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Paramount Mining Ltd.

Summary Report

NAB CLAIMS

SCHAFT CREEK DEPOSIT

Telegraph Creek, B.C.

Dolmage, Campbell & Associates Ltd.
Vancouver, Canada

July 15, 1972

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SUMMARY

Paramount Mining Ltd. owns a block of 49 mineral claims and fractions in the Liard Mining Division 40 miles south of Telegraph Creek in northwestern British Columbia. Access is by wheel aircraft to a mile-long gravel airstrip on the adjacent property owned by Liard Copper Mines Ltd. Both the Paramount and Liard Copper properties are presently under option to Helca Operating Company who are conducting drilling programs on both properties.

A major porphyry-type copper-molybdenum (open pit) ore deposit has been outlined by diamond drilling on the Liard Copper property about 2000 feet south of the Paramount property. This ore deposit, termed here the Schaft Creek Orebody, has been reported to contain 240 million tons with an average grade of 0.42% Cu and 0.036% MoS_2. An adjoining western orebody is centred along a steeply dipping fault breccia zone that extends northward and has been intersected by eight of the ten diamond drill holes that have been drilled inside the Paramount property.

The Schaft Creek Orebody occurs as a tabular-shaped deposit on the axis of synclinal fold in andesitic, (Permian?), tuffs and flows. The ore deposit lies about 3000 feet east of the contract of the diorite-quartz monzonite Hickman Batholith, an apophyse of the Coast Range Batholith. A regional fault belt about 4000 - 5000 feet in width, comprised of anastamosing major fault-shear zones, lies immediately east of the batholith contact and trends northward parallel to it. The Schaft Creek ore deposit lies within a block of intensely fractured andesites between converging major fault zones in the regional fault belt. The orebody is comprised of fine grained chalcopyrite, pyrite and molybdenite occurring as fillings and disseminations.

The Paramount Mining Ltd. claim group, north of the Schaft Creek Orebody, is on the strike of the intrusive contact, the fault zones and the andesite volcanics and contains essentially the same geological setting as that of the Schaft Creek Orebody, except for the fact that it lies on the western limb of the syncline.

Preliminary exploration of the Paramount property has produced a large area of coincident copper and molybdenum soil anomaly and I.P. anomaly in the vicinity of the ore intersections in the drilling done to date. This anomalous area overlies major converging faults in the presumably favourable andesitic volcanics and it is approximately equal in plan size to that of the Schaft Creek Orebody. Near the centre of the property a soil copper anomaly was detected around a small I.P. anomaly in an area of major faults and widespread copper showings. The north half of the property has only been geologically mapped but it encompasses a large number of copper showings in the andesite formation.

The Paramount property has room for three Schaft Creek type of orebodies. Already the diamond drill results to date indicate 90 - 100 million tons of ore grading 0.337% Cu and 0.047% MoS_2 at the south end of the property and this body is open to the north and east with the size potential to be a Schaft Creek type orebody.

In accordance with the existing agreement between Paramount Mining Ltd. and Hecla Mining Co. of Canada Ltd. the value to Paramount of the presently suggested ore would be about $70 million. If this ore extends to become a Schaft Creek type orebody the value could be as much as $200 million.

The presently warranted exploration of the Paramount property is estimated to cost approximately $500,000.

INTRODUCTION

At the request of the officers of Paramount Mining Ltd. the writer visited the Schaft Creek property on June 23 - 26, 1970, in order to form a basis for an evaluation of that portion of the property owned by Paramount Mining Ltd. In addition to his own observations the writer has had the use of the following references:

1. Nabs, Paramount Mining Ltd., W.G. Jeffrey, pp 29 - 30 Lode Metals in British Columbia, 1966, Department of Mines & Petroleum Resources.

2. Final Geological Report - Nab Group - Stikine Area, Paramount Mining Ltd. by G. W. Grant - December 30, 1964.

3. Nab Group of Mineral Claims Liard Mining Division, British Columbia, Consultant's Report, by J. Sullivan - March 2,1966.

4. Geochemical Report on Nabs 1 - 34 Mineral Claims, Schaft Creek Area, Liard Mining Division, Adera Mining Ltd., by C.A.R. Lammie, P.Eng., July 15, 1966.

5. Report on Induced Polarization Survey of the Nabs Group, by Canadian Aero Mineral Surveys Limited, August 21, 1966.

6. Summary Report - Schaft Creek Deposit, by D.R. Stelck and J.E. McKinney, Hecla Operating Company, November 30,1969.

7. Silver Standard Mines Ltd., News Releases, George Cross News Letter, March 11, 1969 and March 6, 1970.

Results of the examination and pertinent reference data were summarized in a report dated November 15, 1970. This present report is primarily an updating of that 1970 report, incorporating information obtained during the intervening period.

In view of the fact that only surface exploration and limited diamond drilling have been done on the Paramount property the evaluation of the property must be largely based on the relation of the property to the adjacent claims owned by Liard Copper Mines Ltd. on which a major porphyry-copper type deposit, (Schaft Creek Deposit), has been diamond drilled by Hecla Operating Company. For this reason this report discusses in detail the pertinent geological features of the Schaft Creek Deposit in relation to the general geological setting.

LOCATION AND ACCESS: (57% 21'N, 131°W) (Fig. 1)

The Nabs claims of Paramount Mining Ltd. are located in Liard Mining Division in northwestern British Columbia just inside the eastern fringe of the Coast Range Mountains, east of the Alaska Panhandle. The nearest cities, although not necessarily the most accessible, are Prince Rupert and Terrace in British Columbia.

The property lies along the west slope of the north-trending ridge, 3000 feet in height, that separates Schaft Creek, on the west, from Mess Creek, on the east. Schaft Creek flows north to join Mess Creek 20 miles north of the property; Mess Creek flows another 20 miles north into the Stikine River at Telegraph Creek. The newly constructed Cassiar-Stewart Highway is 25 miles east of the property in the Iskut River Valley, (Fig. 2).

Present access to the property is by air. A good, gravel landing strip, one mile in length, has been built at the property and during the 1970 to 1972 summer seasons Harrison Airways Ltd. has been flying two trips per week by DC-3 direct from Vancouver to Schaft Creek. Flight time is approximately four hours non-stop. Trans Provincial Airlines Ltd. also fly an Otter aircraft to Schaft Creek from Terrace on a semi schedule basis.

The property can also be reached by horse trail from Telegraph Creek.

HISTORY:

The northwestern portion of British Columbia is in the early stages of mineral exploration, the only significant mine production to date having been from Tulsequah, 100 miles northwest of Schaft Creek, and from the Portland Canal District, 100 miles to the southeast.

Significant exploration began in the Stikine area in the late 1950's when Hudson Bay M.& S.Co. Ltd. staked the Galore Creek deposit that was subsequently extensively drilled and proven to be an ore deposit in 1964 - 1966 by Kennco Ltd. This deposit lies 25 miles southwest of the Schaft Creek, over the spine of the Coast Range Mountains. During this period prospecting spread throughout the Telegraph Creek area and copper showings were discovered along the ridge between Mess Creek and Schaft Creek in 1957. The present Schaft Creek deposit of Liard Copper Mines Ltd. was originally staked at that time but the property was considerably expanded in 1959 and 1964 to essentially its present size. In 1966 Liard Copper Mines Ltd. was incorporated to include all of the companies holding various interest and claims on this deposit. In that year the property was optioned to American Smelting and Refining Company who explored the property with bulldozer trenching, induced polarization survey and 11,000 feet of diamond drilling in 24 holes. Aserco dropped their option and Hecla Operating Company then optioned the property and did 13,095 feet of diamond drilling in 9 holes in 1968, 15,501 feet in 9 holes in 1969, 32,575 feet in 26 holes in 1970 and 22,053 feet in 25 holes in 1971.

Three of the 1963 holes were on the Paramount property, five of the 1970 holes, and three of the 1971 holes for a total footage of 8,610 feet. The 1970 holes, numbers P5, P6A, and P7 were logged by the writer and his associate, Mr. R. S. Adamson.

The Nabs claims of Paramount Mining Ltd., located immediately north of the Schaft Creek deposit, (Fig. 3) were originally staked and prospected in 1964. In 1964 the southern half of the present property was investigated by a geochemical soils survey and an induced polarization survey. No further work was done until 1969 when Paramount Mining Ltd. optioned the property to Hecla Operating Company whereby the latter company agreed to expend a minimum of $37,500 on the property in the 1969 field season and $50,000 in 1971 etc. Under the terms of that agreement two diamond drill holes (P2, P3) were completed on the extreme southern end of the Paramount property in 1969 for a total of 2,167 feet. (Hole P1 was abandoned).

In 1970 Hecla conducted an induced potential survey over the southern half of the Paramount property and drilled three new holes, P5, P6A and P7 for a total of 3,756 feet on or onto the southern Paramount claims; hole P6 was abandoned. In 1971, three more holes were drilled, P8, P9 and P10 totalling 2,687 feet. Locations of all holes are shown on Figure 3.

PROPERTY:

The Paramount property on Schaft Creek consists of the following claims and fractions that form one north northwest-trending group about 12,000 by 6,000 feet in size:

Name		Record Number	Tag Number	In Good Standing to
GAV	10	21680	655710	Mar.23/84
	11	21681	655711	Mar.23/84
NABS	1 Fr.	39482	34177M	Aug.21/84
	2 Fr.	49383	43178M	Aug.21/84
	5	23972	735405	Aug. 2/84
	6	23973	735406	Aug. 2/84
	7	23974	735407	Aug. 2/84
	8	23975	735408	Aug. 2/84
	9	23976	735409	Aug. 2/77
	10	23977	735410	Aug. 2/77
	11	23978	735411	Aug. 2/84
	12	23979	735412	Aug. 2/83
	13	23980	735413	Aug. 2/83
	14	23981	735414	Aug. 2/84
	15	23982	735415	Aug. 2/83
	16	23983	735416	Aug. 2/84
	17	23984	735417	Aug. 2/84
	18	23985	735418	Aug. 2/83
	19	23986	735419	Aug. 2/84
	20	23987	735420	Aug. 2/84
	21	23988	735421	Aug. 2/83
	22	23989	735422	Aug. 2/84
	23	23990	735423	Aug. 2/84
	24	23991	735424	Aug. 2/83
	25	23992	735425	Aug. 2/84
	26	23993	735426	Aug. 2/84
	27	23994	735427	Aug. 2/84
	28	23995	735428	Aug. 2/84
	29 Fr.	23996	735429	Aug. 2/84

Name		Record Number	Tag Number	In Good Standing to
NABS	30 Fr.	23997	735430	Aug. 2/84
	31	23998	735431	Aug. 2/84
	32	23999	735432	Aug. 2/84
	33	24000	735433	Aug. 2/84
	34	24001	735434	Aug. 2/84
RUM	2	39485	34182	Aug.21/83
	5	39487	34185	Aug.21/83
	6	39488	34186	Aug.21/83
	8	39490	34188	Aug.21/83
EMU	8	39401	34196M	Aug.21/83
BARB	1 - 4	42609 - 12	780497 - 500	Mar. 6/84
	5 - 7	42613 - 15	669128 - 130	Mar. 6/84
	8	42616	833279	Mar. 6/84
	9 - 10	42617 - 18	780423 - 424	Mar. 6/84

The western third of the property is underlain by forested mountain talus and valley floor of unknown overburden depths. The eastern two thirds of the property is underlain by the upper slopes of the U-shaped valley wall which is largely above timberline and comprised of steep rock bluffs and grass slopes and terraces. Snowfall is heavy in the area but winter temperatures are relatively mild for Canada.

GEOLOGICAL SETTING

The Schaft Creek property of Paramount Mining Ltd. lies on the eastern edge of what is known as the Hickman Batholith. The Hickman Batholith is actually an eastern apophyse of the main Coast Range Batholith that underlies the coastal mountains of British Columbia and the Alaska Panhandle. In the Stikine area the eastern border of the Coast Range Batholith is very irregular and is characterized by numerous outlying intrusive stocks and apophyses, (Fig. 2).

Prophyry-type copper-molybdenum deposits have been discovered and explored along the eastern edge of the Coast Range Batholith from the Yukon to the Highland Valley in southern British Columbia but, with the exception of the Highland Valley deposits, access to this region is very limited and exploration is still in its early stages. All of the known copper and/or molybdenum deposits are associated with apophyses or stocks that stand out from the eastern contact of the main batholith. In the Stikine area the two proven deposits are (1) the Galore Creek copper deposit of Kennco Ltd. on the eastern edge of the main body of the batholith 25 miles southwest of the Paramount Property, and (2) the Schaft Creek copper-molybdenum deposit of Liard Copper Mines Ltd. on the eastern edge of the Hickman Batholith (apophyse) adjacent to the Paramount Property.

