

83-#985-12522

**A DIAMOND DRILLING REPORT**

on the

**HORSEFLY PROPERTY**

LS #1, AB #3 and #4 Mineral Claims

HORSEFLY, B.C.

**Cariboo Mining Division**

N.T.S. 93-A-06 W

LAT. 52° 15' N

LONG. 121° 23' W

**OWNERS:** LS #1 - Mr. B. Pryce, Williams Lake, B.C.

AB #3 and #4 - Mr. Andrew Babiy, Kamloops, B.C.

**OPERATOR:** Placer Development Limited

By - S. Campbell  
W. Pentland

**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**

October, 1983

**12,522**

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## 1. SUMMARY

Nine diamond drill holes, totalling over 880 m, were completed during July - August, 1983, on the LS #1 and AB #3 and #4 claims, Horsefly area. Placer Development acquired the property in 1983 through options and staking.

Two previously drilled holes (74-01 and 74-02) intersected low gold and copper values and upon completion of geological mapping, geochemical and geophysical surveys by Placer in May 1983, diamond drilling was initiated to test the area near these 1974 drill holes. Core from both the 1974 and 1983 drilling was geologged on site and the 1983 core split, sampled on 3 m intervals, and assayed for gold, silver, copper, and arsenic.

A bedded sequence of fine to coarse pyroclastic and volcanic sedimentary rocks was encountered in the drilling. Rock types include volcanic, hypabyssal, and mixed breccias, tuffs and crystal lapilli tuffs of possible dacitic composition, and volcanic grits, sandstones, and siltstones. The sequence strikes ENE and dips 30° N, with apparent offsets due to shearing and faulting. Patchy to pervasive alteration gives the rocks a bleached appearance, especially in and near fault zones. Main alteration minerals include carbonate, quartz, sericite, epidote, and some clay. Veining is extensive throughout parts of the sequence, but generally only the quartz + carbonate veinlets carry chalcopyrite. Gold is believed to occur as tiny blebs within the chalcopyrite.

The best gold and copper values occur in parts of diamond drill holes 74-01 and -02, and 83-04, -06, and, -07. The mineralized zone appears to strike northeasterly and dip roughly 60° to the southeast. It is believed to be cut off by inferred faulting to the northeast, but is quite possibly open to the southwest.

## 2. STATEMENT OF EXPENDITURES

The expenditures listed below were incurred for a diamond drilling program on the Horsefly property located approximately 9 kms south of the village of Horsefly, B.C. in the Cariboo Mining District. The 883.25 m of drilling was done on the LS #1 and the AB #3 and #4 claims during the period of July 22 to August 3, 1983.

(1)	<b>Diamond Drilling</b> Olympic Drilling and Consulting Ltd. ....	\$53,268.
(2)	<b>Transportation</b> 2 trucks @ \$30./truck/day x 16 days .....	960.
(3)	<b>Assaying *</b> 187 samples x \$30. per sample .....	5,610.
(4)	<b>Bulldozer</b> - 57 hours @ \$55./hr .....	3,135.
(5)	<b>Motel</b> .....	1,004.
(6)	<b>Meals</b> - 48 person days .....	755.
(7)	<b>Labour **</b> .....	12,750.
(8)	<b>Report Preparation</b> - 15 days x \$225./day ...	3,375.
		<u>\$80,857.</u> =====

\* Assay Charges - Au - \$10.00 / sample  
Ag - 7.00 / "  
Cu - 6.00 / "  
As - 7.00 / "

### \*\* Labour Charges

W. Pentland - Senior Geologist	
- 22 days @ \$250./day	\$ 5,500.
S. Campbell - Research/Project Geologist	
- 18 days @ \$225./day	4,050.
P. Pacor - Geologist	
- 16 days @ \$200/day	3,200.

### 3. INTRODUCTION

During the period July 22 to August 3, 1983 a diamond drilling program was carried out on the LS #1 and the AB #3 and #4 claims on the Horsefly property located 9 kms south of Horsefly, B.C. (see Figures 1 and 2). A total of 883.25 m of NQWL size was drilled in 9 holes from 8 drill sites. The contractor was Olympic Drilling and Consulting Limited of Richmond, B.C.

Access to the property is by gravel road from Horsefly to both the west and east sides of the property with a narrow dirt road extending through the area of the drilling.

Placer Development Limited became interested in the area early in 1983 and acquired the property through options and staking. The interest was aroused by low gold and copper values found in two holes drilled on the property in 1974.

In May, 1983 a program of geological mapping, geophysics and soil sampling was completed on the property. The core from the present drilling was logged and split in 3 meter intervals with one half being shipped to the Placer Development Limited laboratory in Vancouver where it was assayed for gold, silver, copper and arsenic. The remaining half of the core is presently stored in Horsefly.

### 4. PROPERTY GEOLOGY

Outcrop on the Horsefly property is largely restricted to the southeastern corner of the Megabuck claim and the southwestern sector of the MB #3 claim. Isolated outcrops occur to the northwest, in the vicinity of Initial Posts for the AB #3 and #4 claims, and on the southern side of Deerhorn Lake. While the outcrop distribution is poor, it is sufficient to permit the partial outlining of formations as indicated by Map 3-1961 (Geology - Quesnel Lake, G.S.C. 1961) (See Figure 3) when used in conjunction with the magnetic data.

The oldest rock on the property is a hornblende granodiorite of Jurassic and/or Cretaceous age exposed along the southern boundary of the MB #3 claim (Figure 4). The magnetics and distribution of boulders indicate that this intrusive underlies the eastern side of the MB #3 claim with a possible extension to the northwestward into the MB #2 claim.

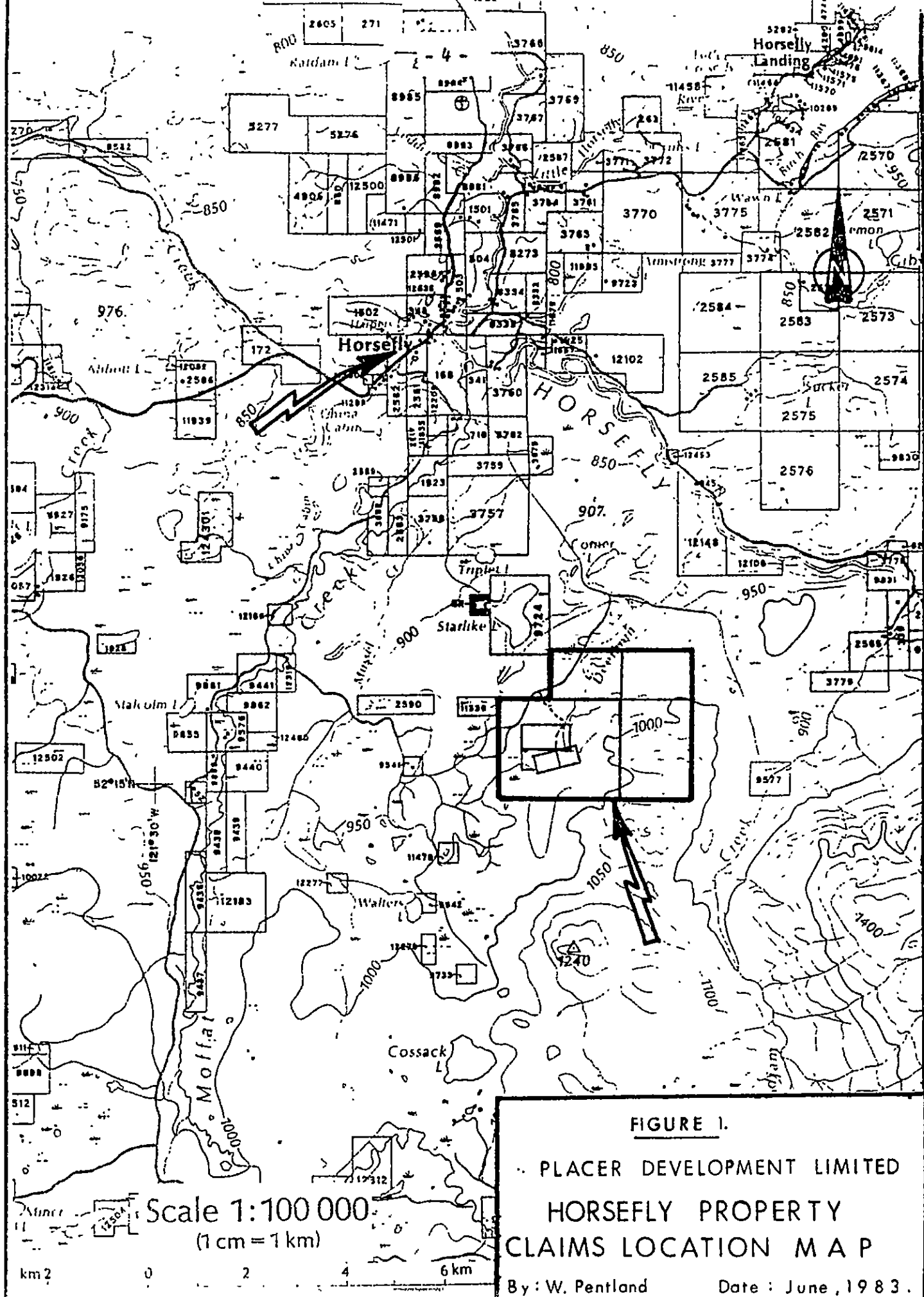


FIGURE 1.

