Length	ppb	ppm	. •	
3.0 11.6 CHLORITIC ANDESITE Black, fine grained groundmass, with white-grey phenocrysts of feldspar 1-2mm diameter, aligned parallel to C.A. in part. Pyrite blebs to 10mm, stringers and veinlets 2mm wide and disseminated together with pyrrhotite. Massive, uniform rock. 1.6 16.2 GRANODIORITE PORPHYRY Grey colour, fine grained groundmass, with feldspar (white-grey) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%	3.0	0%									
Black, fine grained groundmass, with white-grey phenocrysts of feldspar 1-2mm diameter, aligned parallel to C.A. in part. Pyrite blebs to 10mm, stringers and veinlets 2mm wide and disseminated together with pyrrhotite. Massive, uniform rock. 1.6 16.2 GRANODIORITE PORPHYRY Grey colour, fine grained groundmass, with feldspar (white-grey) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%											
white-grey phenocrysts of feldspar 1-2mm diameter, aligned parallel to C.A. in part. Pyrite blebs to 10mm, stringers and veinlets 2mm wide and disseminated together with pyrrhotite. Massive, uniform rock. 1.6 16.2 GRANODIORITE PORPHYRY Grey colour, fine grained groundmass, with feldspar (white-grey) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%	8.6	87%									
diameter, aligned parallel to C.A. in part. Pyrite blebs to 10mm, stringers and veinlets 2mm wide and disseminated together with pyrrhotite. Massive, uniform rock. 1.6 16.2 GRANODIORITE PORPHYRY Grey colour, fine grained groundmass, with feldspar (white-grey) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%				~							
Pyrite blebs to 10mm, stringers and veinlets 2mm wide and disseminated together with pyrrhotite. Massive, uniform rock. 1.6 16.2 GRANODIORITE PORPHYRY Grev colour, fine grained groundmass, with feldspar (white-grev) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%											
veinlets 2mm wide and disseminated together with pyrrhotite. Massive, uniform rock. 11.6 16.2 GRANODIORITE PORPHYRY Grev colour, fine grained groundmass, with feldspar (white-grev) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%											
together with pyrrhotite. Massive, uniform rock. 11.6 16.2 GRANODIORITE PORPHYRY Grey colour, fine grained groundmass, with feldspar (white-grey) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%											<u> </u>
rock. 1.6 16.2 GRANODIORITE PORPHYRY Grey colour, fine grained groundmass, with feldspar (white-grey) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%											
GRANODIORITE PORPHYRY Grev colour, fine grained groundmass, with feldspar (white-grev) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%											
Grev colour, fine grained groundmass, with feldspar (white-grev) phenocrysts to 3-4mm, massive. Pyrite veinlet lmm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%											
Grev colour, fine grained groundmass, with feldspar (white-grev) phenocrysts to 3-4mm, massive. Pyrite veinlet lmm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor < < 1%	4.6	100%				l					<u> </u>
with feldspar (white-grev) phenocrysts to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor <<1%											
to 3-4mm, massive. Pyrite veinlet 1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor <<1%											
1mm wide at 13.8m @ 30 deg. to C.A. Black biotite phenocrysts in part, minor <<1%											
Black biotite phenocrysts in part, minor <<1%											
pyrite. Calcite coatings on fracture planes											
16.2 17.6 as above.	1.4	100%									

Core Size: NO

Elevation:

Date: 23 February, 1989

SEARCHLIGHT CONSULTANTS INC.