The rock formations along Schaft and Mess Creeks that are in contact with the batholith are volcanic rocks that are tentatively classified as Permian or older in age. These volcanic formations are folded near the intrusive contact but are generally only gently dipping further to the east.

The structural trend of the formations in the Stikine area is northwestward and this is reflected by the known regional faults, all of which strike north-northwest and all of which are vertical to steeply dipping. Most of the known faults occur in the intruded rocks either along or parallel to intrusive contacts, (Fig. 2).

PROPERTY GEOLOGY:

Intrusives: The eastern contact of the Hickman Batholith generally runs along the west side of the Schaft Creek, where the intrusive is well exposed in cliffs and bluffs; however, in the vicinity of the Schaft Creek deposit the intrusive contact bulges to the east and crops out along the lower slopes of the ridge that separates Schaft and Mess Creeks. In this area the intrusive ranges in composition from diorite to quartz monzonite and is generally a massive, medium crystalline pinkish-white rock with local deficiencies in mafic mineral content. Most of the intrusive shown in Figure 3 of this report is actually covered with deep overburden and its presence is inferred from scattered outcrops and drill hole intersections.

North-trending dioritic dikes also cut the volcanics in this area.

Volcanics: The volcanic formations in the Schaft Creek area are folded into a relatively tight, north-trending, north-plunging syncline whose axis diverges slightly from the intrusive contact and lies about a mile east of the contact. The Schaft Creek Deposit lies in the volcanic rocks practically on this synclinal axis. The volcanic rocks are readily divisible by colour into two general formations. The uppermost rocks are comprised of purple basaltic flows, tuffs and agglomerates and the underlying rocks are grey-green flows, tuffs and agglomerates. The contact between the two formations is sharp and appears to be conformable. The Schaft Creek Deposit lies wholly within the underlying grey-green volcanics.

The grey-green volcanics are generally latite to andesite in composition and some are porphyritic, suggesting a possible hypabyssal origin. Most of the fragmentalvolcanics are crystal tuffs with common gradations to agglomerates. These volcanic rocks have been termed "andesites" in the field and this terminology will be retained in this report.

Adjacent to the intrusive the andesites are locally granitized and intricately laced by migmatitic layers and lenses. The extent of this contact zone has not been well defined but holes drilled near the intrusive have intersected these metavolcanic and migmatitic rocks so intermixed that specific identification becomes difficult.

Faults: The rocks underlying the Schaft Creek properties are traversed in a north-south direction by lineaments that are readily discernible in aerial photos and which have been correlated with fault zone exposures in outcrops by Dr. Jeffrey of the B.C. Department of Mines. (The geology shown on Figure 3 of this report is derived largely from Dr. Jeffrey's published map of the properties). The outcrop exposures reported by Dr. Jeffrey consist of "clay-gouge and sheared and shattered iron-stained zones", which correspond to similar zones intersected by many of the diamond drill holes drilled in the western portion of the Schaft Creek Deposit. These major fault (shear) zones dip steeply eastward and locally broaden into fault breccia zones, particularly in the vicinity of the diorite - quartz - monzonite contact zones.

As shown in Figure 3, three principal north-trending faults in the volcanic rocks curve around the bulge of the intrusive body where it crosses Schaft Creek. These three faults embrace a zone of anastamosing major and minor faults that is about 4000 feet in width and at least 4 miles in length. The east boundary fault is close to and parallel to the cxis of the syncline that passes through the centre of the saddle in the ridge. The eastern limit of the Schaft Creek Orebody lies about 500 feet east of this fault and parallel to it. The west boundary fault is parallel to and close to the intrusive contact and locally forms the contact. At least two major transverse shear faults connect the two boundary faults; one trends along the western edge of the ore deposit and has a wide breccia zone developed along it, which is richly mineralized in the deposit.

The andesitic volcanic rocks in the area of the ore deposit between the major boundary faults, are intensely fractured, sheared and finely veined by calcite, quartz, epidote, chlorite, talc and rather minor potash feldspar. Pervasive brownish fine crystalline potash feldspathization of the volcanic rocks is common in the vicinity of the fault zones. Pervasive rock alterations in the area of the orebodies are sericitization, carbonatization and chloritization.

The drilled Schaft Creek Orebody occurs in a block of intensely fractured andesitic volcanic rocks in the vicinity of converging major fault-shear zones.

ECONOMIC GEOLOGY

One orebody, the Schaft Creek Deposit, has been proven on the Liard Copper Mines property by surface diamond drilling. In view of the fact that this deposit is the only orebody thus far discovered in the area it comprises a criteria in the search for other orebodies, hence it is described in some detail below:

(A) SCHAFT CREEK OREBODY

The Schaft Creek deposit is formed by pervasive mineralization of fractured andesitic rocks by chalcopyrite, bornite, molybdenite and pyrite. The sulphide minerals are generally fine grained and occur both as fracture fillings and as discrete disseminations in the wall rocks.

Mineralogy: The writer examined two polished sections made from a high grade section of DDH 37, 905 ft. This examination revealed the principal sulphides to be chalcopyrite and pyrite, with local high concentrations of molybdenite. Also identified was a probable titanium oxide, (perovskite), and accessory quantities of tetrahedrite and sphalerite.

Two distinct grain-size populations are present. (1) coarse irregular shaped masses of chalcopyrite and crystals of pyrite, all ranging in size from 0.5 to 1.0 cm., and (2) fine-grained chalcopyrite plus molybdenite in grains ranging from a few microns to 1 mm in size. Chalcopyrite constitutes about 80 percent of the fine sulphides and is evidently earlier than the molybdenite whose emplacement appears to have been controlled by late microfractures. The tetrahedrite is present in the polisections in very minor amounts nevertheless it suggests that in a large tonnage operation the concentrate may contain economic biproduct quantities of silver.

Form: The general form of the main orebody is a flat-lying tabular pod about 4500 feet in length, 3000 feet in width and 700 feet in vertical thickness. Its flat-lying configuration is of interest in that it corresponds generally with the location of the synclinal axis. The writer feels that the folded form of the andesites may have exerted some control on the orebody but that this control would be of a secondary nature in that it possibly influenced the shape of the orebody but not its emplacement. The primary control of this orebody is probably more tectonic than stratigraphic in that it is located in a block of rock that has been relatively intensely fractured due to its position in an area of converging major faults within or close to the overall regional fault zone. This type of orebody control is characteristic of most of the porphyry-type copper and/or molybdenum deposits in the North and South American cordillera. They all occur firstly along or near a major geological plumbing system along which the metal-bearing solutions have been able to pass through the crustal rocks. Such plumbing systems generally consist of steep regional faults and trend parallel to batholith contacts or through a series of batholithic outliers. In most cases they are probably related to a primordial crustal weak zone along which the intrusive bodies were emplaced earlier. Deposition of the sulphide minerals along these plumbing systems is a function of temperature-pressure insofar as the general depths of the deposition is concerned but concentrated deposition, to form orebodies, is more commonly a function of reaction rates in the flow system. In this concept, which has been well demonstrated, metal-bearing acid hydrothermal solutions may travel long distances at high temperatures through igneous rocks without losing their reactive capacity if the fractures through which they flow, (the primary plumbing system), have widths greater than 1 mm. If these solutions encounter a brecciated or sheeted zone in which the solution contact surface area is much greater than that in the open fractures of the primary plumbing system, the solution is likely to react rapidly with its environment, causing intense alteration of wall rocks and/or deposition of ore minerals in the locus of the ramifying fracture-breccia system. This would seem to fit the situation of the Schaft Creek orebody wherein the primary plumbing system is the zone of anastomosing faults that follows the east contact of the Hickman Batholith, and the locus of deposition is the block of brecciated, intensely fractured rock between two converging major faults, (Fig.3).

An important part of the Schaft Creek deposit is what is known as the Western Zone. This is a richly mineralized steeply dipping zone of fault breccia and mylonite that has been formed along the northwesterly trending transverse fault that curves northwestward from Wolverine Creek and enters the Paramount property at about drill hole P6, (Fig. 3).

Tonnage and grade: The published figures for the Schaft Creek deposit, (Mar. 1970), are:

Main orebody	-	240,000,000 tons @	0.42% Cu	0.036 ? 0.36% MoS_2
Breccia zone	- (?)	10,000,000 tons @ (?)	0.80% Cu	(Estim.)

At Canadian prices of 50¢/lb. copper and $1.70/lb. molybdenum, and using a possible 90% recovery for both minerals the gross recoverable value of the above ore is $4.88/ton. The large amount of reserves available will ensure long life for a major operation, i.e., about 15 years @ 50,000 +/day.

In addition to the above orebody, the potential on the Paramount and Liard Copper properties for the occurence of additional orebodies can be considered to be geologically good.

(B) PROPERTY OF PARAMOUNT MINING LTD.

The Paramount claims cover essentially the same geological environment as that in which the Schaft Creek orebody is situated to the south, (Fig. 3). The Paramount property includes some of the diorite-quartz-monzonite intrusive along its western edge and extends eastward well into the purple volcanic formation near the crest of the ridge. The economic possibilities for the property would appear to fall into three general categories: (1) the occurrence of relatively small orebodies which could be mined by openpit or underground methods and shipped to the Schaft Creek Orebody mill, (2) the occurrence of other deposits of the same general size and grade as the Schaft Creek Orebody, and (3) the extension of the Schaft Creek Orebody onto Paramount Ground. The available data which indicates that one or more of these eventualities is a good possibility are discussed below:

GEOLOGY:

The presumably favourable andesitic host rock formation and the contact of the diorite-quartz monozite intrusive body are included in the Paramount property for a strike length of nearly 3 miles. The only obvious geological difference between this geological setting and that to the south, in which the Schaft Creek orebody occurs, is that the Paramount claims lie along the western limb of the synclinal fold in the volcanics whereas the ore zone to the south more or less straddles the axis or keel of this syncline.

The western portion of the major fault belt is included for the full length of the property and becomes complexly branched near the centre of the property with two major faults converging at the south end, (Fig. 3). Thus, if it is accepted that this zone of major faulting represents the primary plumbing system for metal-bearing solutions then any loci of converging faults or brecciation along the system on the Paramount property would comprise potential ore zones.

Malachite stain is visible on the bluffs in many places in the andesitic rocks on the Paramount property. Near DDH P2 bulldozer stripping has exposed bedrock consisting of breccia type ore that is heavily impregnated with pyrite and chalcopyrite. This particular outcrop would appear to be the projection from the south of the Western Breccia ore zone. The Hecla geologists have mapped the chalcopyrite and malachite showings on both the Paramount and the Liard Copper properties and these are shown on Fig. 3. It is of interest that the largest concentration of such mapped copper exposures occurs along the fault zone - intrusive contact on the Paramount property, particularly in the northern half.

Thus, on the Paramount property there is a juxtaposition of the following geological features that are analogous to those in the vicinity of the Schaft Creek Orebody and are therefore considered to be encouraging for the possible occurrence of other orebodies.

1. Faulted and brecciated andesitic rocks.
2. Intrusive contact.
3. Major faulting.
4. Relatively abundant copper showings.

GEOPHYSICS:

The southern half of the Paramount property was covered by an I.P. survey in 1966 and a large anomaly was detected at the south end of the property and a relatively small one near the centre of the property, (Fig. 4). the large anomaly is some 4000 x 2000 feet in plan size and is open at the southern boundary of the claims. It is underlain by andesitic rocks and covers the areas of converging major faults. The smaller I.P. anomaly is only a few hundred feet in diameter but occurs in the centre of an extensive copper soil anomaly.

GEOCHEMISTRY:

The southern half of the Paramount property was also explored in 1966 by a geochemical soils survey for copper and molybdenum, the general results of which are shown in Figure 4.

The copper survey detected three anomalous areas of soil:

1. An irregular shaped anomaly at the south end of the property, somewhat downhill from the I.P. anomaly. Although irregular in shape this anomaly contains relatively high copper values.

2. A large area near the centre of the property. This anomaly contains moderate copper values, is centred on the small I.P. anomaly, and is open to the north.