PLACER DEVELOPMENT LIMITED  
 HORSEFLY PROPERTY  
 CLAIMS LOCATION M A P

By: W. Pentland Date: June, 1983.

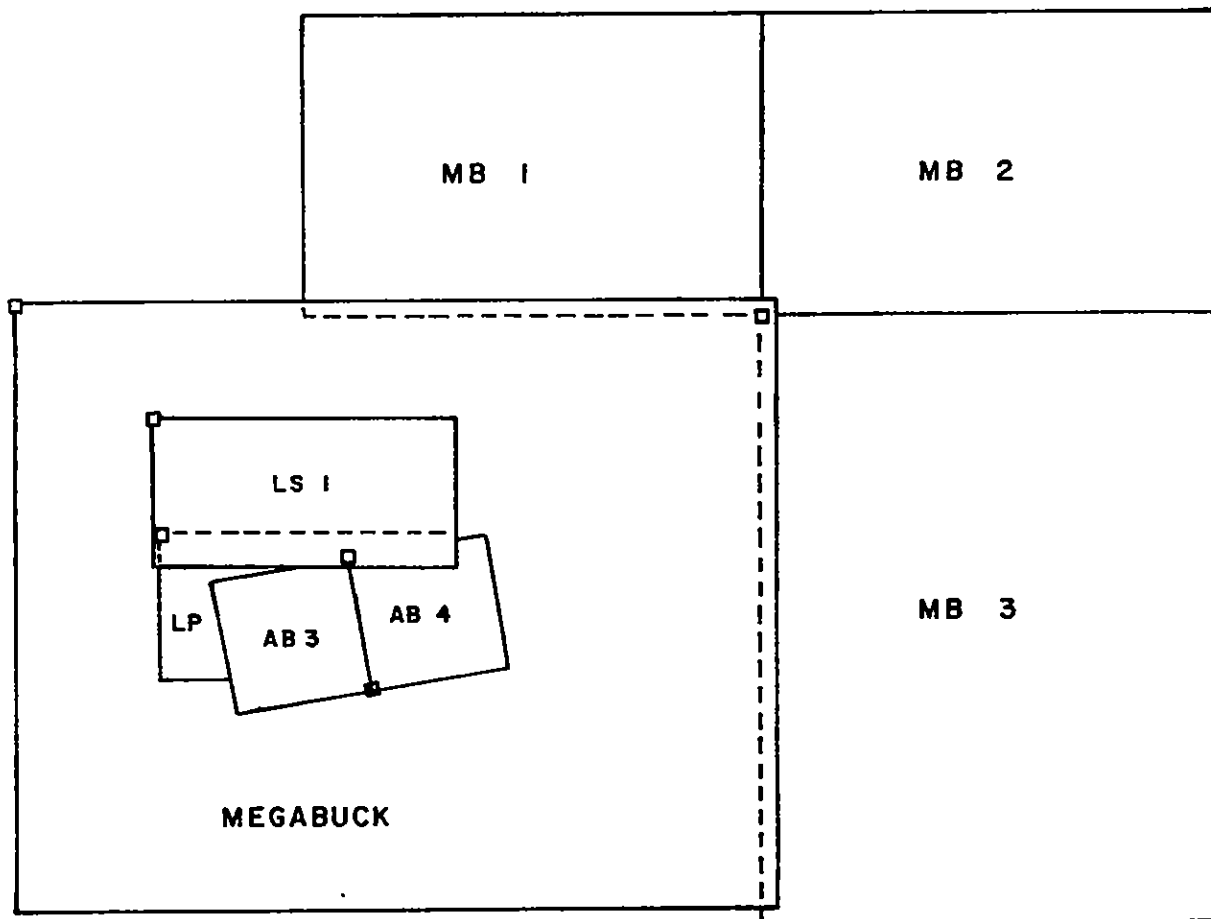
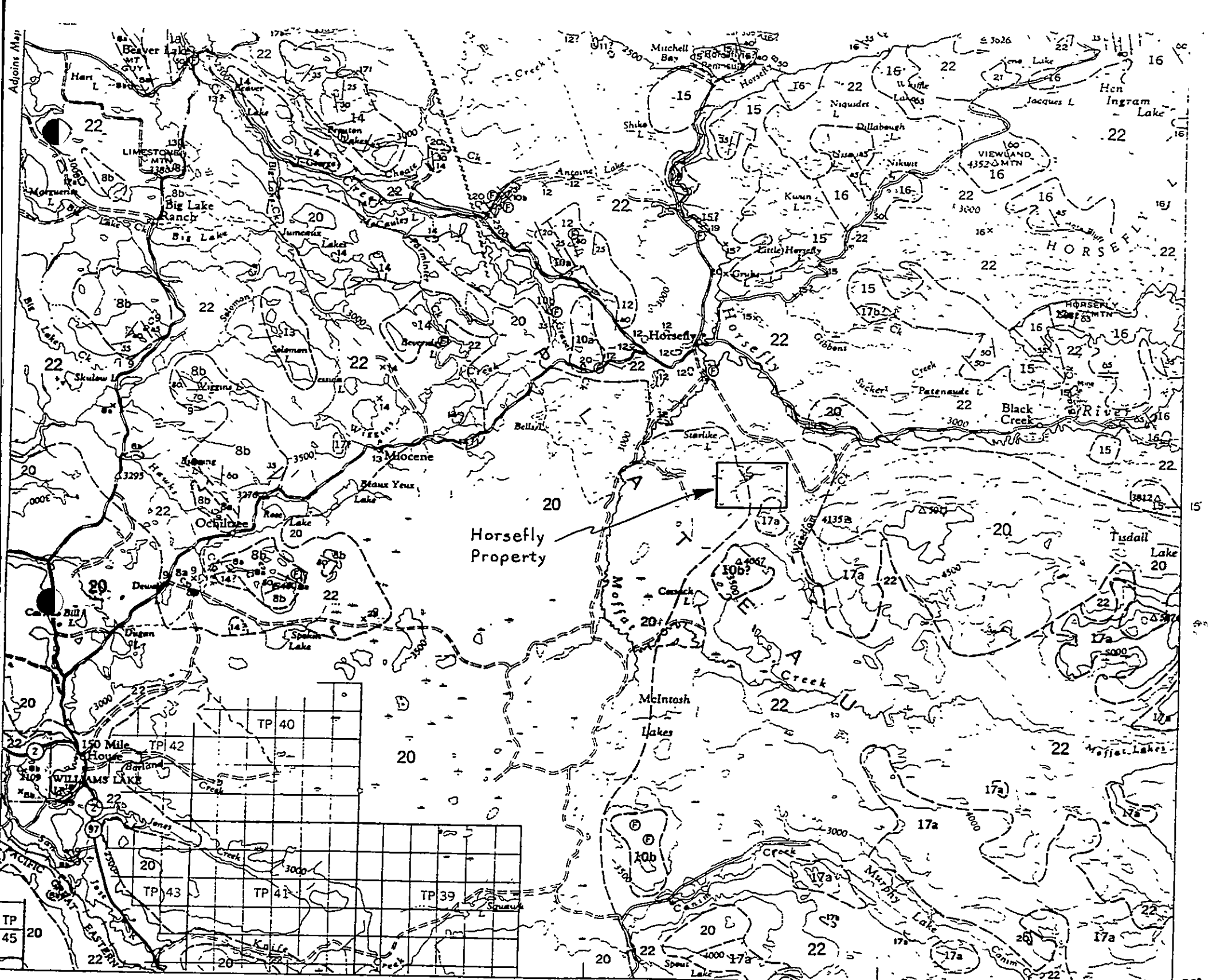