505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Drill Hole Record

Depth 🔍		. Description	Recovery		Sample Interval		Sample.	Sample		Au	Ag		
From	То	Description	Run	. %	From	То	Recovery	Number	Length	ppb	ppm	. 15.	
		CHLORITIC ANDESITE											
17.6	25.0	Black, fine grained, equigranular, calcite	·7.4	96%									•
		coatings on fractures, pyrite and pyrrhotite											
		disseminated throughout, and as											
		stringers and blebs and veinlets. Some											
		fractures slickensided and chloritized.				·							
25.0	25.3	As above	0.3	100%									
25.3	25.5	GRANODIORITE PORPHYRY	0.2	100%									
		Medium grey, porphyritic - feldspar and											
		biotite phenocrysts. Sharp, planar											
		contacts at 35 deg. to C.A.											
		CHLORITIC ANDESITE											
25.5	26.5	Black, fine grained, with faint indistinct	1.0	100%									
		feldspar phenocrysts - to 1-2mm		<u> </u>									
		aligned in part. Pyrite and pyrrhotite											
26.5	31.1	throughout - stringers, blebs, coatings on											
		fracture planes. White calcite veinlets to 2mm						` `					
31.1	31.5	black andesite as above, slickensided	0.4	75%	31.1	31.5	75%	KU 23	0.4	< 5	0.2		
		in part and brecciated - healed with											
		calcite. Pyrite to 3%.		<u> </u>									
31.5	32.6	As above, some fractures slickensided	1.1	45%	31.5	32.6	54%	KU 24	1.1	< 5	0.1		
		and chloritized.		<u> </u>									
32.6	34.7	Andesite, fine grained, porphyritic											
			<u> </u>	ļ <u>. </u>									
			ļ										
		GRANODIORITE PORPHYRY	ļ								·		
34.7	38.7		4.0	80%									
		fractures from 35.1 to 35.7m. Occasional hairline pyrite stringers.	<u> </u>				DDH						

Client: Pinewood Resources Ltd.

Logged By: H.S. Macjariane

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 24 February, 1989

Hole No: DDH 89-3

Page: 2 of 3

SEARCHLIGHT CONSULTANTS INC.

505-744 West Hastings Street, Vancouver, British Columbia, Canada, V6C 1A5, (604) 684-2361

Drill Hole Record

		Rec	overy :	Sample	Interval	Sample:	Sample	w sittle	100		T:	$\overline{1}$
5	Description	Run	%	From	То	Recovery	Number	Length	Au	Ag	ļ :	
.2	CHLORITIC ANDESITE	3.5	74%									
	Black, fine grained, graphitic especially										-	\top
	from 40.0 to 40.5m											\top
											1	T
.5	GRANODIORITE PORPHYRY	4.3	100%									\top
	Grey, chloritic in part, fresh biotite											
	phenocrysts, grey indistinct feldspar phenocrysts											T
												T
.8	CHLORITIC ANDESITE	0.3	100%							_		
	veinlet at 45 deg. to C.A. Lower											
	contact at 80 deg. to C.A.											Π
	GRANODIORITE PORPHYRY											
.5	Grey colour, porphyritic, phenocrysts to	1.7	88%									Ī
	3-4mm and grev-white feldspar, indistinct	<u> </u>										
	borders with minor - 1% pyrite as											
	coatings on fractures and as disseminations.											1
.6	Biotite flakes to 1mm - phenocrysts	5.1	94%									İ
	less than 5% biotite										}	
	Calcite coatings 2-3mm on fracture											
.4	planes and as veinlets. Broken core	4.8	96%									
	where well jointed and veined by calcite.								j			
		<u> </u>									<u> </u>	
.0		2.6	100%									
	E.O.H. @ 61m	į										<u> </u>
												<u> </u>
											<u> </u>	
											i	<u> </u>
		<u> </u>			<u> </u>						<u> </u>	
	.5 .6	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg. to C.A. Lower contact at 80 deg. to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to 1mm - phenocrysts less than 5% biotite Calcite coatings 2-3mm on fracture 4 planes and as veinlets. Broken core where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to C.A. Lower contact at 80 deg, to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1.7 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts 5.1 less than 5% biotite Calcite coatings 2-3mm on fracture 4 planes and as veinlets. Broken core 4.8 where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg. to C.A. Lower contact at 80 deg. to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 34mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts claims of fractures and as disseminations. 6 Eses than 5% biotite Calcite coatings 2-3mm on fracture 4 planes and as veinlets. Broken core where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to C.A. Lower contact at 80 deg, to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts less than 5% biotite Calcite coatings 2-3mm on fracture planes and as veinlets. Broken core 4.8 96% where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to C.A. Lower contact at 80 deg, to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts 1 17 94% less than 5% biotite Calcite coatings 2-3mm on fracture 4 planes and as veinlets. Broken core where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to C.A. Lower contact at 80 deg, to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1.7 88% 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts 1 psychology of the planes and as veinlets. Broken core 4 planes and as veinlets. Broken core where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to C.A. Lower contact at 80 deg, to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1.7 88% 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatines on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts less than 5% biotite Calcite coatings 2-3mm on fracture 4 planes and as veinlets. Broken core where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to CA. Lower contact at 80 deg, to CA. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1.7 88% 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts 1 less than 5% biotite Calcite coatings 2-3mm on fracture 4 planes and as veinlets. Broken core where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to C.A. Lower contact at 80 deg, to C.A. Lower contact at 80 deg, to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1.7 88% 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts less than 3% biotite Calcite coatings 2:3mm on fracture 4 planes and as veinlets. Broken core where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to CA. Lower contact at 80 deg to CA. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1.7 88% GRANODIORITE PORPHYRY 5. Grey colour, porphyritic, phenocrysts to 5.1 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatines on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts 1 less than 5% biotite Calcite coatines 2-3mm on fracture 4 planes and as veinlets. Broken core 4.8 96% where well jointed and veined by calcite.	2 CHLORITIC ANDESITE Black, fine grained, graphitic especially from 40.0 to 40.5m 5 GRANODIORITE PORPHYRY Grey, chloritic in part, fresh biotite phenocrysts, grey indistinct feldspar phenocrysts 8 CHLORITIC ANDESITE Black, fine grained, with a 3mm pyrite veinlet at 45 deg, to C.A. Lower contact at 80 deg, to C.A. GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1,7 88% GRANODIORITE PORPHYRY 5 Grey colour, porphyritic, phenocrysts to 1,7 88% 3-4mm and grey-white feldspar, indistinct borders with minor - 1% pyrite as coatings on fractures and as disseminations. 6 Biotite flakes to Imm - phenocrysts 1 less than 5% biotite Calcite coatings 2-3mm on fracture 4 planes and as veinlets. Broken core 4 y planes and as veinlets. Broken core 4 where well jointed and veined by calcite.