3. A small, weak, irregular anomaly that is open off the property to the east.

The molybdenum survey detected one weak, (3-10 ppm), anomaly at the southern end of the property, within the large I.P. anomaly.

The two areas of most interest outlined by the soils survey are the large copper anomaly at the centre of the property and the coincident copper and molybdenum anomalies at the south end of the property. The central anomaly is of interest because it includes the western faults, a cluster of copper showings and the small I.P. anomaly. The southern anomaly is of great interest because it is coincident with the large I.P. anomaly as well as the convergence of the major faults. Both the southern and central anomalous areas are comparable in size to the plan area of the Schaft Creek orebody.

DIAMOND DRILLING: (Figs. 5, 6, 7, 8)

In 1969 two holes, P2 and P3 were drilled at the extreme south end of the Paramount property. Both holes were drilled to the west at -45 deg. across the northern projection of the Western Breccia Ore Zone and both traverse the complex contact zone of interfingered intrusive and metavolcanic layers, with granitization and migmatization locally much in evidence.

The western hole, P2, penetrates the contact of the main intrusive body and only about 40 percent of its length is in (meta) volcanic rocks. Copper values are negligible in P2; most of the hole assaying .05-.06%Cu with local highs of 0.4 (70 feet) and 0.3 (40 feet) %Cu. The bottom 150 feet of hole, in the intrusive proper, is essentially barren.

The eastern hole, P3, intersected the northern projection of the West Breccia Ore Zone at a depth of about 150 feet; beyond that depth the hole was largely in intrusive layers, all of which dip steeply eastward. The first 380 feet of hole P3 is well mineralized, averaging 0.43%Cu and 0.077% MoS_2, approximately the grade of the main Schaft Creek orebody to the south. From the fault breccia zone to the end of the hole at 1200 feet metal values are submarginal, averaging about 0.10%Cu and 0.005%MoS_2.

In 1970 three additional holes P4, P5, P6A, were drilled on the P2-P3 section, (Fig. 5). (Hole P6 was also drilled but abandoned after a short distance). Of these, P5 was collared at P3 and drilled at -75 deg. westward through the Breccia Zone to a depth of 1137 feet. Hole P6A was collared at the Paramount boundary, 400 feet east of P5, and drilled at -75 degrees west. Hole P4 was collared 400 feet east of P6A on Liard ground and drilled west at -45 degrees but was abandoned at 447 feet in caving rock and overburden. (The depth of overburden on this section is roughly 100 feet.) In addition, a fourth hole, P7, was collared 700 feet north of P5 and drilled parallel to it to a depth of 1567 feet (Fig. 6). The locations of these holes are shown on Figs. 3 and 4.of this report and geological and assay sections through them are presented in Figs. 5 and 6. Geological logs of holes P5, P6A and P7 are appended to the report.

In 1971 a further three holes, (P8, P9, P10), were drilled in the south-east corner of the Paramount property, south of all previous holes. P8 was collared 50 feet east and 275 feet south of P3 - P5 and drilled vertically through the Breccia Zone. P9 was collared approximately 275 feet west and 275 feet south of P3 - P5 where it also drilled vertically through the Breccia Zone. Locations of these holes are shown on Figs. 3 and 4 and geological and assay sections are presented in Figs. 7 and 8. Geological logs are not available but sample and assay details are appended.

RESULTS:

Three holes drilled in 1970 intersected very extensive lengths of copper-molybdenum mineralization, P5 and P7 in very low grade and P6A in ore grade. The complete assays for the 1970 holes are recorded at the end of each of the drill logs appended to this report.

All of the holes drilled in 1971 intersected considerable ore grade mineralization and P8 bottomed in good grade material (0.63% Cu equivalent). P9 and P10 were still weakly mineralized at hole bottoms.

As shown in Figs. 5, 6, 7 and 8 the sulphide mineralization intersected on the Paramount claims is concentrated in the fractured, altered volcanic rocks within and east of the regional fault zone termed the West Breccia Ore Zone on the Liard Copper claims to the south. The richest concentration is within the West Breccia Zone and in the most sheared and fractured and altered rock east of it. There is insignificant mineralization west of the zone, within the more competent, less fractured (unfaulted)intrusive and metavolcanic rocks toward the main intrusive contact. Within and east of the West Breccia Zone the volcanic rocks are altered by hydrothermal bleaching that has been accompanied by the replacement of the mafic minerals by sericite, carbonate, some K-feldspar and chlorite. Chalcopyrite, pyrite and bomite occur in the more fractured rock as fine grained disseminations and as scattered fracture fillings; in contrast, the molybdenite is generally confined to smears on fracture planes or in quartz veinlets. Recent experience with the Adanac molybdenite deposit near Atlin indicates that molybdenite occurring primarily on fractures suffers a loss in NQ core drilling in excess of 20%. The Paramount drill holes have experienced considerable core loss in the most fractured-sheared (and best mineralized) rock and it is most likely that the drill core copper-molybdenum assays are all lower than the true grade.

GRADE:

The average grades of the better mineralized portions of the drill holes are:

Hole	Interval	Length	Average Assay
P3	-	380'	0.32%Cu, 0.077%MoS_2
P5	120'-900'	780'	0.37%Cu, 0.032%MoS_2
P6A	190'-1152'	962'	0.37%Cu, 0.052%MoS_2
P7	210'-830'	620'	0.30%Cu, 0.040%MoS_2
P8	120'-780'	660'	0.33%Cu, 0.043%MoS_2
	980'-1161'	181'	0.30%Cu, 0.089%MoS_2
P9	12'-780'	768'	0.36%Cu, 0.047%MoS_2
P10	53'-594'	541'	0.20%Cu, 0.047%MoS_2

The weighted average of these intersections is 0.337% Cu and 0.047% MoS_2(0.028%Mo). If it is assumed that the actual grades will be 5% higher for copper and 20% higher for molybdenum and that recoveries for both will be 90% the recoverable grade would be 0.319% Cu and 0.051%MoS_2.

Using metal prices of \$0.50/lb. for copper and \$1.70/lb. for molybdenum the current gross recoverable value of the Paramount ore is \$4.23/ton. Current operating costs for open-pit operations in excess of 15,000 tons per day in southern British Columbia are about \$2.00/ton, therefore the net operating profit for the Paramount material would probably be at least \$2.20/ton.

TONNAGE:

For purposes of preliminary assessment it is of interest to estimate the tonnage of the above mineralized rock that has been indicated by the several diamond drill holes. Using the cross-sections and plan, the average area to a depth of 1200 feet of the mineralized zone on Paramount ground is approximately 1,000 sq. ft. or about 90,000 tons per vertical foot. Allowing for some waste sections the tonnage encompassed to a depth of 1200 feet is in the range of 90 - 100 million tons.

The mineralized zone is open to the north and to the east (the Paramount boundary diverges to the east going north, Fig.3).

CONCLUSIONS

The geological setting of the Nabs claims of Paramount Mining Ltd. is essentially the same as that to the south in the vicinity of the Schaft Creek Orebody except for the fact that the axis of the synclinal fold of the volcanic formations passes through the orebody but does not cross the Paramount property. The other geological features to which the orebody is, or may be, related are all repeated on the Paramount property in the same general dimensions and character as at the orebody. These include:

1. Ostensibly favourable andesitic host rocks.

2. Nearby intrusive contact.

3. Major zone of converging faults.

4. Extensive close fracturing and hydrothermal alteration of andesites.

5. Many surface exposures of copper mineralization in the andesites.

In addition to these general geological features are the encouraging results of the exploration that has been done on the Paramount property, namely:

1. Some 90-100 million tons of "ore" mineralized rock indicated by 8 diamond drill holes drilled to date, and open to the east and north.

2. The juxtaposition of strong copper and molybdenum geochemical anomalies with a good I.P. anomaly at and north of P3 over an area measuring 2000 x 4000 feet, approximately the plan size of the Schaft Creek orebody.

3. The occurrence of an extensive copper soil anomaly near the centre of the Paramount property, in an area of major faults, extensive copper showings and a weak I.P. anomaly.

4. An area 4000 x 6000 feet representing the unexplored north end of the property.

EVALUATION:

At this time, when the ultimate value of the Schaft Creek orebody has still to be determined, it is impossible to assign a meaningful monetary value on the Nabs Property of Paramount Mining Ltd.; however, a preliminary assessment can be made of the possible potential of the Paramount property.

It is estimated that the operating profit for the 90-100 million tons of possible ore; presently indicated on the Paramount property could be as much as $220 million. If this ore continues to the north it is conceivable that the equivalent of another Schaft Creek orebody will be developed on the Paramount property. Spatially there is room on the Paramount property for three Schaft Creek type of orebodies; geologically, geophysically and geochemically there is good evidence for one such possible orebody at the south end of the property, some evidence for a possible one in the centre of the property and unknown potential at the north end. The drill hole evidence to date suggests that there is an orebody of major size, (100 million tons), at the south end of the property.

The contract between Hecla Mining Co. of Canada and Paramount Mining Ltd. stipulates that Paramount will be paid 30% of the net proceeds for any ore mineral from the Paramount claims. If a Schaft Creek orebody occurs on the Paramount property the eventual value to Paramount Mining Ltd. would be about $200 million.

RECOMMENDATIONS:

If the Paramount property is considered as an entity separate from the Liard Copper property it would warrant the following work, based on existing data:

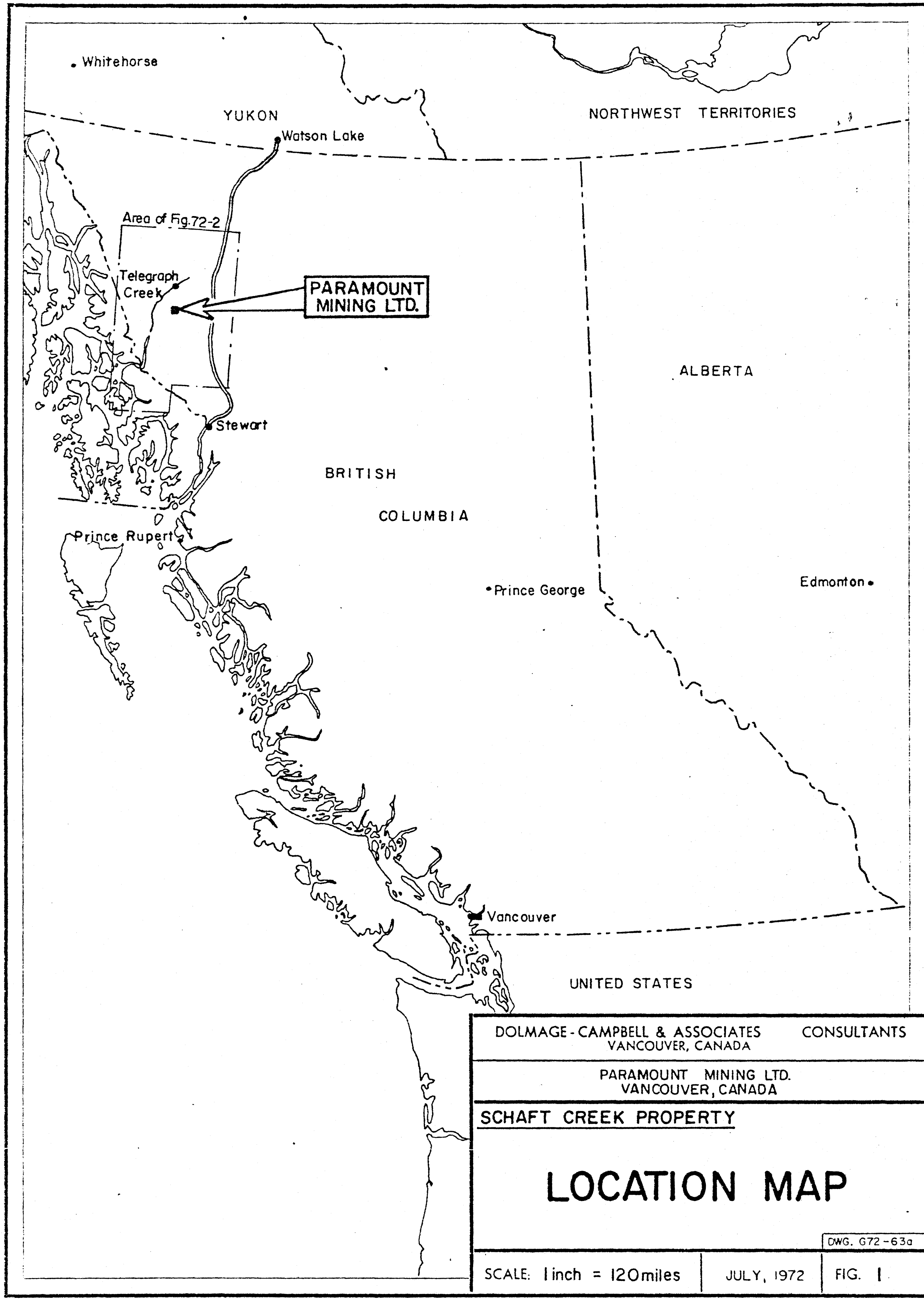
1.	Diamond drilling to extend and sample the ore in the present drill holes.	15,000 feet
2.	Diamond drilling to determine relevance of geochemical and geophysical anomalies.	5,000 feet
3.	Geochemical and I.P. surveys of north end of property. (Acknowledging the downhill migration of soil anomalies in such steep terrain, they may still be useful).	
4.	Reconnaissance exploratory drilling of remainder of property.	