Figure 2  
HORSEFLY V-192.  
PROPERTY MAP

SCALE: 1:25 000  
JUNE 1983.  
W. PENTLAND

\* LOCATIONS ARE APPROXIMATE





- LEGEND
- QUATERNARY**  
**PLEISTOCENE AND RECENT**  
 22 Glacial deposits and recent alluvium; till, gravel, sand, silt, and clay; few if any bedrock exposures
- TERTIARY AND QUATERNARY**  
**PLEISTOCENE AND EARLIER**  
 21 Basaltic breccia and tuff; minor flows
- TERTIARY**  
**MIOCENE AND/OR LATER**  
 20 Basaltic flows; minor tuff, conglomerate, and sandstone
- PALEOCENE (?) TO MIOCENE (?)**  
 19 Sandstone, shale, and tuff
- PALEOCENE AND/OR EOCENE**  
 18 Brown and buff rusty weathering dacite and rhyolite
- JURASSIC AND/OR CRETACEOUS AND (?) EARLIER**  
 17 17a, hornblende-biotite and biotite-quartz monzonite and granodiorite, minor hornblende-biotite syenite and monzonite; 17b, hornblende-biotite syenite and monzonite; 17c, hornblende diorite; 17d, muscovite granite and quartz monzonite including pegmatite; 17e, gneissose biotite granodiorite, altered and gneissose diorite, and augen granite (part of unit 17e may be Palaeozoic); 17f, trachyte porphyry (may be volcanic); 17g, green andesite and fine-grained diorite (may be volcanic)
- JURASSIC (?) AND CRETACEOUS (?)**  
**MIDDLE JURASSIC (?) TO CRETACEOUS (?)**  
 16 Green andesitic tuff, agglomerate, and flows; minor argillite, chert, and conglomerate
- JURASSIC**  
**MIDDLE (?) AND/OR UPPER (?) JURASSIC**  
 15 Dark green pyroxene-bearing andesitic agglomerate, breccia, and flows; minor tuff; may be equivalent to unit 14
- 14 Green pyroxene-bearing andesitic agglomerate, breccia, and flows; minor tuff, argillite, and limestone; may be equivalent to unit 15
- LOWER JURASSIC (?)**  
 13 Purplish brown, brown, and grey pebble and cobble conglomerate and sandstone; soft, friable, black and brown, carbonaceous shale, green shale; minor black limestone
- LOWER JURASSIC**  
 12 'Purple' volcanic rocks; purplish brown, dark grey, and rarely green pyroxene-bearing andesitic agglomerate, breccia, and flow; may contain analcite near contacts with units 10 and 11; minor limestone, argillite, and conglomerate
- TRIASSIC AND/OR JURASSIC**  
**UPPER TRIASSIC AND/OR LOWER JURASSIC**  
 (may include MIDDLE JURASSIC)  
 11 Green pyroxene bearing andesitic flows, agglomerate, and breccia; conglomerate, argillite, and limestone
- TRIASSIC**  
**UPPER TRIASSIC**  
 10 10a, green and purplish brown pebble and cobble conglomerate and sandstone; 10b, green andesitic volcanic rocks, andesitic feldspar porphyry, argillite, limestone, and pebble conglomerate

CENOZOIC

MESOZOIC

PUBLISHED, 1961  
 COPIES OF THIS MAP MAY BE OBTAINED FROM THE  
 DIRECTOR, GEOLOGICAL SURVEY OF CANADA, OTTAWA

PRINTED BY THE SURVEYS AND MAPPING BRANCH 121° 00'

MAP 3-1961  
 (REVISION OF MAP 59-1959)  
 GEOLOGY  
 QUESNEL LAKE  
 (WEST HALF)  
 BRITISH COLUMBIA

FIGURE 3.

The remainder of the rocks on the claims are apparently of Tertiary age. All appear of volcanic origin or as derivatives of volcanics. The formation has been sub-divided into two zones with the first and probably oldest rocks lying immediately to the west of the granodiorite. These rocks are tuffs with grey to greyish green hornblende and feldspar crystal tuffs predominating. Lesser amounts of dark, fine grained ash tuffs were also noted.

Many of the beds are magnetic carrying up to 3% magnetite. Mapping and the magnetic survey indicate a general northerly strike to a zone roughly 500 meters wide extending northward from the claim boundary for at least 1000 meters.

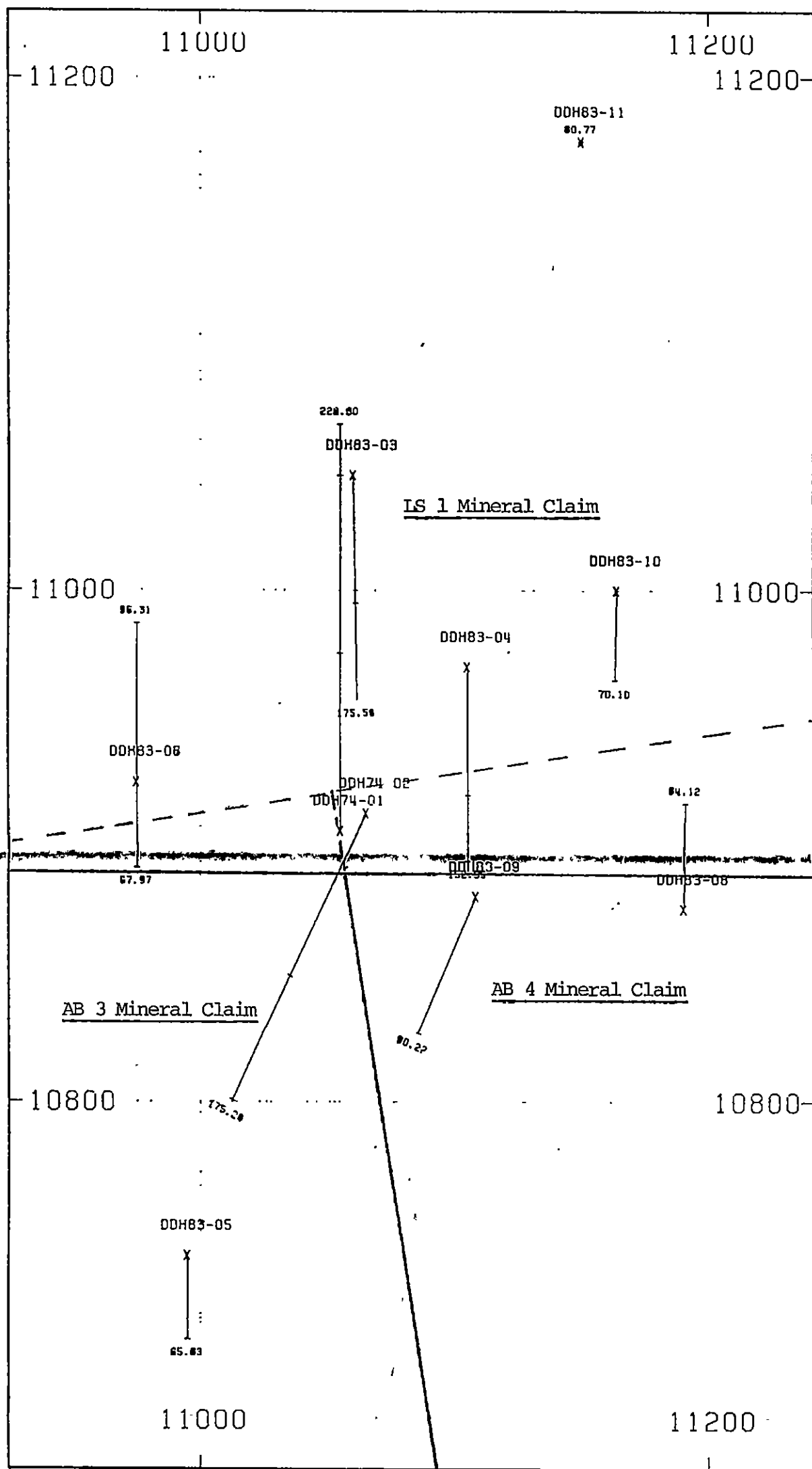
Beyond the zone of crystal tuffs to the west and northwest the outcrops are composed of volcanic breccias and sandstones with the latter believed of tuffaceous origin. Clasts in the breccias are angular to rounded and up to boulder size with the majority being 1 to 4 cm. in diameter. Clast composition is variable but the majority are crystal tuffs similar to and probably originating from the rocks bordering the intrusive to the east.

Lying to the northeast and south of the breccias are fine to coarse grained impure sandstones. These may possibly be reworked tuffs. The few bedding attitudes noted were roughly east-west with a moderate northerly dip. Most outcrops of both the breccias and sandstones exhibit weak to strong epidote alteration.