Drilling Company: Beaupre Diamond Drilling Ltd.

Date: 24 February, 1989

Page: 3 of 3

APPENDIX B: ASSAY CERTIFICATES



Chemex Labs Ltd

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE , NORTH VANCOUVER. BRITISH COLUMBIA. CANADA V7J-2C1

PHONE (604) 984-0221



505 - 744 W. HASTINGS ST. VANCOUVER, BC V6C 1A5

Comments:

A8912167

CERTIFICATE A8912167

SEARCHLIGHT RESOURCES INC.

PROJECT : KURTIS
P O.# : NONE

Samples submitted to our lab in Vancouver, BC.

This report was printed on 6-MAR-89.

SAMPLE PREPARATION

	7/ 11/11		
	NUMBER SAMPLES	:	
205	2 5	Rock Geochem: Crush.split.ring	

• NOTE 1:

Code 1000 is used for repeat gold analyses It shows typical sample variability due to coarse gold effects. Each value is correct for its particular subsample.

ANALYTICAL PROCEDURES

CHEMEX	NUMBER SAMPLES			ı	DESCR	IPTION	ī	METHOD		DETECTION LIMIT	UPPER Limit
100	2 5 2 5	Au Ag	ppb: ppm:	Fuse id	0 g aqua	sample regia	digest	FA-AAS AAS-BKGD	CORR	5 O . 2	10000
											. •
	:										
		•							X X		
					1			96.			
	:										
							i.e.				
											_



212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

EARCHLIGHT RESOURCES INC.

505 - 744 W. HASTINGS ST. VANCOUVER, BC V6C 1A5

Project : KURTIS

Comments:

Tot. Pa Date : 6-MAR-89

Invoice #: I-8912167 P.O. # : NONE

CERTIFICATE OF ANALYSIS A8912167

SAMPLE DESCRIPTION	PREP CODE	Au ppb Ag ppm FA+AA Aqua R	
KU-01 KU-02 KU-03 KU-04 KU-05	205 205 205 205 205	<pre>< 5</pre>	
KU-06 KU-07 KU-08 KU-09 KU-10	205 205 205 205 205	<pre></pre>	
KU-11 KU-12 KU-13 KU-14 KU-15	205 205 205 205 205	<pre></pre>	
KU-16 KU-17 KU-18 KU-19 KU-20	205 205 205 205 205	< 5 0 1	
KU-21 KU-22 KU-23 KU-24 KU-89-25	205 205 205 205	<pre></pre>	
			CERTIFICATION: Harborchler

APPENDIX C: PETROLOGICAL REPORT



JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
A.L. LITTLEJOHN, M.Sc. Geologist
JEFF HARRIS, Ph.D. Geologist

Vancouver Petrographics Ltd.