The total cost of such a program is roughly estimated to be about $500,000 and would be near the minimum required to test the whole property for possible orebodies of the size of the existing Schaft Creek Orebody to the south. If such a program discovered new ore additional drilling would of course be necessary to fully evaluate the property.

Respectfully submitted,
DOLMAGE CAMPBELL & ASSOCIATES LTD.

Douglas D. Campbell, P. Eng. Ph.D.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
D. D. CAMPBELL



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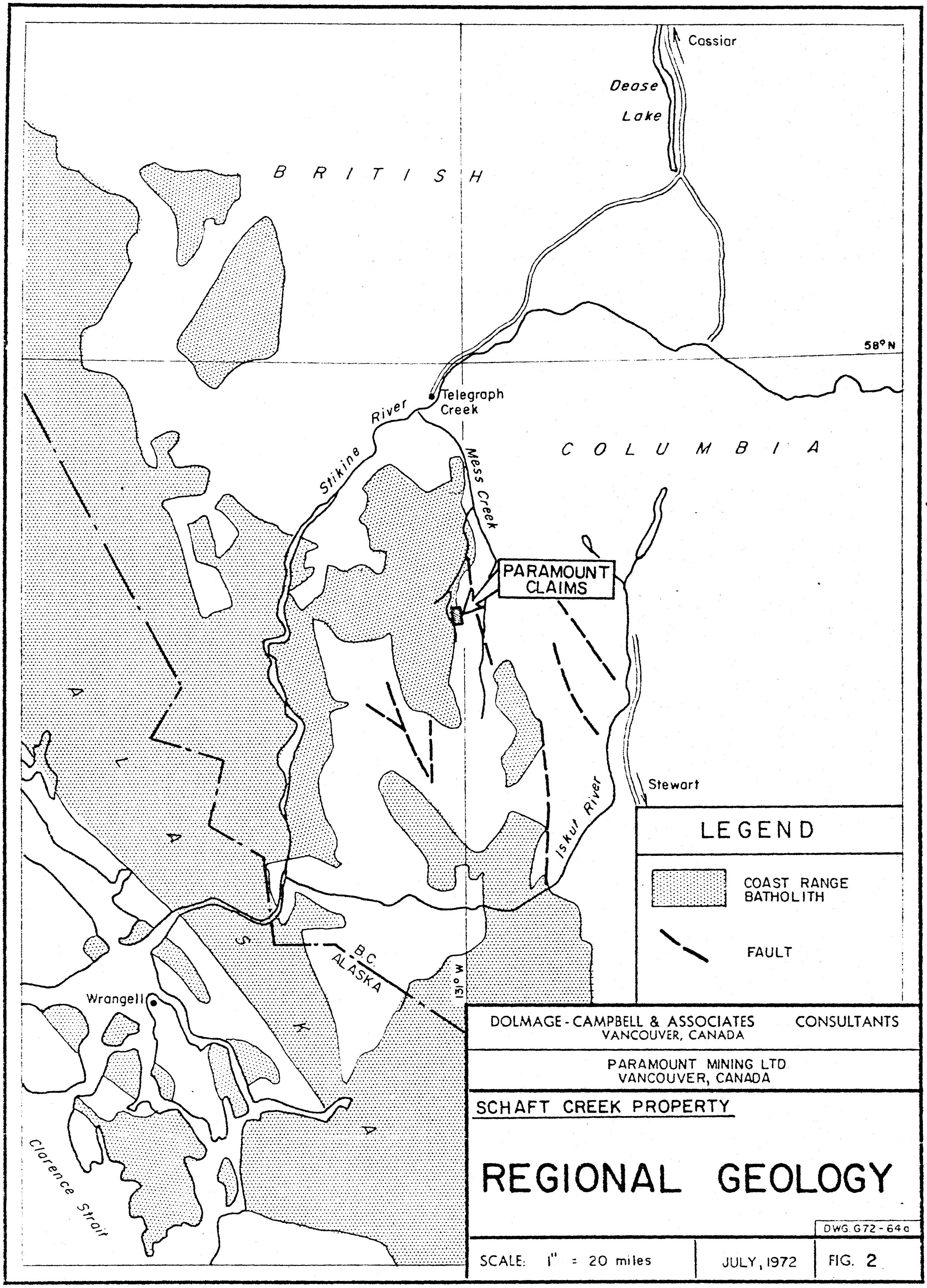
SCHAFT CREEK PROPERTY

LOCATION MAP

DWG. G72-63a

SCALE: 1 inch = 120 miles	JULY, 1972	FIG. 1



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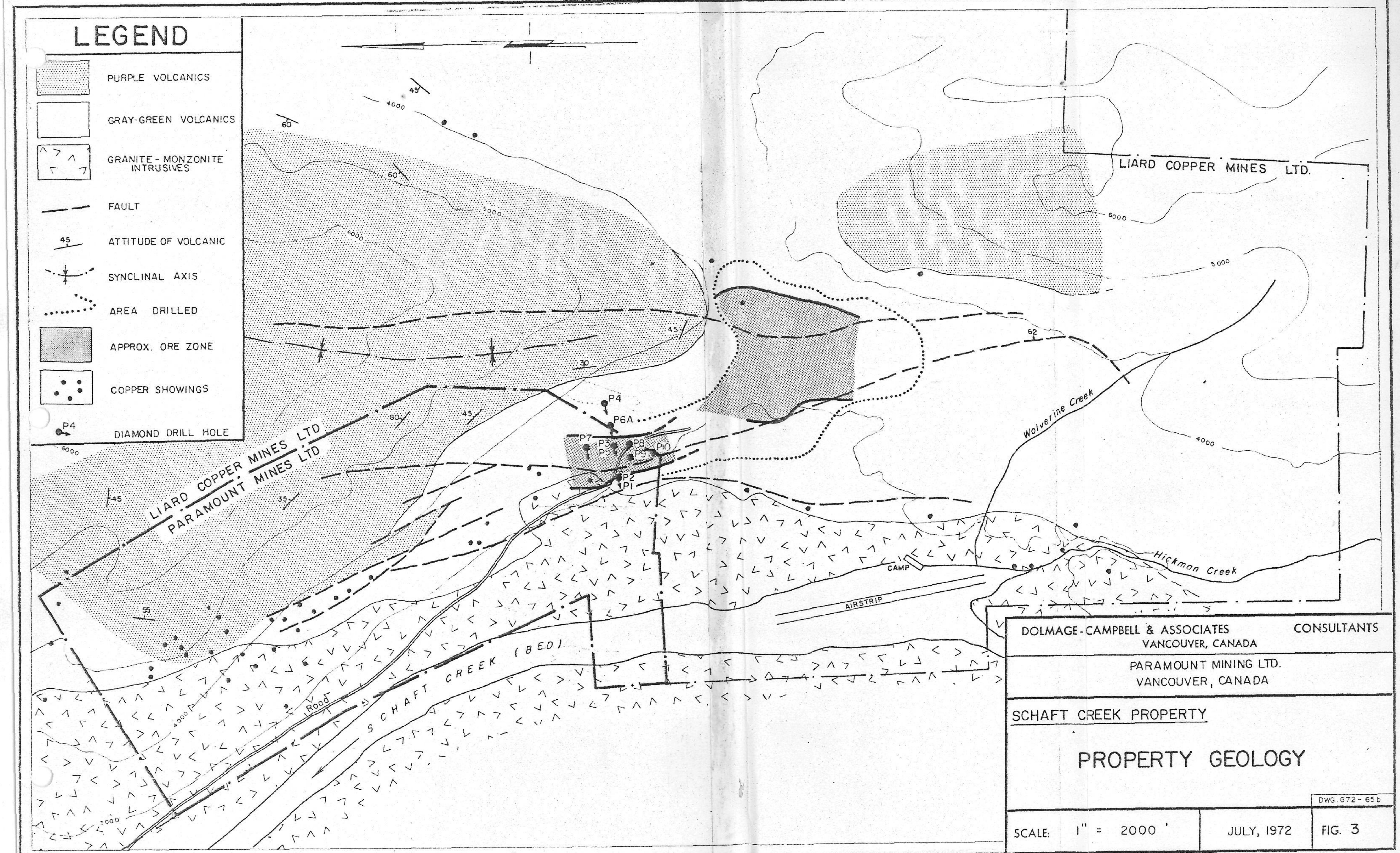
SCHAFT CREEK PROPERTY

REGIONAL GEOLOGY

DWG. G72-64a

SCALE: 1" = 20 miles | JULY, 1972 | FIG. 2



LEGEND
PURPLE VOLCANICS
GRAY-GREEN VOLCANICS
GRANITE - MONZONITE INTRUSIVES
FAULT
ATTITUDE OF VOLCANIC
SYNCLINAL AXIS
AREA DRILLED
APPROX. ORE ZONE
COPPER SHOWINGS
DIAMOND DRILL HOLE
P4
LIARD COPPER MINES LTD
PARAMOUNT MINES LTD
LIARD COPPER MINES LTD.
P4
P6A
P7
P3
P5
P8
P9
P10
P2
P1
Wolverine Creek
Hickman Creek
CAMP
AIRSTRIP
Road
SCHAFT CREEK (BED)
4000
5000
6000
3000
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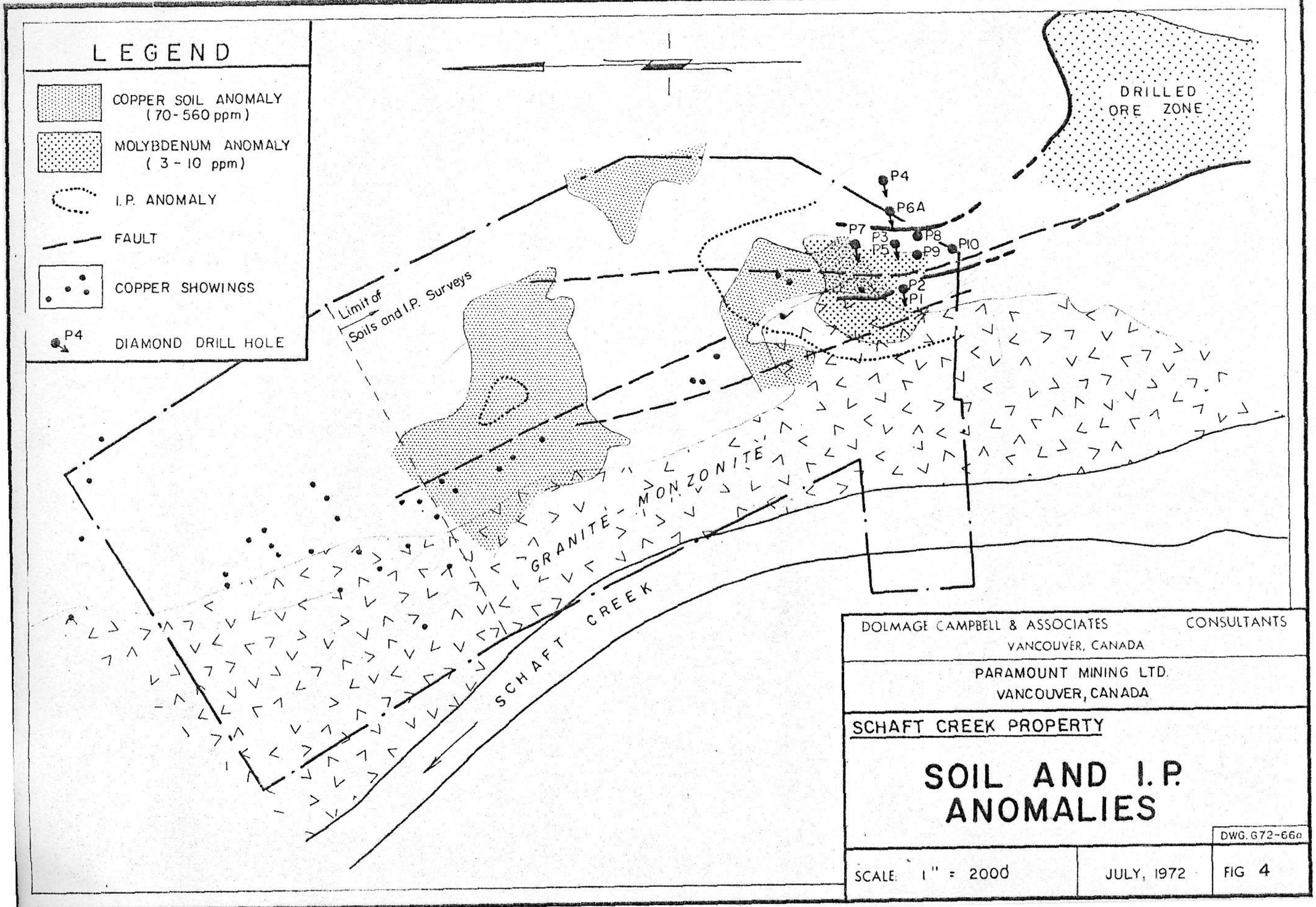
PARAMOUNT MINING LTD.
VANCOUVER, CANADA
SCHAFT CREEK PROPERTY
PROPERTY GEOLOGY
DWG. G72 - 65b
SCALE: 1" = 2000'
JULY, 1972
FIG. 3