## 5. DIAMOND DRILLING RESULTS

### 5.1 General Statement

The present drilling program was done to gain some appreciation of the low grade copper-gold mineralization found in holes 74-01 and 02. The drilling was centered at 10+950 N and 11+050 E on the grid which is approximately 200 m southwest of the south end of Deerhorn Lake (Figure 5). The area is bounded to the east by a creek draining into the lake. The forest cover is fairly open being a mixture of poplar, cottonwood, lodgepole pine, spruce and fir.



PLACER DEVELOPMENT LIMITED

"GEOLOG" SYSTEM:

PROJECT NAME: HORSEFLY  
DDH LOCATION PLAN

LOCATION MAP

FIGURE 5.

PLOTTED ON: 83-09-07 SCALE 1:2000

(METRES)

Only two outcrops occur in the area. Holes 74-01 and 02 were collared in poorly exposed volcanic breccia while a coarse volcanic grit is exposed 150 m to the north. The latter is bedded at approximately 260°/30° N. Overburden in the area is extensive and believed particularly deep to the westward.

The area is marked by a cluster of magnetic highs and lows and is bounded to the east and west by north-south striking VLF-EM linears. It is also located on the southern edge of a large induced polarization anomaly outlined in 1973-74.

## 5.2 Rock Types

Both the 1974 drill holes (74-01 and 74-02), which were relogged, and the 1983 drill holes were logged on site using GEOLÓG. Lithologies encountered in the drilling program include fine to coarse pyroclastic volcanic rocks and their reworked equivalents (volcanic sediments). They are further subdivided on the basis of types of fragments. These rocks are bedded, showing a similar attitude to that of the exposed volcanic grit. Details of each rock unit are given below. Cross sections are presented in Figures 6, 7, 8 and 9. Drill logs are contained in Appendix 2.

### HVVL: HYPABYSSAL - VOLCANIC BRECCIA

This is a coarse pyroclastic rock composed of subangular, small to large lapilli-sized fragments of rock types that appear to be hypabyssal or sub-volcanic in nature. Fragments amount to 30 to 50 percent by volume and are generally seriate porphyritic to sub-granular and feldspar-rich. Finer-grained, more definite volcanic fragments, such as feldspar porphyry with an aphanitic groundmass, may also be present, but generally amount to much less than 10 percent by volume. Pinkish feldspar is quite typical in both fragments and matrix of this rock unit. The matrix is commonly fine- to medium-grained and similar in appearance to some of the rock fragments.

### HVVVL: HYPABYSSAL-VOLCANIC TO STRICTLY VOLCANIC BRECCIA

This coarse pyroclastic rock is basically a mixed breccia, midway between the above unit and the volcanic breccia unit mentioned below. It consists of subrounded to subangular, small to large lapilli-size

fragments, roughly equally split between sub-volcanic, which generally tend to be larger in size, and volcanic rock types. Fragments make up 10 to 50 percent by volume and include seriate porphyritic feldspar-rich rock (possibly syenitic to monzonitic in composition), fine-grained intermediate to mafic volcanic flows (and possibly tuffs), and considerable feldspar porphyry with a dark greenish-grey very fine-grained groundmass. This rock unit may contain interbedded sections of thinly bedded tuff.

VOLC: VOLCANIC BRECCIA

This rock is a medium to dark greyish-green coarse pyroclastic composed of subangular fragments of volcanic rock with generally less than 10 percent by volume hypabyssal or sub-volcanic material fragments. Although fragments vary in size from small to large lapilli, they are typically smaller on average than those in the hypabyssal-volcanic breccia. Rock types forming the fragments include fine-grained intermediate to mafic volcanics, rhyodacite, and feldspar porphyry, with the majority of fragments appearing to be andesitic in composition. This volcanic breccia contains 25 to 70 percent by volume rock plus some crystal fragments. The matrix is generally fine-grained and a darker greenish-grey. As with the other coarse pyroclastics, this volcanic breccia locally shows interbeds from one to a few centimeters thick, of alternating coarser and finer-grained tuffaceous material.

TFXL: CRYSTAL LAPILLI TUFF

This greenish-grey pyroclastic varies from a coarser-grained tuff with a few lapilli fragments to a more definite crystal - rock lapilli tuff. The unit varies from massive to well bedded with finer and coarser-grained fractions in alternating laminae. Rock fragments are subrounded to subangular and typically small lapilli, but ranging up to large lapilli in size. Rock types forming the fragments include porphyritic dacite, andesite, and feldspar porphyry. Crystal fragments are mostly plagioclase and hornblende with possibly some pyroxene. Rock fragments form 5 to 20 percent by volume of this crystal lapilli tuff and fragments locally show a crude orientation subparallel to bedding. The matrix is typically fine-grained. Overall composition of this pyroclastic unit appears to be quartz latitic to dacitic.

TUFF: TUFF

This unit is a moderately dark greyish-green, fine- to medium-grained tuff that varies from well bedded to massive. Grain size in individual laminae is generally uniform. Typically crystal and rock fragments are absent or amount to not more than 2 to 3 percent by volume. Intercalations of a paler green finer ash tuff occur locally. This tuff appears to be largely dacitic in composition.

VLGT: VOLCANIC GRIT

This is the coarsest of the reworked volcanics or volcanic sedimentary rocks. It is generally bedded to more massive, medium-grained, has a very "grainy" texture, and contains 5 to 25 percent clasts. The clasts are subrounded, medium to large pebble size, and include andesite, feldspar porphyry, very fine-grained intermediate to mafic volcanic rock, some hypabyssal material, and minor small clasts of quartz. Locally, clasts are elongate subparallel to bedding.

VLSN: VOLCANIC SANDSTONE

This greenish-grey reworked material contains fine to medium sand sized particles. It is commonly massive, but locally shows good bedding. A few coarser, more gritty beds alternate with finer-grained layers. The volcanic sandstone shows some bands of spotty magnetite running nearly parallel to bedding.

VLSI: VOLCANIC SILTSTONE

This unit is the finest-grained of the reworked volcanic material. It is generally medium brownish- to greenish-grey, well bedded, and locally contains intercalated sandy and gritty laminae. In some sections it is difficult to determine with certainty whether the rock is truly a volcanic siltstone or whether it is just a fine ash tuff.

LATT: LATITE

This is a very restricted unit, occurring over a 2 meter section in DDH 83-08 (see Figure 9). It is pale greyish and porphyritic with an aphanitic to very fine-grained groundmass. Phenocrysts are medium-grained and include feldspar, some hornblende, and minor quartz. This porphyritic latite is bounded on either side by faults.

## BRAI: INTRUSIVE BRECCIA

This rock appears to be rhyolitic and consists of pale green to off-white, subangular, acidic fragments in an aphanitic, darker green to greenish-grey matrix. It is intrusive, showing sharp contacts and "fingers" penetrating country rock, both of which are oriented at high angles to bedding. This intrusive breccia occurs only in DDH 83-04 (see Figure 8). Shearing and brecciation in the vicinity of this unit have taken place later. Also, later veining and alteration are spatially associated with the intrusive breccia. These will be discussed in section 5.4.

### 5.3 Structure

Examination of diamond drill core indicates that the above coarse to fine pyroclastic rocks and their reworked or sedimentary equivalents form a layered sequence having an attitude compatible with that measured on the volcanic grit exposed near the collar of DDH 83-03. Attempts at correlating between holes are hampered by shearing and faulting. Also, the core shows variable volumes of some units interbedded with others and correlation in areas where faults are absent requires a certain amount of transition from one unit to another. The layered sequence varies from dominantly tuff, crystal lapilli tuff, and volcanic breccia in the lower part to dominantly volcanic grit at the top. The central part shows a mixture of reworked volcanics along with minor crystal lapilli tuff and volcanic breccia, changing upwards to more mixed and hypabyssal breccia.

This shallow northerly dipping sequence is variably, but consistently fractured with micro- to small mega-fractures. The majority of fractures are about equally divided between steep ( $90^{\circ}$  to  $60^{\circ}$  dip) and moderate ( $60^{\circ}$  to  $30^{\circ}$  dip), with relatively few shallow angle fractures. Best fractured units are the volcanic breccia (VOLC), hypabyssal-volcanic breccia (HYVL), and the volcanic siltstone (VLSI). Fractures are also moderately abundant in the volcanic grit (VLGT) and volcanic sandstone (VLSN).