P.O. BOX 39 8887 NASH STREET FORT LANGLEY, B.C. VOX 1JO

PHONE (604) 888-1323

Invoice 8048 April 4, 1989

Report For:

H.S. Macfarlane Project Geologist

Searchlight Resources Ltd. 218 - 744 West Hastings Street

Vancouver, B.C.

V6C 1A5

Telephone: (604) 684-2361

Samples:

TS-KU-01, TS-KU-02, TS-KU-03 and TS-KU-04 (4 thinsections)

Summary:

This suite consists of volcanic and intrusive rocks from the Kurtis Project located on the west side of Okanagan Lake, west of Kelowna, B.C. They are all distinctly different:

TS-KU-01 Chloritized, intensely saussuritized andesite (originally finely porphyritic)

TS-KU-02 Granodiorite porphyry

TS-KU-03 Very chloritized, porphyritic latite

TS-KU-04 Very calcareous, recrystallized latite

Specimen KU-01 was originally a finely porphyritic rock which has undergone intense saussurite alteration. The dark speckled appearance in handspecimen is due to the original plagioclase "phenocrysts" being completely replaced by saussurite and only the relict outline giving the clue of their primary composition.

Sample KU-02 is relatively unaltered. It contains strongly zoned plagioclase phenocrysts. Judging by the intensity of alteration in the other specimens of the suite, KU-02 may be a younger phase dyke. The overgrowths on the plagioclase phenocrysts suggest a complex cooling history.

Specimen KU-03 is a very altered rock in which the original plagioclase phenocrysts have been completely replaced by fiberous chlorite. It is composed mainly of a very fine grained groundmass which has been stained greenish brown. Devitrification textures and the presence of fragments indicates the tuffaceous origin of this rock.

Sample KU-04 is characterized by intense calcite alteration. The original constituents have been recrystallized giving a fine to medium grained appearance. This rock has also been shattered by close spaced fracturing.

If you have any questions about the attached individual petrographic descriptions, please call me at 681-4902.

Respectfylly submitted,

J.T. (Joe) Shearer, M.Sc.

For:

H.S. Macfarlane, Search Light Resources Inc., Vancouver, B.C.

Project:

Kurtis Project, West Okanagan Lake Area, Kelowna

SPECIMEN NUMBER: TS-KU-01 (DDH 89-1, 28.7 m)

Handspecimen Description:

Diamond drill core, dark green, aphanitic, overall speckled appearance due to dark 1 mm long dark spots, moderately magnetic, wispy small pyrrhotite lenses, 1-3 mm long disseminated throughout wide spaced fractures, pyrrhotite lenses define rough layering at 50° to core axis, minor quartz filling fractures, traces of irregular vugs, no potassium feldspar content, pyrrhotite approximately 2%, chlorite and minor pyrite on fracture surfaces.

Field Rock Name: Chloritic andesite (containing disseminated pyrrhotite)

Thinsection Examination:

Estimated Mode:

16% Quartz

18% Plagioclase

21% Groundmass (fiberous)

6% Opaques (pyrrhotite)

5% Muscovite

3% Quartz veins

8% Chlorite

23% Saussurite alteration (relict plagioclase phenocrysts)

The dominant characteristic of this rock is the abundance of rounded oblong to mainly rectangular lenses of fine grained carbonate, muscovite, clinozoisite(?) and albite(?) (saussurite). The saussurrite lenses average about 0.8 mm in length. They give the dark speckled appearance to the handspecimen. It appears that the original rock was finely porphyritic and the relict plagioclase phenocrysts have been completely altered to fine grained saussurite. Occasionally, the muscovite flakes are up to 0.4 mm long.

Muscovite also occurs as 0.15 mm long narrow flakes distributed throughout the specimen.