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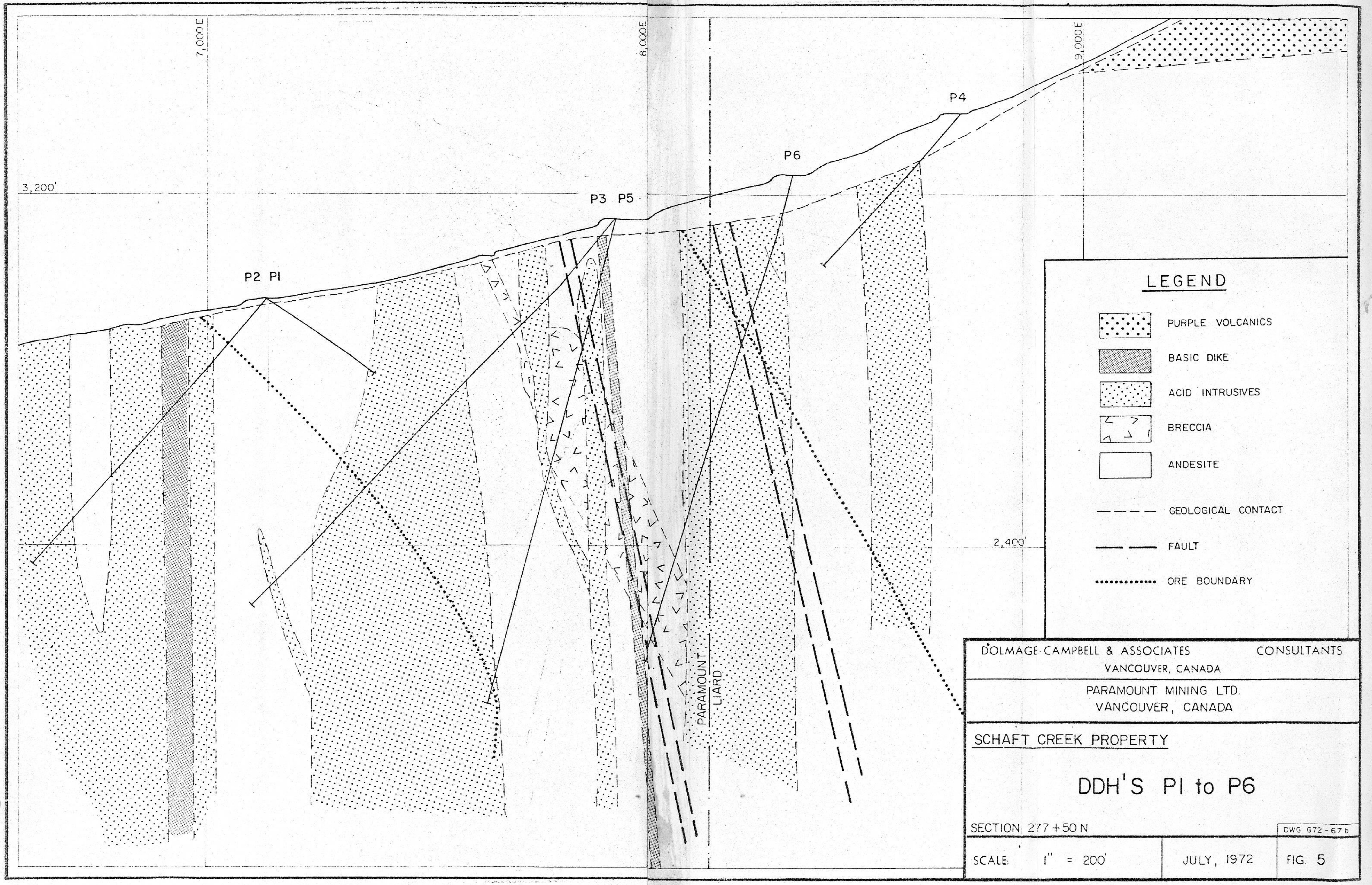
SCHAFT CREEK PROPERTY

SOIL AND I.P. ANOMALIES

DWG. G72-66a

SCALE: 1" = 2000	JULY, 1972	FIG 4



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SCHAFT CREEK PROPERTY

DDH'S PI to P6

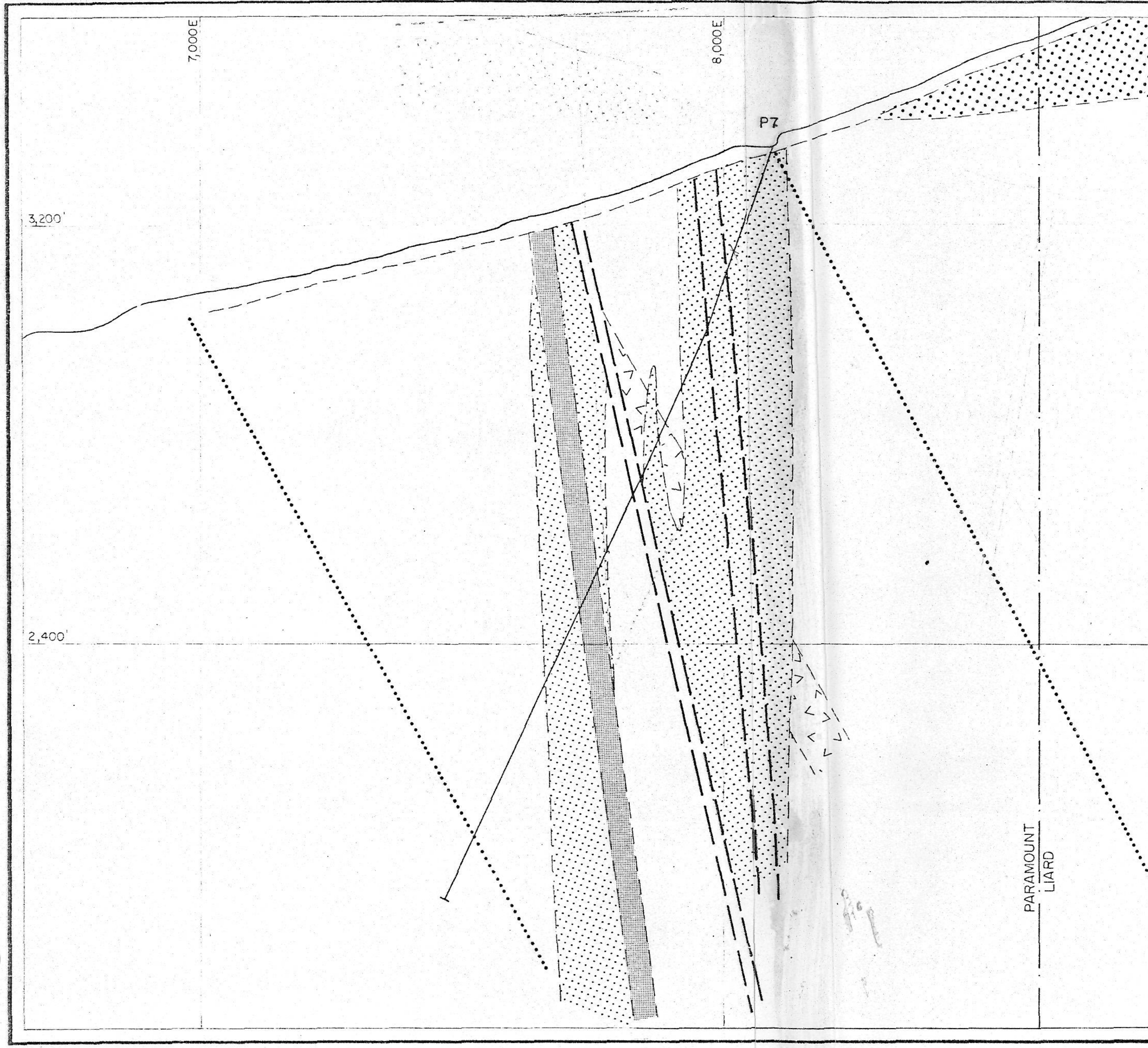
SECTION 277+50 N

DWG G72-67b

SCALE: 1" = 200'

JULY, 1972

FIG. 5



NOTE: For legend see Fig. 5

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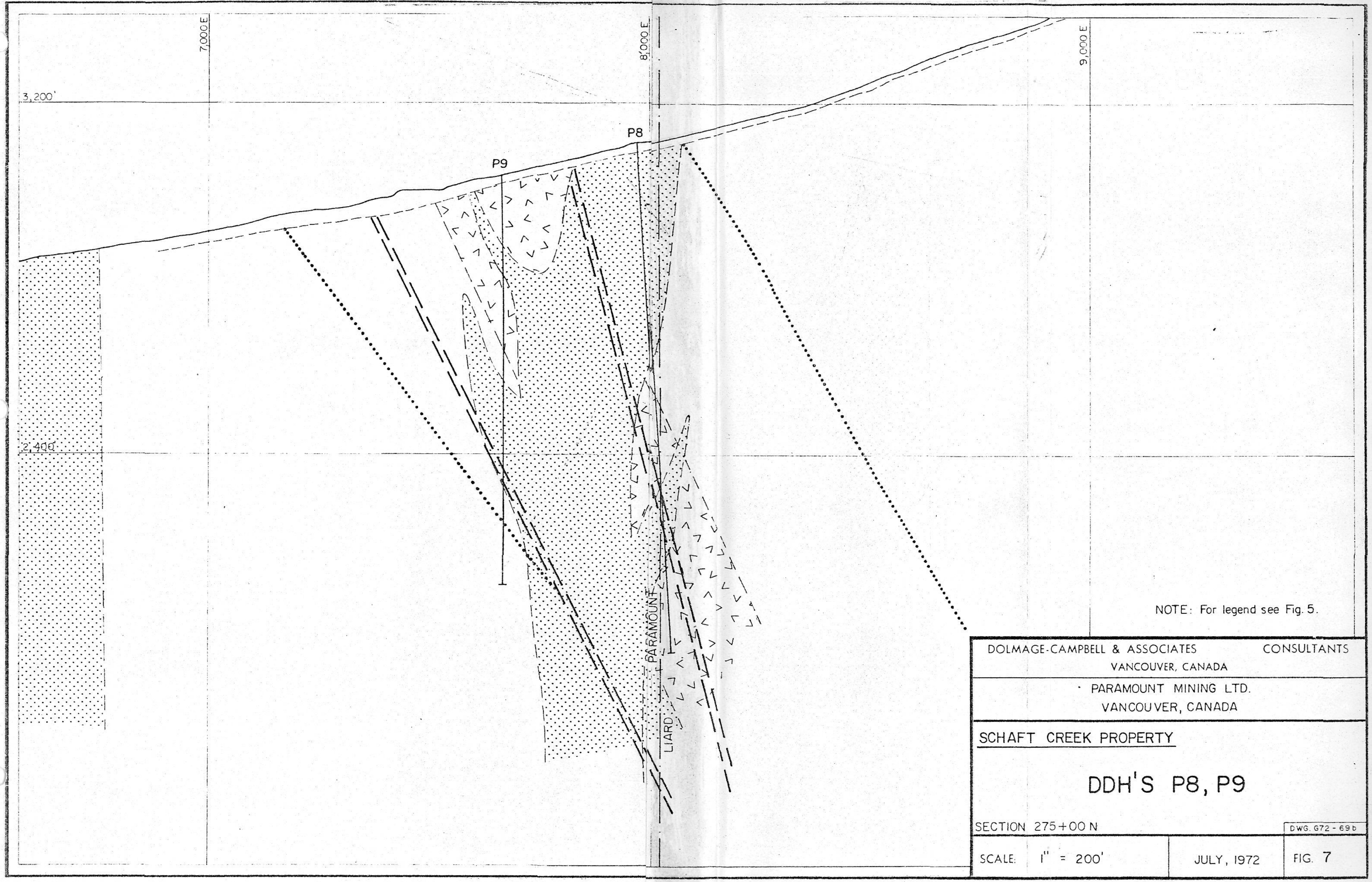
SCHAFT CREEK PROPERTY