Shearing and faulting occur throughout the layered sequence. A bleaching effect due to pervasive alteration is present within and peripheral to the fault zones. This will be discussed in Section 5.4. One

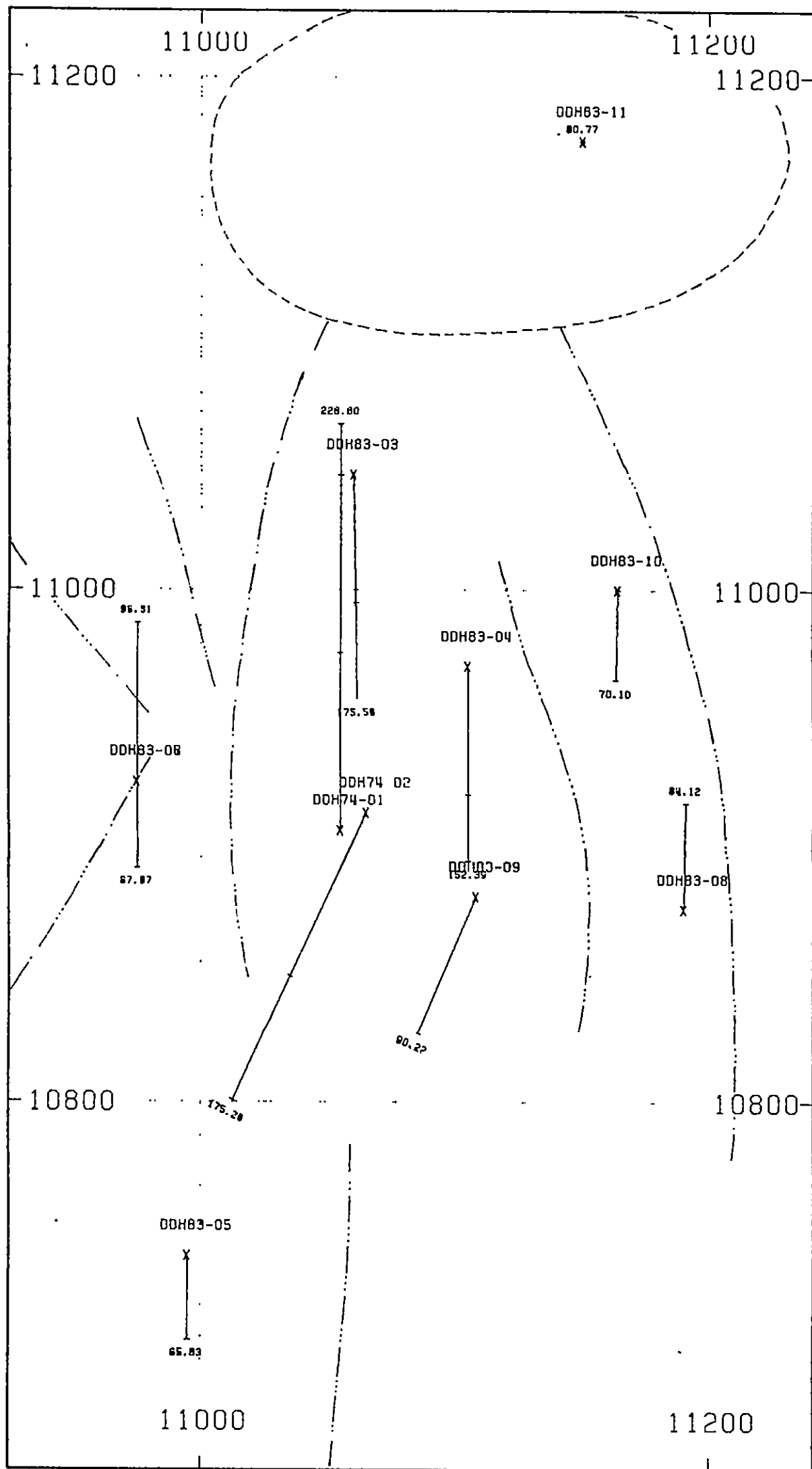
major fault persists through diamond drill holes 74-01, 74-02, and 83-04 (see Figure 7 and 8). The faulted zone is about 17 m wide, strikes  $026^{\circ}$  and dips  $59^{\circ}$  SE. Surface trace of this fault coincides roughly with one of the interpreted VLF-EM anomalies (see Figure 10). Faulting is extensive throughout DDH 83-07, but the attitude of faulting relative to bedding was not determinable. Although DDH 83-06 and 83-07 were both drilled on the same site, but in opposite directions, there is absolutely no correlation between rock units. This, plus the faulted nature of most of the drill core from DDH 83-07, suggests that the hole was drilled along a major fault or such that it cuts the fault at a fairly shallow angle. An interpreted VLF-EM anomaly, which probably represented this fault, strikes  $031^{\circ}$  and passes through the site where both DDH 83-06 and 83-07 were collared. If DDH 83-07 was drilled essentially parallel through the fault, then true dip of the fault would be  $72^{\circ}$  SE.

Diamond drill holes 83-08 and 83-10 consist of volcanic breccia, crystal lapilli tuff, and tuff. This appears to be the lower part of the section, suggesting that uplift has occurred and the area is structurally separate from the area drilled to the west. Indeed, two interpreted VLF-EM anomalies appear to define the east and west boundaries of this apparently uplifted block.

#### 5.4 Alteration

Rock units encountered in the drill core show various types and degrees of alteration. Rock forming minerals, such as feldspar and mafics, have been altered to epidote and chlorite, respectively. Magnetite-hematite aggregates, 2 to 3 mm across, appear to be a relatively late feature, occurring throughout the drill core. These aggregates are typically disseminated in certain sections of the core and some bands of spotty magnetite-hematite run nearly parallel to bedding in the volcanic sandstone (VLSN). The aggregates are especially concentrated in areas of pervasive epidote and in some lapilli fragments. In DDH 83-11 sections of core with abundant magnetite aggregates appear to alternate with sections showing disseminated pyrite. Usually a transition zone, 10 to 30 cm wide, marks the boundary between alternating sections. Within this zone, aggregates contain both magnetite and pyrite in varying proportions and it appears that the pyrite is forming from magnetite, but this is not conclusive.





PLACER DEVELOPMENT LIMITED  
 "GEOLOG" SYSTEM:  
 PROJECT NAME: HORSEFLY LOCATION MAP  
 DDH LOCATION PLAN

LEGEND  
 ..... INTERPRETED VLF-EM ANOMALY  
 ○ INTERPRETED IP ANOMALY

PLOTTED ON: 83-09-07 SCALE 1:2000 (METRES)

FIGURE 10.

Significant bleaching of rock units occurs in and around fault zones. Minerals, such as carbonate, sericite, clay, some chlorite, epidote, and hematite are present in fault gouge and as pervasive alteration on either side of the fault. This pervasive carbonate + sericite + clay + quartz is what gives the rock a bleached appearance. Between fault zones, rock units are generally well veined and show numerous open space fillings of quartz and carbonate. Some shearing and faulting is after at least some of the quartz veining, as fragments of quartz veinlets occur within the gouge. These quartz fragments are not chalcopyrite-bearing.

Patchy to pervasive alteration is also present in some sections of core away from fault zones. Patches of epidote, quartz-carbonate as open-space fillings, and (amethyst) quartz with K-feldspar, carbonate, and pyrite were noted. Epidotized lapilli fragments may have bleached haloes in the matrix around them. This feature is generally found near a fault zone. Pervasive alteration minerals include carbonate and, to a lesser extent, hematite.

Stringers, veinlets, and a few larger sized veins are typical throughout the layered sequence. Veining occurs both parallel to bedding and at high angles to it. One very common vein set runs nearly parallel to the core axis of 83-04, which would mean the veins dip anywhere from 60° to 90° and could have any possible strike direction. Another common vein set is present at 50° to 70° to the core axis of DDH 83-04. Veinlets occur most commonly as scattered fracture fillings, but also in local stockworks. Stockwork veining is most typically quartz-carbonate or chlorite. Ribbon texture in some individual veinlets suggests more than one stage of fracture filling. Larger veins, 5 mm wide or wider, show zoning with a central zone of epidote and minor carbonate and an outer zone of quartz. Some of these veins contain minor chalcopyrite in the quartz zone. The following is a list of typical mineral associations found in the stringers and veinlets:

- (1) quartz-carbonate: the most common mineral association; locally with envelope of epidote
- (2) quartz-carbonate-chalcopyrite: with patchy K-feldspar envelope; believed to be carrying the gold

- (3) quartz-carbonate ± hematite ± pyrite
- (4) quartz-epidote
- (5) epidote: with K-feldspar envelope
- (6) epidote ± carbonate ± hematite
- (7) carbonate ± sericite ± chlorite
- (8) carbonate ± pyrite ± hematite: carbonate - pyrite veinlets may show bleached envelope of carbonate + sericite; carbonate-hematite stringers are present in some fault zones
- (9) hematite ± pyrite

K-feldspar envelope are preferentially associated with quartz- rather than carbonate-bearing veinlets. In some cases sericitization is pervasive along veinlet walls. Two relative age determinations were possible for the veinlets:

- (1) some carbonate stringers cut quartz-epidote veinlets; and
- (2) some carbonate-sericite veinlets cut quartz ± chalcopyrite veinlets.