The "matrix" of the rock consists of very small (0.01 to 0.04 mm) ragged quartz and plagioclase irregular grains set in very fine grained fiberous groundmass. The general arrangement of the irregular quartz and plagioclase grains in relationship to the groundmass is roughly aligned, giving a "micro gneissic" texture.

Opaque grains are very irregular in outline and up to 0.5 mm long but average about 0.2 mm in diameter. The opaques replace all other mineral species.

Chlorite mainly occurs along the edges of the saussurite lenses, but also replaces groundmass in patches up to 0.2 mm in diameter.

The quartz veinlets (or hairlines) have been brecciated and cut in many places by groundmass. They are usually less than 0.06 mm wide, but can be up to 0.5 mm wide. The development of the saussurite is clearly later than the quartz veinlets. The larger quartz lenses have clear extinction.

Rock Name:

Chloritized, intensely saussuritized andesite.

(originally finely porphyritic)

For:

H.S. Macfarlane, Search Light Resources Inc., Vancouver, B.C.

Project:

Kurtis Project, West Okanagan Lake Area, Kelowna

SPECIMEN NUMBER: TS-KU-02 (DDH 89-1, 50 m)

Handspecimen Description:

Dark green fine grained matrix with crowded subeuhedral plagioclase phenocrysts up to 4 mm long, approximately 5% biotite in flakes up to 2 mm in diameter, irregular calcite-filled fractures common, traces of fine grained euhedral pyrite along fractures, non-magnetic, many of the plagioclase phenocrysts are surrounded by smaller potassium feldspar grains (up to 8% K-spar), small lathes of hornblende common.

Field Rock Name: Chloritic granodiorite feldspar porphyry

Thinsection Examination:

Estimated Mode:

23% Plagioclase phenocrysts

18% Plagioclase (fine grained)

7% Biotite

26% Quartz

10% Orthoclase

4% Calcite

1% Epidote

5% Chlorite

3% Sericite (alteration of plagioclase phenocrysts)

2% Saussurite (alteration of plagiocase phenocrysts)

tr Augite

1% Opaques

This rock is dominated by square to rectangular, strongly zoned plagioclase crystals which are greater than 3.6 mm long (maximum 5 mm long). Many of the plagioclase phenocrysts have rounded ghost outlines with thin overgrowths. The larger plagioclase "phenocrysts" are actually clusters of several smaller individual crystals. Occasionally plagioclase phenocrysts have biotite inclusions.

Biotite forms large "phenocrysts" flakes up to 1.4 mm long and also is distributed as small irregular grains throughout the matrix. Chlorite is replacing the larger biotite grains. Anomalous blue interference colours of the chlorite is common.

The matrix is composed of a fine grained interlocking mosaic of quartz, plagioclase, orthoclase and biotite ranging in size from 0.02 mm to 0.05 mm in diameter. Many of the quartz and plagioclase grains are subrounded.

The orthoclase grains are clustered around the edges of the plagioclase phenocrysts. Orthoclase often exhibits a graphic intergrowth with quartz. The outline of the grains are indistinct and vary up to 0.6 mm long. Minor fine grained orthoclase is found in the matrix.

Calcite forms irregular veinlets up to 0.2 mm wide which cut all mineral grains. Often parts of the veinlet break into feathery sections. Minor calcite is found replacing plagioclase.

Opaques occur as small anhedral grains up to 0.1 mm in diameter replacing matrix grains. Very fine grained opaque grains are associated with calcite and epidote alteration.

Layers of very fine grained sericite and saussurite mark the ghost outlines of the plagioclase phenocrysts and also make up the altered cores of some of the most strongly zones phenocrysts.

Rock Name: Granodiorite porphyry

For:

H.S. Macfarlane, Search Light Resources Inc., Vancouver, B.C.

Project:

Kurtis Project, West Okanagan Lake Area, Kelowna

SPECIMEN NUMBER: TS-KU-03 (DDH 89-2, 70.5 m)

Handspecimen Description:

Diamond drill core, dark green, aphanitic, sparse sparry calcite-filled "amygdules", abundant darker green chlorite lenses in part filling "amygdules", chloritic slickensides on shear-fracture surfaces, fine sugary texture on broken surface, non-magnetic, moderate very fine grained potassium feldspar content.