DDH P7

SECTION 285+00N

DWG. G72-68b

SCALE: 1" = 200'	JULY, 1972	FIG. 6



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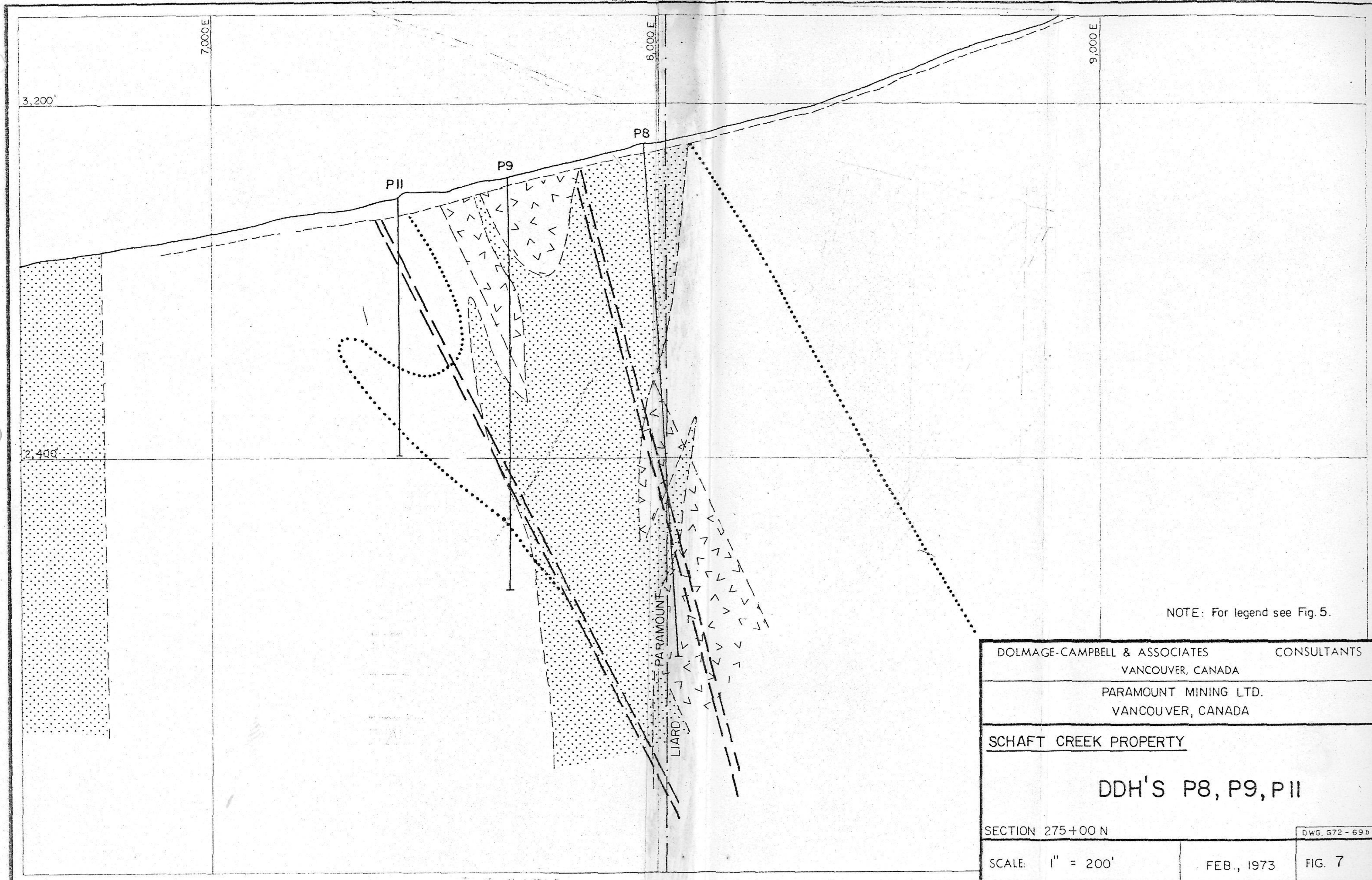
SCHAFT CREEK PROPERTY

DDH'S P8, P9

SECTION 275+00 N — DWG. G72-69b

SCALE: 1" = 200'	JULY, 1972	FIG. 7

Revised February 1973 (see attached)



NOTE: For legend see Fig. 5.

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SCHAFT CREEK PROPERTY

DDH'S P8, P9, P11

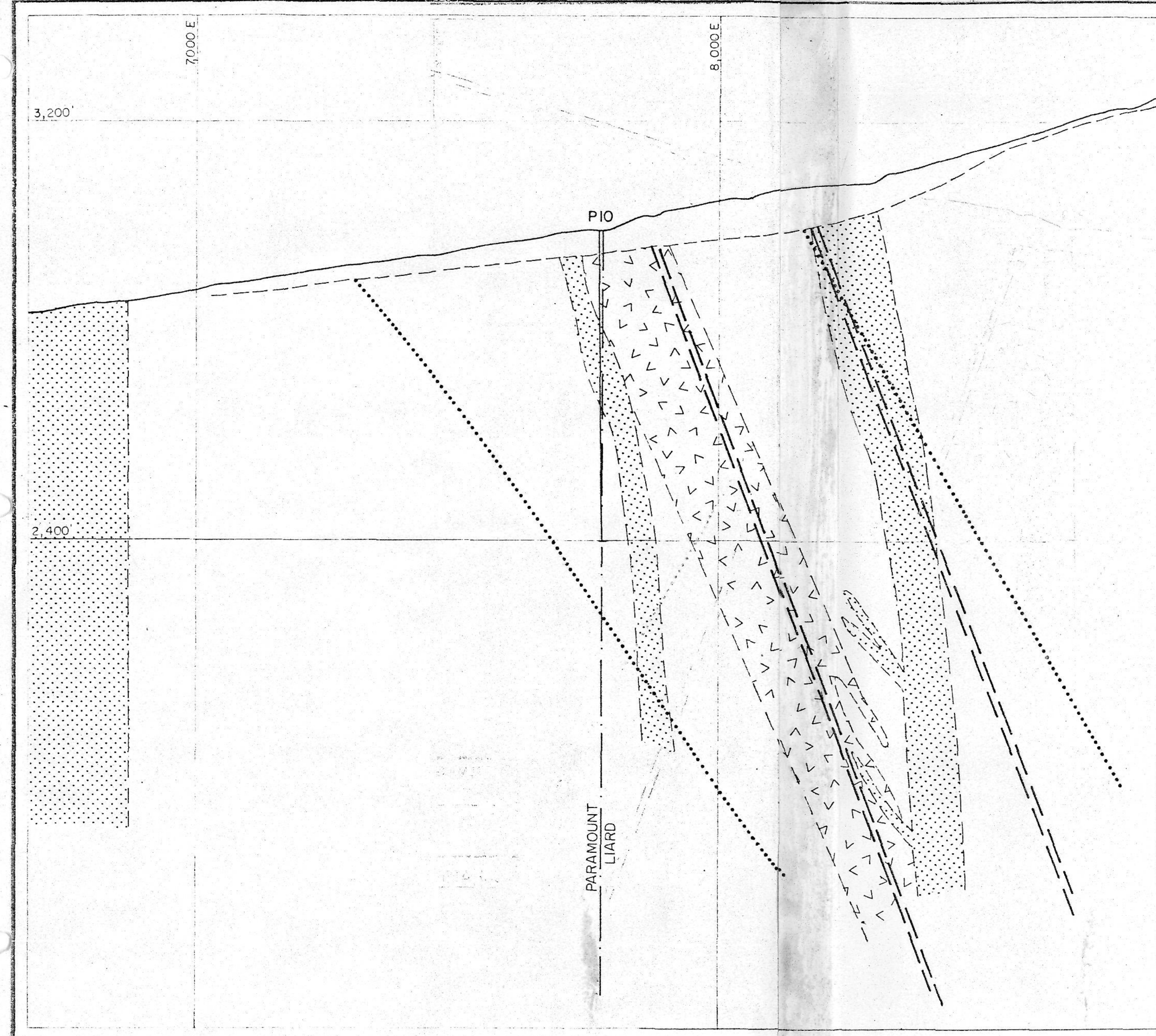
SECTION 275+00 N

DWG. G72 - 69b

SCALE: 1" = 200'

FEB., 1973

FIG. 7



NOTE: For legend see Fig. 5.

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SCHAFT CREEK PROPERTY

DDH P10

SECTION 270 + 00 N

DWG. 672 - 70 b

SCALE: 1" = 200'

JULY, 1972

FIG. 8

APPENDIX

Diamond drill core logs and assays for DDH P5, P6A and P7.

Diamond drill assays for DDH P8, P9, P10

Diamond Drill Log

PARAMOUNT SCHAFT CREEK

DH P-5 Page 1

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0	120	OVERBURDEN				
120	300	META-VOLCANICS.	Med. grey green, massive fine to medium crystalline. Fairly hard, locally granitized, pale buff in colour, generally feldspathized (pale pinkish K-feldspar). Some indication of volcanic fragments. - Core very broken, generally sheared at very low angle to hole, locally almost schistose. - Mineralization: fine grained chalcopyrite disseminated in altered sections and concentrated in smears and nests in fractured metavolcanics throughout section.			
300	370	ALTERED FRAGMENTAL	Massive green grey rock, generally hydrothermally altered, commonly contains rusty red feldspathic fragments (cherty) as well as mafic fragments, could be K-feldspathization. Fine to medium crystalline. Main alteration is bleaching, (sericite, calcite etc.) - Core more solid, competent, not as sheared - Mineralization slightly less than above section, mostly very fine disseminated chalcopyrite. (340-370) - Very sheared zone with gouge on shear planes, which are at very low angle to core.			
370	420	META VOLCANICS ALTERED	Shearing quite intense, chalcopyrite concentrated on chloritic shears parallel to hole. Moly increases after 400 ft.			
420	450	VOLCANIC.	Grey to pink patchy massive rock, cherty to medium crystalline. Appears to be bleached (sericite-calcite) and K-feldspathized (?) volcanic. Mineralization weaker, mostly finely disseminated cp in crystalline phases.			
450	460	SHEAR ZONE	Same rock as above only intensely sheared and chloritized parallel to hole, badly broken core. - Mineralization: fairly concentrated chalcopyrite and some moly along shear planes.			
460	598	ALTERED VOLCANICS	Same as above but fresher. (545-575) - Shear zone at 0°-10° to hole axis. 1" gouge at 570, appreciable increase in chalcopyrite beneath shear zone but then the last ten feet are intensely sheared and weakly mineralized.			