As mentioned in Section 4.2, extensive alteration and veining is associated with the intrusive breccia unit (BRAI) found in DDH 83-04. Patchy alteration includes K-feldspar, epidote, and some pyrite. Open spaces in the intrusive breccia have been filled by carbonate ± quartz ± hematite ± pyrite ± chalcopyrite. The breccia is bounded on either side by quartz veinlets carrying some hematite and minor chalcopyrite. These veinlets post-dated intrusion of the breccia.

### 5.5 Mineralization

Sulphides present within the area drilled include pyrite, chalcopyrite, and very rarely pyrrhotite. Pyrite is the most abundant sulphide, especially in diamond drill holes 83-05, 83-08, and 83-11. It occurs as disseminations and in veinlets. Disseminated pyrite is found in both matrix and fragments of the coarse pyroclastics. Some epidotized

fragments in the crystal lapilli tuff and volcanic breccia units have central patches of pyrite, suggesting that pyrite crystallized from the iron-rich volcanic fragments when exposed to introduced sulphur. In general, pyrite disseminations may vary locally to larger blebs and patches. In some of the volcanic siltstone pyrite disseminations are strung out parallel to bedding. In DDH 83-11 sections of the core with abundant disseminated magnetite (- hematite) alternate with sections rich in pyrite. Generally, a narrow zone marks the transition from one to the other and is marked by disseminated aggregates of magnetite and pyrite together in various proportions. Megascopically it appears that pyrite is forming from the magnetite.

Chalcopyrite occurs in a variety of veinlets and to a lesser extent as disseminations. This disseminated chalcopyrite may well be related to very tiny microfractures. One hematite stringer shows an envelope zoned outward from carbonate-sericite to K-feldspar and containing disseminated chalcopyrite. Stringers and veinlets containing chalcopyrite may occur individually, in subparallel groups, in small scale stockworks, or in horsetailing patterns. Most commonly chalcopyrite is associated with quartz veinlets, which run parallel to or within  $30^\circ$  to the core axis of DDH 83-04. Other attitudes are also present, but far less abundant. Minor chlorite, epidote, and carbonate may be associated with these chalcopyrite-bearing quartz stringers. A few larger veins, containing quartz-carbonate-sericite+hematite, also carry chalcopyrite and run nearly parallel to the core axis of DDH 83-04. One large vein of quartz-carbonate-epidote-chlorite+minor chalcopyrite, shows subordinate stringers of quartz-carbonate-chalcopyrite branching out from it. Chalcopyrite occurs in a few epidote stringers and some carbonate-hematite+epidote+magnetite stringers, which run nearly parallel to the core axis of DDH 83-04. Age relationships of the different veins are generally obscure, but in one part of DDH 83-04, a carbonate-quartz-hematite veinlet at  $55^\circ$  to the core axis cuts and offsets quartz-chalcopyrite stringers.

Chalcopyrite is also found in and around fault zones. Some quartz veinlets on either side of faults carry minor chalcopyrite. A section of heavy faulting in DDH 83-04 contains stringers and veinlets of hematite-magnetite+very minor chalcopyrite and less abundant fracture fillings of carbonate-quartz, some of which cut the former.

Chalcopyrite occurs very locally in DDH 83-11. In a section of drill core from 25 to 30 m chalcopyrite is present as 1 to 5 mm blebs in quartz-carbonate+sericite veins and rarely as large "gobs" measuring .3 to 2 cm across. Also of note in DDH 83-11, are large veins, 1 to 1.5 cm wide, of specular hematite-chlorite-carbonate-pyrite+sericite.

Visible gold was not encountered in any of the drill core, however it is believed to be associated with chalcopyrite in quartz veins, most probably occurring as microscopic blebs within the chalcopyrite. Mineralographic work on concentrate from a metallurgical test run by Placer's Research Centre earlier in 1983 revealed some chalcopyrite grains with included micron-size blebs of gold. Also, the best gold values show good correlation with sections of the core containing numerous chalcopyrite-bearing quartz veinlets.

## 6. DISCUSSION OF RESULTS

Two surface outcrops occur on the property in the area drilled; one a massive volcanic breccia, the other a bedded volcanic grit unit with attitude  $260^{\circ}/30^{\circ}\text{N}$ . Diamond drill holes from 1974 and 1983 show the continuation of these units at depth and indicate that the thickest section of volcanic grit overlies both volcanic and other breccias and finer-grained pyroclastics and volcanic sediments. The entire sequence of rock units is bedded with an attitude comparable to that measured on the volcanic grit outcrop.

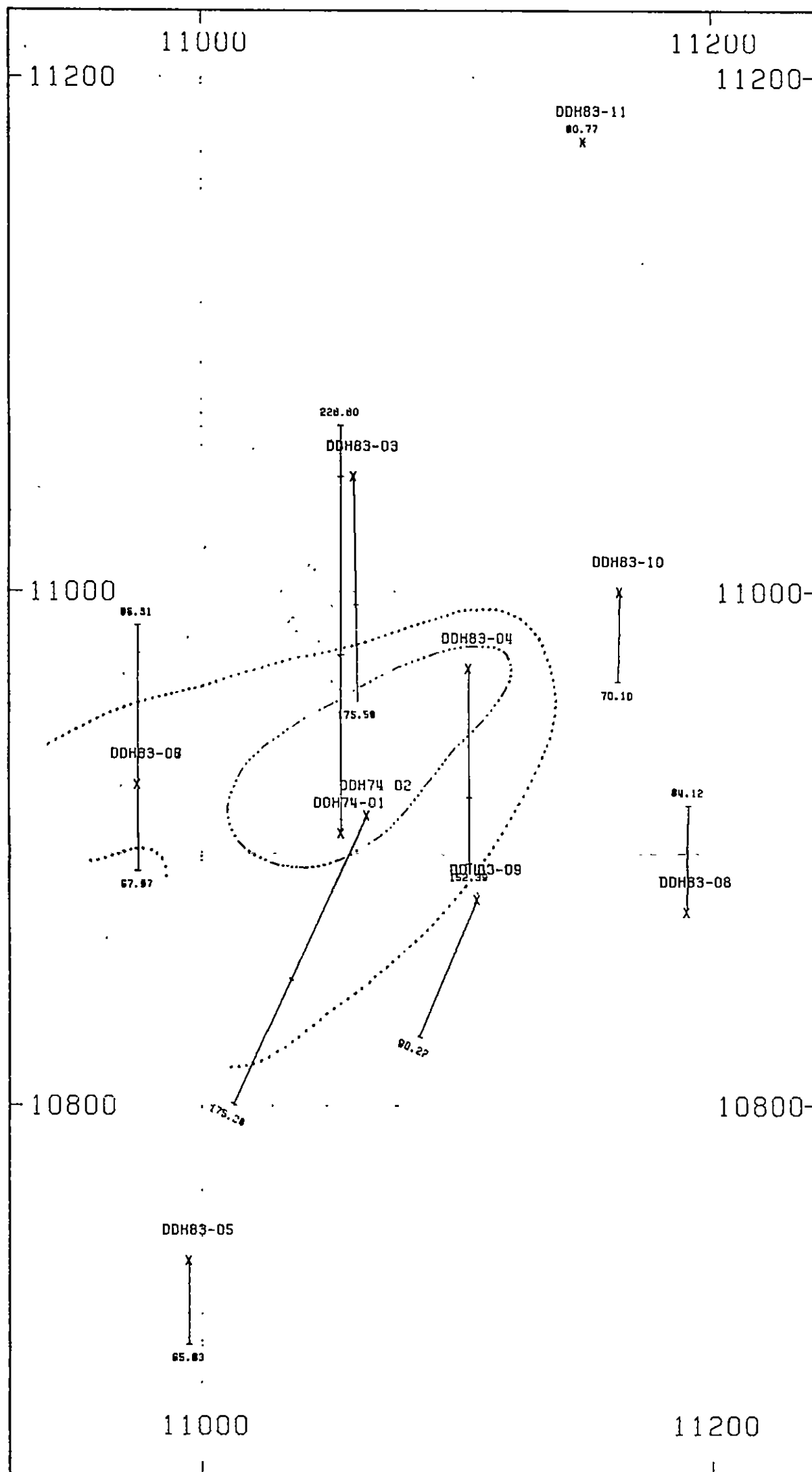
Faulting has affected the layered sequence, restricting correlation between drill holes. Many of the faults encountered in the drill core can be correlated with interpreted VLF-EM anomalies. The overall effect of faulting has produced a few "blocks" that have moved predominantly up and down relative to each other. For example, a fault runs through between DDH 83-06 and 83-07, in cross section probably following the attitude of DDH 83-07 very closely. Volcanic grit south of this fault appears to have been downdropped relative to rock units encountered north of the fault trace. Rocks present in DDH 83-08 and 83-10 appear to be lower in the sequence than units at comparable elevations to the west. These two drill holes are situated in what appears to be a fault-bounded "block" that has been pushed up relative to the "block" on the west side.