Field Rock Name: Chloritic, "amygdaloidal" latite (fine grained)

Thinsection Examination:

Estimated Mode:

15% Plagioclase needles

24% Chlorite (completely altered plagioclase phenocrysts)

47% Groundmass (contains potassium feldspar)

5% Augite

4% Opaques

2% Calcite

3% Biotite

tr Apatite

Plagioclase forms mostly randomly oriented needles, up to 0.2 mm long, but averaging 0.1 mm long. Large (up to 2.1 mm long), often subrectangular lenses of fiberous chlorite occur throughout the slide. These <u>appear</u> to be in part, completely chloritized relict plagioclase phenocrysts and not "amygdules" as noted in the handspecimen. The chlorite is slightly pleochroic and has very low interference colours. A considerable amount of the chlorite has been plucked out during the preparation of the thinsection. Two generations of chlorite development are present.

The groundmass is very fine grained and stained a greenish brown. It contains considerable potassium feldspar. The groundmass appears to be mainly devitrified glass.

Biotite forms narrow unaltered grains up to 1.1 mm long. Occasionally, some of the larger biotite grains are slightly "corroded" by the groundmass.

Dark, semi-opaque grains are disseminated throughout the specimen. These subrounded grains average 0.07 mm in diameter. Small rounded augite grains (0.1 mm in diameter) are associated with the opaques. Occasionally these dark areas define spheroidal or rod shaped lenses. This appears to be devitrification texture.

Calcite forms minor irregular lenses up to 0.5 mm across. Often the calcite lenses are associated with the more irregular chlorite areas. Calcite is replacing groundmass.

One 3 mm long "L" shaped fragment was noted in the thinsection. The small plagioclase needles are arranged in a flow pattern around the fragment. This fragment suggests a tuffaceous origin of the rock.

Rock Name: Very chloritized, porphyritic latite

For:

H.S. Macfarlane, Search Light Resources Inc., Vancouver, B.C.

Project:

Kurtis Project, West Okanagan Lake Area, Kelowna

SPECIMEN NUMBER: TS-KU-04 (DDH 89-2, 112 m)

Handspecimen Description:

Diamond drill core, medium to light green, finely speckled, medium to fine crystalline, intensely fractured mainly at 20° to 60° to core axis, calcite filling fractures and irregular patches, fine grained, the white speckled areas are indistinct and ragged in outline, no sulfides, non-magnetic, abundant fine grained potassium feldspar throughout, K-spar also concentrated in micro veinlets along the margins of the calcite veinlets.

Field Rock Name: Shattered (highly fractured) chloritic and calcareous latite (medium crystalline)

Thinsection Examination:

Estimated Mode:

29% Quartz

21% Plagioclase

18% Orthoclase

25% Calcite

4% Chlorite

3% Granular sphene

Quartz forms rounded to irregular grains averaging 0.1 mm in diameter, which commonly coalesce into irregular lenses and patches. Quartz is intimately associated with similar sized plagioclase and orthoclase grains. Quartz grains rarely attain a size of 0.4 mm across.

Plagioclase does not exhibit any polysynthetic twinning. The overall appearance of the slide suggests an early stage of strain deformation, subsequent recrystallization and finally pervasive calcite alteration. The calcite alteration has masked many of the primary textures.

Calcite occurs disseminated in 0.1 mm grains abundantly throughout the specimen. Wide sparry calcite veinlets up to 2.5 mm wide are common. Calcite is a late stage mineral. Often the sparry veinlets are composed of several stages of calcite development ranging from coarsely felted to uniformly sparry.

Orthoclase forms irregular narrow veinlets within the wider sparry calcite veins. These orthoclase "veinlets" appear mainly to be series of inclusions of the original material rather than secondary introduction of potassium feldspar.

Minor chlorite occurs as feathery grains along the edges of elongated calcite lenses. Dark, globular aggregates of sphene, up to 0.1 mm, are associated with the disseminated calcite grains.

This rock is highly altered (and field evidence has not been considered) but it appears to be a hypabyssal intrusive.

Rock Name:

Very calcareous, recrystallized latite

(highly fractured)