Project PARAMOUNT SCHAFT CREEK. Hole No. Page

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	LOST
598	800	CHLORITIZED VOLCANICS.	Dark green soft serpentine, chlorite, epidote, intensely sheared and fractured at low angle to core, probably sheared and chloritized volcanics. - Mineralization: local concentrations of extremely fine pyrite and chalcopyrite. Molybdenite increases from 650 but chalcopyrite is probably sub-ore grade. Pyrite more common after 670 ft. and chlorite decreases.			
800	865	SHEARED ZONE	Same rock as above, but very broken and sheared at low angle to core, heavily mineralized with talc. Chalcopyrite increases markedly. Molybdenite is concentrated in nests.			
865	935	ALTERED VOLCANICS	Grey green, tinted with rose, fairly hard but intensely fractured and sheared. - Mineralization: fine chalcopyrite occurs in local concentrations. (882-935) - Sheared zone.			
935	990	VOLCANICS	Dark green, hard, massive andesite laced with epidote (patches and veinlets) generally fractured and mineralized with talc. Rock is generally fine grained. - Mineralization: disseminated coarse chalcopyrite irregularly distributed along fractures.			
990	1137 END	ALTERED VOLCANICS	Most gray-green (pale) rock that is rose tinted beyond 1050 ft. Hard, fine to medium crystalline generally massive. Appears to be "bleached" volcanics (sericite, carbonate ?). (1010-1046) - VOLCANICS - massive, dark green-grey very fine grained, appears to be essentially unaltered volcanics. Unmineralized. - Mineralization: Extremely fine grained, disseminated chalcopyrite and some molybdenite. (1065-1137) - GRANITIZED (?) - Fine to medium crystalline, grey green with extensive rose-tinted sections that appear to be monzonitic. Chalcopyrite and molybdenite on fracture planes.			

FOOTAGE		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST

Interval	Length	%Cu	$\%MoS_2$	%Cu Equivalent
65-120	55	0.01	0.001	0.01
120-190	70	0.52	0.053	0.68
190-290	100	0.23	0.015	0.27
290-360	70	0.38	0.012	0.42
360-430	70	0.72	0.045	0.85
430-530	100	0.42	0.022	0.49
530-580	50	0.20	0.004	0.21
580-670	90	0.29	0.070	0.50
670-810	140	0.13	0.014	0.17
810-900	90	0.62	0.054	0.78
900-1050	150	0.30	0.012	0.34
1050-1137	87	0.14	0.023	0.21

Diamond Drill Log.
PARAMOUNT SCHAFT CREEK.

DH P6A Page 1

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0	140	OVERBURDEN				
140	470	META VOLCANICS	White to pink med. crystalline feldspathic rock. Core badly broken, sheared parallel to hole, local smears of chalcopyrite and moly on fractures. Abundant cherty tan-coloured sections (K-spar probably). 187-210 shear zone gauge locally (very poor core recovery). 258-365 shear zone, broken core, section of gouge. 50% core recovery, fair amount of hematite. From 365-426 mineralization increases, generally heavily fractured with chalcopyrite and moly common on fracture planes 10°-45° to core. From 420-440 rock becomes holo-crystalline pinkish, syenitic, mineralization decreases, moly on flat fractures, very fine chalcopyrite on steep fractures. From 440 intense moly on all fractures. No chalcopyrite.			
470	1064	GRANITIZED (?) VOLCANICS	Uniform, pale grey, locally pink, massive, medium crystalline rock that is hard, blocky fractured, locally cherty. Occasional heavy chlorite shears at very low angle to hole. Rock is either "granitized" volcanic or hybrid monzonite. - 515 to 522 black soft lamprophyre dyke at 50° to hole axis. - Mineralization : (470-580) Abundant moly on shear fractures and slip planes, generally 45-10° to hole. Very fine grained chalcopyrite disseminated throughout rock. (580-636) Minor moly but relatively abundant very fine grained chalcopyrite.			

Interval	Length	%Cu	%MoS_2	%Cu Equivalent
140-190	50	0.03	0.012	0.07
190-370	180	0.14	0.006	0.16
370-440	70	0.20	0.030	0.29
440-530	90	0.19	0.045	0.33
530-710	180	0.34	0.076	0.57
710-780	70	0.66	0.112	1.00
780-1070	290	0.55	0.063	0.74
1070-1152	82	0.39	0.040	0.51

Project PARAMOUNT SCHAFT CREEK Hole No. P6A Page 1

Diamond Drill Lc

PARAMOUNT SCHAFT CREEK

DH DHP7 Page 1

FOOTAGE		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	203	OVERBURDEN				
203	310	META-VOLCANIC	- Medium crystalline, hard, massive pale gray-green with pinkish (monzonitic ?) sections. Core very badly broken, recovery poort to moderate. (231-234) Fault - fractured rock and gouge. Mineralization: Finely disseminated chalcopyrite and pyrite throughout. Molybdenite smeared on fracture planes and in quartz veinlets.			
310-	637	ALTERED VOLCANICS	- Pale green-gray, hard, massive, locally extensively pink tinted (granitized ?). Intensely fractured but core recovery better than preceding section. Rock is probably "bleached" by replacement of mafics by sericite and carbonate (?), appears to be locally granitized. Mineralization: Finely disseminated chalcopyrite but more molybdenite on fractures than in preceding core. Basalt dikes - green-black, hard, massive, aphanitic. (367-384, 402-412, 426-434). Fault - (480) - Gouge (6").			
637	674	FAULT ZONE	- Major structure, includes 15 ft. of gouge and intense brecciation. Sheared, bleached volcanics. Mineralization: Disseminated chalcopyrite very common in brecciated sections.			
674	755	BRECCIA ZONE	- Intensely brecciated with variety of rock types in the fragments (altered volcanics and meta (granitized) volcanics), "bleaching" of fragments may have been pre-brecciation.			
755	777	META-VOLCANICS	- Fine to medium crystalline, hard, massive, grayish-pink with "granitized" appearance very pronounced locally, i.e., (755-763) could be monzonite. (763-767) - Basalt dike. Mineralization: Very finely disseminated chalcopyrite and moly on fractures. Core broken on fractures has probably resulted in considerable moly loss.			

Project PARAMOUNT SCHAFT CREEK Hole No. DHP7 Page 1

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
777	804	VOLCANICS	- Drak green, massive, epidotic, hard relatively solid rock. Last 10 feet are brecciated and feldspathized. Mineralization: Same as above.			
804	1092	ALTERED VOLCANICS	- Pinkish, gray-green, hard, massive, fine-medium crystalline "bleached" and possibly feldspathized (?) andesitic rocks. The pinkish centres have appearance of monzonitic fragments. Competent but well fractured rock. Mineralization: As preceding rock only lower grade in general.			
1092	1567	VOLCANICS END	- Massive, dark green, aphanitic, hard, locally chloritized and/or epidotized. Mineralization: Erratically distributed chalcopyrite in about same general grade as before. Occasional moly, always on fractures, probably high loss.			

Interval	Length	%Cu	$\%MoS_2$	%Cu Equivalent
210-510	300	0.030	0.044	0.43
510-640	130	0.09	0.009	0.12
640-830	190	0.44	0.052	0.60
830-1020	190	0.07	0.022	0.14
1020-1080	60	0.16	0.019	0.22
1080-1180	100	0.29	0.031	0.38
1180-1250	70	0.20	0.022	0.27
1250-1340	90	0.16	0.012	0.20
1340-1440	100	0.24	0.030	0.33
1440-1567	127	0.09	0.013	0.13

Liard Project - Schaft Creek, B. C.

DIAMOND DRILL HOLE P-8

Start:	July 11, 1971	Coordinates:	27501.35N 7966.46E
Finish:	July 20, 1971	Elevation:	3,110.7'
Core Size:	NQ	Inclination:	90°
Core Recovery:	98%	Bearing:	N0°0'E
Sample:	Split Core	Length:	1,161'
Directional Survey:	See last page		

Core Sample Number	Hole Interval (feet)	Core Recovery (percent)	Copper (percent)	Molybdenite (percent)	% Copper Equivalent (%Cu + 3 x %MoS_2)
66426	120 - 130	77	0.28	0.003	0.29
66427	130 - 140	99	0.20	0.007	0.22
66428	140 - 150	111	0.30	0.021	0.36
66429	150 - 160	94	0.15	0.015	0.20
66430	160 - 170	89	0.29	0.018	0.34
66431	170 - 180	92	0.29	0.053	0.45
66432	180 - 190	100	0.24	0.031	0.33
66433	190 - 200	97	0.17	0.030	0.26
66434	200 - 210	93	0.29	0.025	0.36
66435	210 - 220	100	0.09	0.054	0.25
66436	220 - 230	104	0.11	0.050	0.26
66437	230 - 240	106	0.09	0.023	0.16
66438	240 - 250	84	0.22	0.020	0.28
66439	250 - 260	93	0.28	0.012	0.32
66440	260 - 270	102	0.32	0.025	0.40
66441	270 - 280	98	0.25	0.038	0.36
66442	280 - 290	103	0.05	0.018	0.10
66443	290 - 300	97	0.13	0.020	0.19
66444	300 - 310	99	0.13	0.006	0.15
66445	310 - 320	99	0.11	0.011	0.14
66446	320 - 330	98	0.33	0.037	0.44
66447	330 - 340	99	0.27	0.023	0.34
66448	340 - 350	99	0.32	0.042	0.45
66449	350 - 360	100	0.52	0.046	0.66
66450	360 - 370	100	0.40	0.050	0.55
66451	370 - 380	100	0.47	0.068	0.67
66452	380 - 390	99	0.48	0.075	0.70
66453	390 - 400	98	0.34	0.036	0.45
66454	400 - 410	100	0.37	0.096	0.66
66455	410 - 420	100	0.47	0.077	0.70
66456	420 - 430	99	0.29	0.120	0.65
66457	430 - 440	100	0.22	0.120	0.58
66458	440 - 450	97	0.19	0.086	0.45
66459	450 - 460	97	0.24	0.052	0.40
66460	460 - 470	101	0.25	0.040	0.37
66461	470 - 480	98	0.52	0.002	0.53
66462	480 - 490	102	0.89	0.002	0.90
66463	490 - 500	96	0.20	0.002	0.21
66464	500 - 510	105	0.41	0.002	0.42
66465	510 - 520	95	0.81	0.013	0.85
66466	520 - 530	95	0.16	0.026	0.24
66467	530 - 540	101	0.26	0.069	0.47
66468	540 - 550	95	0.33	0.048	0.47
66469	550 - 560	95	0.32	0.096	0.61
66470	560 - 570	97	0.18	0.035	0.28
66471	570 - 580	98	0.21	0.029	0.30
66472	580 - 590	102	0.23	0.025	0.30
66473	590 - 600	101	0.19	0.028	0.27
66474	600 - 610	101	0.19	0.023	0.26
66475	610 - 620	97	0.08	0.088	0.34
66476	620 - 630	99	0.29	0.092	0.57
66477	630 - 640	102	0.30	0.031	0.39
66478	640 - 650	101	0.36	0.050	0.51
66479	650 - 660	101	0.42	0.071	0.63
66480	660 - 670	100	0.42	0.063	0.61

Liard Project - Schaft Creek, B. C.