Patchy to pervasive alteration, imparting a bleached appearance to various rock units, appears to be the product of hydrothermal activity that used the faults and large shear zones as channelways. The most common alteration minerals are carbonate, clay, and sericite with varying amounts of other minerals such as quartz, epidote, chlorite, and K-feldspar. Dominant vein minerals are carbonate and quartz, whereas subordinate constituents include epidote, chlorite, hematite, and K-feldspar. One gets the impression that more than one alteration front has passed through the layered sequence, but age relationships are not clear. Two relative age determinations from cross-cutting veinlets show that at least some carbonate post-dates some of the quartz and epidote. Source of the hydrothermal activity is unknown.

The apparent replacement of disseminated magnetite by pyrite and the occurrence of pyrite as patches in the centers of epidotized volcanic fragments suggests that sulphur was introduced to the system ie. there was an increase in sulphur fugacity at some point during hydrothermal activity. This introduced sulphur is also depicted by chalcopyrite-bearing quartz veinlets and by pyrite stringers, and disseminated chalcopyrite and pyrite.

Although gold was not observed in any of the drill core, four factors provide evidence for the interpretation that gold occurs as micron blebs within chalcopyrite only: (1) gold and copper assays show good positive correlation; (2) gold assays are best where chalcopyrite-bearing veinlets are most abundant; (3) gold assays and pyrite content show a negative correlation; and (4) earlier mineralographic work on a metallurgical sample from Horsefly property revealed some chalcopyrite grains with included blebs gold.

Mineralized sections in the drill core show a relatively higher grade zone, averaging about 1.3 g Au/tonne in the central part of the area drilled (see Figure 11) and a lower grade zone, averaging roughly 0.5 to 0.6 g Au/tonne, surrounding it. As the majority of chalcopyrite-bearing quartz veinlets run nearly parallel to or at a shallow angle to the core axis of DDH 83-04, and since the zone is elongate in plan view, it is interpreted as being a flattened cylindrical zone of mineralization plunging roughly  $60^\circ$  or more in the direction  $145^\circ$ . Interpreted faults appear to cut off the zone to the northeast, however to the southwest the zone is open. If indeed the zone continues to the southwest then its geometric shape becomes more planar with a strike of  $055^\circ$  and a dip of roughly  $60^\circ$  or more to the southeast.



PLACER DEVELOPMENT LIMITED

"GEOLOG" SYSTEM:

PROJECT NAME: HORSEFLY  
DDH LOCATION PLAN

LOCATION MAP

LEGEND

- GOLD > 1.3 ppm
- ..... GOLD > 0.5-0.6 ppm

FIGURE 11.

PLOTTED ON: 83-09-07 SCALE 1:2000

(METRES)

An apparent spatial relationship exists between pyritized rock and the mineralized zone. Disseminated pyrite is most abundant in the bottom of DDH 74-01, and in DDH 83-03, 83-05, 83-08, and 83-11. (Note that DDH 83-11 is within a previously interpreted IP anomaly). This gives somewhat of a pyrite halo to the zone of gold-copper mineralization.

## 7. CONCLUSIONS

Gold-copper mineralization, related to disseminated chalcopyrite and chalcopyrite-bearing quartz + carbonate + epidote veinlets, cross cuts a layered sequence of fine to coarse pyroclastic and volcanic sedimentary rocks. Host rocks are partly carbonatized and propylitized, especially in and near the mineralized zone. Mode of occurrence of this gold-copper mineralization, presence of a partial halo of pyritic rock, and alteration features suggest that we are looking at a porphyry-type occurrence of gold and copper, possibly related to an alkalic intrusive body. Evidence is lacking for the occurrence of an alkalic plug on the property, but then again this zone of mineralization may represent only a "satellite" occurrence related to a larger system in the nearby area.

  
W.S. Pentland

  
S.W. Campbell

SC/dd



A 1. COORDINATES, ELEVATIONS, LENGTHS, AND  
ATTITUDES OF DRILL HOLES

Table 1. Diamond Drill Hole Data

<u>DDH #</u>	<u>NORTHING</u>	<u>EASTING</u>	<u>ELEVATION</u>	<u>LENGTH</u>	<u>AZIMUTH</u>	<u>DIP</u>
74- 1	10906	11055	996 m	228.6 m	360	-46
74- 2	10913	11065	996	175.3	205	-45
83- 3	11045	11060	989	175.6	179	-60
83- 4	10970	11105	989	152.4	180	-60
83- 5	10740	10995	995	65.8	180	-60
83- 6	10925	10975	1000	96.3	360	-50
83- 7	10925	10975	1000	68.0	180	-60
83- 8	10875	11190	971	84.1	001	-60
83- 9	10880	11108	980	90.2	203	-50
83-10	11000	11164	971	70.1	181	-60
83-11	11175	11150	972	80.8		-90

A 2. DIAMOND DRILL LOGS

Geolog Version

**GEOLOG SYSTEM**  
International Geosystems Corporation

**GEOFORM**

1	2	3	4	5	6	7	8	9	10	11	12	13	
I	DEN	000	01	1363	K8027015	20	8052712	PHBTRC	404610680	A3	57	01	00

This Header is the I-DEN or ID-entry, which is activated by entering Key=I in Field (1) and Flag=DEN in (2). This entry identifies the Project ID in (4); the Drillhole/Traverse ID in (5); its size in (6); when geologged and by whom in (7); when drilled & by what co. or by whom in (8); surveyed by whom in (9); Co-ord System, if UTM,etc, in (10); Grid Azimuth, if the northings are not True N in (11); spare field, (12); and Page-Of- in (13).

1	2	3	4
I	PRJ	Centred @ C24/25	Centred @ C62/63

This Header is the I-PRJ or IP-entry, which is activated by Key=I in (1) and Flag=PRJ in (2). It identifies the Company in (3) & Project in (4)-Page 1 only

S	000	0	50	350	135.7	-60	1334.2	473.35	237.5	523.15
---	-----	---	----	-----	-------	-----	--------	--------	-------	--------

This Header is the Initial Survey entry, which is activated by Key=S in (1), Flag=000 (2), Prom=0.0 (3) & To, in (4)=depth at which next azimuth & vert. angle are measured; (5) is for Total Depth/Length; (6)&(7) are for azimuth & vert. angle at the collar or initial point; and (9),(10)&(11) are for the co-ordinates of that point; and (8)= the Hash Total (=algebraic sum regardless of units) of the total depth, azimuth, vert. angle, Northing, Easting & Elevation, for clean data control. Note in particular that FROM is always dominant and is always used to mark the position of horizons and points of importance.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

This is the Upper Tier Geodata Header, consisting of 3 parts -- The bottom part is the Upper Tier Scales(SCL) entry, required for declaring the Unit of Length in (4) = Mt.2 = metres with 2 places of decimals; in (5) are the units used for measuring recovery: could be MT.2. The middle part, Upper Tier Names (NAM) entry, is provided to allow the user to change the name of any field. Eg: to replace galena=GL in (27) with cassiterite=CT, enter CT immediately below GL in the /NAM-entry. Finally, the top part contains the abbreviated names of the 29 fields which will soon become very familiar: (5)=Core Recovery; (6)=Type Modifier; (7)=Percent Mix, using the G-Scale; (8)=Rock Type; (9)=Typifying Minerals 1 & 2; (10)=Qualifying Mineral 1; (11)=Textures 1 & 2; (12)=Grain Sizes -- FF=Fine Fraction, CF=Coarse Frac, %C=Percent Coarse, MP=Max Particle; (13)=Fracture Intensity; FI/s = FI of Steep Fracs, MI=Mineral Intensity of specified mineral or minerals, on all fractures; (14)=Ri=Repeat Interval: enter R if Repeat Interval or P if Principal Geologic Interval or D if Ditto Option or A if As-Above Option (explanation in GEOCODER); (15)=Mode Thickness T1 of litho-feature identified in 16; (17)&(18)=Strike & Dip to right of planar feature or Strike & Plunge of linear feature, identified in 16; (19) to (28) = ten 2-column fields for default suite of alteration & ore-type minerals: quartz(QZ) biotite(BI) clay(CY) carbonates(CB) magnetite(MG) pyrite(PY) chalcopyrite(CP) galena(GL) and any 2 minerals XX & YY, which may differ from interval to interval -- simply enter the 2-letter mineral code (with the How & Amount being entered immediately below in the Lower Tier entry); and (29)=Summary of alteration -- FA = Alteration Facies, AI = Alteration Intensity, MZ = Metal Zone & I = Intensity of Mineralization.