DIAMOND DRILL HOLE P-8
(continued)

Core Sample Number	Hole Interval (feet)	Core Recovery (percent)	Copper (percent)	Molybdenite (percent)	% Copper Equivalent (%Cu + 3 x %MoS_2)
66481	670 - 680	100	0.54	0.044	0.67
66482	680 - 690	100	0.55	0.063	0.74
66483	690 - 700	99	0.50	0.054	0.66
66484	700 - 710	100	0.19	0.025	0.26
66485	710 - 720	101	0.57	0.036	0.68
66486	720 - 730	97	0.64	0.038	0.75
66487	730 - 740	95	0.50	0.160	0.98
66488	740 - 750	86	0.33	0.031	0.42
66489	750 - 760	95	0.72	0.050	0.87
66490	760 - 770	98	0.74	0.073	0.96
66491	770 - 780	98	0.40	0.027	0.48
66492	780 - 790	97	0.14	0.010	0.17
66493	790 - 800	102	0.19	0.010	0.22
66494	800 - 810	97	0.14	0.011	0.17
66495	810 - 820	98	0.08	0.012	0.12
66496	820 - 830	97	0.06	0.012	0.10
66497	830 - 840	98	0.03	0.013	0.07
66498	840 - 850	96	0.03	0.007	0.05
66499	850 - 860	100	0.04	0.004	0.05
66500	860 - 870	96	0.06	0.005	0.08
80002	870 - 880	91	0.06	0.014	0.10
80003	880 - 890	104	0.03	0.005	0.04
80004	890 - 900	106	0.02	0.003	0.03
80005	900 - 910	102	0.01	0.005	0.02
80006	910 - 920	100	0.01	0.001	0.01
80007	920 - 930	96	0.02	0.002	0.03
80008	930 - 940	100	0.03	0.002	0.04
80009	940 - 950	98	0.03	0.002	0.04
80010	950 - 960	95	0.06	0.003	0.07
80011	960 - 970	95	0.06	0.002	0.07
80012	970 - 980	104	0.04	0.002	0.05
80013	980 - 990	103	0.09	0.058	0.26
80014	990 - 1000	101	0.78	0.160	1.26
80015	1000 - 1010	98	0.21	0.047	0.35
80016	1010 - 1020	62	0.07	0.009	0.10
80017	1020 - 1030	98	0.34	0.050	0.49
80018	1030 - 1040	93	0.52	0.084	0.77
80019	1040 - 1050	93	0.40	0.120	0.76
80020	1050 - 1060	102	0.31	0.049	0.46
80021	1060 - 1070	104	0.30	0.140	0.72
80022	1070 - 1080	99	0.45	0.110	0.78
80023	1080 - 1090	101	0.26	0.069	0.47
80024	1090 - 1100	97	0.28	0.091	0.55
80025	1100 - 1110	101	0.32	0.120	0.68
80026	1110 - 1120	102	0.29	0.067	0.49
80027	1120 - 1130	102	0.12	0.090	0.39
80028	1130 - 1140	102	0.11	0.086	0.37
80029	1140 - 1150	100	0.24	0.130	0.63
80030	1150 - 1161	102	0.23	0.130	0.62

DIRECTIONAL SURVEY DATA

Hecla - (acid bottle & transit)

Location	Inclination	Bearing
Collar	90°	N0°0'E
300'	86°	NA
600'	86°	NA
900'	87°	NA
1160'	86°	NA

Sperry-Sun - (multi-shot gyro)

Location	Inclination	Bearing

Liard Project - Schaft Creek, B. C.

DIAMOND DRILL HOLE P-9

Start: July 20, 1971
Finish: July 27, 1971
Core Size: NQ
Core Recovery: 95%
Sample: Split Core
Directional Survey: See last page

Coordinates: 27499.65N
7660.08E
Elevation: 3,034.8'
Inclination: 90°
Bearing: N0°0'E
Length: 932'

Core Sample Number	Hole Interval (feet)	Core Recovery (percent)	Copper (percent)	Molybdenite (percent)	% Copper Equivalent (%Cu + 3 x %MoS_2)
80031	12 - 20	45	0.32	0.014	0.36
80032	20 - 30	3	0.25	0.017	0.30
80033	30 - 40	34	0.48	0.046	0.62
80034	40 - 50	100	0.54	0.088	0.80
80035	50 - 60	90	0.45	0.120	0.81
80036	60 - 70	91	0.18	0.012	0.22
80037	70 - 80	94	0.42	0.027	0.50
80038	80 - 90	95	0.52	0.058	0.69
80039	90 - 100	97	0.52	0.040	0.64
80040	100 - 110	100	0.47	0.049	0.62
80041	110 - 120	63	0.38	0.120	0.74
80042	120 - 130	93	0.48	0.063	0.67
80043	130 - 140	98	0.40	0.063	0.59
80044	140 - 150	90	0.12	0.034	0.22
80045	150 - 160	88	0.22	0.033	0.32
80046	160 - 170	85	0.22	0.041	0.34
80047	170 - 180	86	0.19	0.027	0.27
80048	180 - 190	94	0.10	0.014	0.14
80049	190 - 200	96	0.07	0.014	0.11
80050	200 - 210	56	0.16	0.018	0.21
80051	210 - 220	88	0.09	0.005	0.10
80052	220 - 230	95	0.01	<0.001	0.01
80053	230 - 240	95	0.27	0.020	0.33
80054	240 - 250	99	0.18	0.006	0.20
80055	250 - 260	102	0.11	0.026	0.19
80056	260 - 270	99	0.15	0.019	0.21
80057	270 - 280	102	0.37	0.065	0.56
80058	280 - 290	101	0.37	0.069	0.58
80059	290 - 300	95	0.48	0.048	0.62
80060	300 - 310	49	0.62	0.150	1.07
80061	310 - 320	85	0.45	0.140	0.87
80062	320 - 330	102	0.34	0.084	0.59
80063	330 - 340	97	0.96	0.088	1.22
80064	340 - 350	96	0.52	0.077	0.75
80065	350 - 360	100	0.28	0.016	0.33
80066	360 - 370	101	0.31	0.026	0.39
80067	370 - 380	101	0.47	0.013	0.51
80068	380 - 390	98	0.30	0.007	0.32
80069	390 - 400	100	0.36	0.012	0.40
80070	400 - 410	103	0.18	0.015	0.22
80071	410 - 420	106	0.42	0.037	0.53
80072	420 - 430	101	0.32	0.014	0.36
80073	430 - 440	102	0.52	0.013	0.56
80074	440 - 450	96	0.37	0.035	0.48
80075	450 - 460	101	0.48	0.023	0.55
80076	460 - 470	100	0.36	0.020	0.42
80077	470 - 480	100	0.35	0.016	0.40
80078	480 - 490	103	0.36	0.015	0.40
80079	490 - 500	106	0.41	0.033	0.51
80080	500 - 510	98	0.27	0.024	0.34
80081	510 - 520	106	0.21	0.019	0.27
80082	520 - 530	101	0.19	0.008	0.21
80083	530 - 540	99	0.24	0.038	0.35
80084	540 - 550	100	0.23	0.027	0.31
80085	550 - 560	101	0.18	0.003	0.19

DIAMOND DRILL HOLE P-9
(continued)

Core Sample Number	Hole Interval (feet)	Core Recovery (percent)	Copper (percent)	Molybdenite (percent)	% Copper Equivalent (%Cu + 3 x %MoS_2)
80086	560 - 570	94	0.13	0.007	0.15
80087	570 - 580	94	0.36	0.010	0.39
80088	580 - 590	113	0.18	0.007	0.20
80089	590 - 600	93	0.29	0.061	0.47
80090	600 - 610	99	0.14	0.019	0.20
80091	610 - 620	101	0.26	0.021	0.32
80092	620 - 630	100	0.34	0.048	0.48
80093	630 - 640	100	0.24	0.073	0.46
80094	640 - 650	102	0.24	0.169	0.75
80095	650 - 660	102	0.15	0.050	0.30
80096	660 - 670	102	0.11	0.151	0.56
80097	670 - 680	101	0.26	0.121	0.62
80098	680 - 690	100	1.68	0.065	1.88
80099	690 - 700	101	1.08	0.023	1.15
80100	700 - 710	102	1.36	0.040	1.48
80101	710 - 720	98	0.64	0.019	0.70
80102	720 - 730	100	0.32	0.056	0.49
80103	730 - 740	102	0.50	0.046	0.64
80104	740 - 750	99	0.47	0.042	0.60
80105	750 - 760	100	0.47	0.015	0.52
80106	760 - 770	104	0.16	0.011	0.19
80107	770 - 780	98	0.24	0.052	0.40
80108	780 - 790	101	0.16	0.010	0.19
80109	790 - 800	104	0.12	0.010	0.15
80110	800 - 810	99	0.24	0.018	0.29
80111	810 - 820	97	0.05	<0.001	0.05
80112	820 - 830	101	0.19	0.006	0.21
80113	830 - 840	101	0.37	0.016	0.42
80114	840 - 850	100	0.05	0.002	0.06
80115	850 - 860	102	0.10	0.003	0.11
80116	860 - 870	101	0.08	0.003	0.09
80117	870 - 880	104	0.30	0.008	0.32
80118	880 - 890	100	0.12	0.002	0.13
80119	890 - 900	101	0.07	0.003	0.08
80120	900 - 910	100	0.17	0.004	0.18
80121	910 - 920	100	0.03	0.002	0.04
80122	920 - 932	101	0.04	0.002	0.05

DIRECTIONAL SURVEY DATA

Hecla - (acid bottle & transit)

Location	Inclination	Bearing
Collar	90°	N0°0'E
300'	89°	NA
600'	90°	NA
900'	90°	NA

Sperry-Sun - (multi-shot gyro)

Location	Inclination	Bearing

Liard Project - Schaft Creek, B. C.

DIAMOND DRILL HOLE P-10

Start: July 27, 1971
Finish: July 30, 1971
Core Size: NQ
Core Recovery: 99%
Sample: Split Core
Directional Survey: See last page

Coordinates: 26995.74N
7761.23E
Elevation: 2,998.0'
Inclination: 90°
Bearing: N0°0'E
Length: 594'

Core Sample Number	Hole Interval (feet)	Core Recovery (percent)	Copper (percent)	Molybdenite (percent)	% Copper Equivalent (%Cu + 3 x %MoS_2)
80123	53 - 60	99	0.21	0.050	0.36
80124	60 - 70	98	0.21	0.061	0.39
80125	70 - 80	100	0.40	0.073	0.62
80126	80 - 90	100	0.33	0.044	0.46
80127	90 - 100	100	0.41	0.050	0.56
80128	100 - 110	100	0.44	0.025	0.52
80129	110 - 120	99	0.65	0.052	0.81
80130	120 - 130	97	0.38	0.046	0.52
80131	130 - 140	101	0.31	0.025	0.38
80132	140 - 150	96	0.37	0.031	0.46
80133	150 - 160	95	0.52	0.028	0.60
80134	160 - 170	99	0.45	0.073	0.67
80135	170 - 180	85	0.22	0.023	0.29
80136	180 - 190	88	0.06	0.010	0.09
80137	190 - 200	103	0.07	0.012	0.11
80138	200 - 210	98	0.05	0.007	0.07
80139	210 - 220	101	<0.01	<0.001	<0.01
80140	220 - 230	100	0.04	0.005	0.06
80141	230 - 240	101	0.10	0.038	0.21
80142	240 - 250	89	0.24	0.536	1.85
80143	250 - 260	93	0.08	0.030	0.17
80144	260 - 270	102	0.05	0.113	0.39
80145	270 - 280	100	0.03	0.330	1.02
80146	280 - 290	102	0.07	0.217	0.72
80147	290 - 300	101	0.09	0.005	0.10
80148	300 - 310	96	0.11	0.063	0.30
80149	310 - 320	96	0.05	0.098	0.34
80150	320 - 330	97	0.04	0.002	0.05
80151	330 - 340	97	0.06	0.002	0.07
80152	340 - 350	101	0.07	0.010	0.10
80153	350 - 360	100	0.07	0.016	0.12
80154	360 - 370	99	0.04	0.006	0.06
80155	370 - 380	100	0.09	0.019	0.15
80156	380 - 390	100	0.06	0.125	0.44
80157	390 - 400	102	0.25	0.022	0.32
80158	400 - 410	98	0.20	0.059	0.38
80159	410 - 420	100	0.10	0.010	0.13
80160	420 - 430	99	0.09	0.025	0.16
80161	430 - 440	101	0.34	0.025	0.42
80162	440 - 450	100	0.15	0.003	0.16
80163	450 - 460	101	0.26	0.009	0.29
80164	460 - 470	103	0.31	0.010	0.34
80165	470 - 480	101	0.34	0.005	0.36
80166	480 - 490	100	0.27	0.006	0.29
80167	490 - 500	102	0.26	0.020	0.32
80168	500 - 510	101	0.48	0.038	0.59
80169	510 - 520	98	0.32	0.033	0.42
80170	520 - 530	101	0.12	0.008	0.14
80171	530 - 540	97	0.23	0.002	0.24
80172	540 - 550	102	0.17	0.007	0.19
80173	550 - 560	100	0.15	0.009	0.18
80174	560 - 570	102	0.24	0.012	0.28
80175	570 - 580	103	0.19	0.006	0.21
80176	580 - 594	101	0.08	0.004	0.09

Liard Project - Schaft Creek, B. C.

DIAMOND DRILL HOLE P-10
(continued)

DIRECTIONAL SURVEY DATA

Hecla - (acid bottle & transit)

Location	Inclination	Bearing
Collar	90°	N0°0'E
300'	90°	NA
590'	89°	NA

Sperry-Sun - (multi-shot gyro)

Location	Inclination	Bearing
Collar	90°	N0°0'E
100'	88°45'	S12°34'W
200'	88°45'	S29°00'W
300'	88°15'	S15°02'W
400'	87°40'	S29°57'W
500'	87°35'	S27°34'W
550'	87°30'	S30°05'W