1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

This is the Lower Tier Geodata Header and, like the preceding Upper Tier Header, also consists of 3 parts for the same reasons. Note that MT.2 has been entered in (5) in the LSCL-entry, under MOD=Rock Quality Designation, indicating that if, say, 123 is entered in C18-20, the System will read this as 1.23m. The abbreviated Lower Tier Headings are: (5)=RQD, as above; (6)=Age or Formation; (7)=Environment of Emplacement; (8)=Rock-Type Qualifier=RTQ (use Short Form of Rock Type); (9a)=LC=Lightness-Colour Code, (9b)=Typifying Mineral 3, or (9)=LBHU Colour; (10)=Qualifying Mineral 2; (11)=Textures 3 & 4; (12)=Grain Characteristics; Sg=Degree of Sorting, Rn=Roundedness, Sp=Shape or Sphericity & O/C=Open/Closed Structure; (13)=Frac Intensity of Moderate & Low Fractures; (14)=Ri=Repeat Interval, as in 14 above -- enter R or D only if Lower Tier is repeated without the Upper Tier; (15)=Mode Thickness T2 of litho-feature identified in 16; (17)&(18)=Strike & Dip to right of Structure 2, identified in 16; (19) to (28) = ten 2-column fields for default suite of alteration & ore-type minerals: K-spar(KF) muscovite(MU) chlorite(CL) epidote(EP) hematite(HE), the How & Amount of any mineral XX entered above, pyrrhotite(PR) molybdenite(MO), sphalerite(SL), and the How & Amount of any mineral YY entered above; and (29)=How1 & How2 of all alteration minerals and How1 & How2 of all ore-type minerals for the interval.

## ABBREVIATIONS USED

### Rock Types

listed in the text

### Rock Type Modifier

BR	-	brecciated
BS	-	basaltic
DC	-	dacitic
QL	-	quartz latitic
AN	-	andesitic
RY	-	rhyolitic
PP	-	porphyritic
AL	-	altered

### Textures

BR	-	brecciated
VV	-	veined
MX	-	massive
PP	-	porphyritic
<<	-	microveined
>>	-	macroveined
SK	-	stockwork veined
BD	-	bedded
RW	-	reworked
BN	-	banded
SH	-	sheared

### Structures

F/	-	fault
S/	-	shear
C/	-	contact
BD	-	bedding
<<	-	microveining
>>	-	macroveining

### Rock Colors

#### Lightness

W	-	white
9	-	palest
1	-	darkest
N	-	black

#### Color

R	-	red
U	-	brown
O	-	orange
G	-	green
W	-	white
A	-	grey
N	-	black
AW	-	greyish-white
		etc.

Minerals

Alteration

EP - epidote  
CL - chlorite  
KF - K-feldspar  
QZ - quartz  
CB - carbonate

Opaques

CP - chalcopyrite  
PY - pyrite  
HM - hematite  
MG - magnetite  
PD - pyrrhotite

Percentages

X	-	100%	=	5
9	-	90	+	2.5
8	-	80	)	1
7	-	70	*	.3
6	-	60	(	.1
5	-	50	-	.03
4	-	40	.	.01
3	-	30	0	absent
2	-	20	/	present no estimate
1	-	10	?	possibly present

Type of Mineral Occurrence

B - blebs  
D - disseminations>  
E = envelopes  
G - gouge  
H - halos  
J - interstitial  
K - stockwork  
L - laminations/bedded  
M - massive  
O - spots  
P - pervasive  
Q - patches  
S - selvags  
V - veins  
> - macroveins  
< - microveins

	1	2	3	4	5	6	7	8	
1234567890123456789012345678901234567890123456789012345678901234567890									
IDEN6B0201	V-192	DDH74-01	BQ	83JUL21	SWC	74	MCG	0.00	0105
IPRJ	PLACER DEVELOPMENT LIMITED				HORSEFLY				
S000	0	22860	228.60360.	-46.		10906.	11055.	996.	
/NAM						EPCLKFCPPYHM			
/SCL		MT.2							
LSC									
LNAM						QZCB	MGPO		
/	0	137	OVER		P				
/	.137	2149	BR HYVL	BRPP3546	P	0=Q*			
L			6 GO	<<		<			
R			ROCK IS A BRECCIATED HYPABYSSAL VOLCANIC, POSSIBLY OF						
R			INTERMEDIATE COMPOSITION. BOTH FRAGMENTS AND MATRIX EXHIBIT						
R			PORPHYRITIC TEXTURE AND ARE FELDSPAR-RICH. FRAGMENTS ARE						
R			SUBANGULAR. ABOVE GIVES CRYSTAL SIZE. FRAG SIZE IS SMALL TO						
R			LARGE LAPILLI. FRAGS ARE SOMEWHAT OBSCURE - IN SOME CASES						
R			FELDSPAR PORPHYRY WITH DARK GREENISH-GREY MATRIX, IN OTHERS						
R			PINKISH FELDSPAR PHENOCRYSTS - SOMEWHAT EPIDOTIZED IN A MORE						
R			PINKISH-GREY FINE-GRAINED MATRIX. BOTH FRAG TYPES ALSO APPEAR						
R			TO FORM THE BRECCIA MATRIX, ALTERNATELY.						
/	640	671	X		D >>	45	>*		
L					<<	45>1			
R			STOCKWORK VEINING, MUCH AT 45 DEGREES TO CORE AXIS, BUT ALSO						
R			AT OTHER ANGLES. CONSISTS OF QZ, MAYBE WITH SOME CL AND EP AND						
R			WITH MINOR CHALCOPYRITE. FELD PHENOCRYSTS ARE NOTABLY EPITOTIZED						
/	762	945	BS2DYKE	1233	R		D(		
L			1 GN						
R			CONTAINS DISSEMINATED AND VEINLET CPY						
R	137	2149	MAFIC CRYSTAL FRAGS OR POSSIBLY PHENOCRYSTS ALSO PRESENT.						
R	137	2149	THESE ARE PARTLY ALTERED TO CL.						
R	1859	2149	MUCH LARGER COMPONENT OF FINER-GRAINED FELDSPAR-RICH MATERIAL.						
R	1859	2149	STILL IN PART PORPHYRITIC.						
R	137	2149	THERE ARE NUMEROUS OTHER LOCATIONS DOWN THE HOLE THAT SHOW						
R			STOCKWORK OR AT LEAST PROMINENT STRINGERS AND VEINLETS. THESE						
R			WON'T BE DETAILED HERE.						
/	2149	3048	BR VOLC	MX 1525	P <<	250=	<*		
L			4 GA			<=<*			
R			THIS ROCK APPEARS TO BE MORE INTENSELY MILLED OR PERHAPS A						
R			FINER-GRAINED PYROCLASTIC. HINT OF SOME SORT OF CONTACT						
R			(GRADATIONAL) AT 65 DEGREES TO CORE AXIS.						
R	2301	2316	DISSEMINATED AND STRINGER CP						
R	2149	3048	THIS FRAGMENTAL IS MORE OF A COARSE ASH TUFF TO SMALL LAPILLI						
R	2149	3048	TUFF OR BRECCIA. POSSIBLY A LATITE IN COMPOSITION. STILL SOME						
R	2149	3048	FELDSPAR PORPHYRY, BUT DOMINANTLY FINER-GRAINED AND MORE DENSE						
R			IN APPEARANCE. NUMEROUS QZ AND CB STRINGERS						
R	2743	2774	CONSIDERABLE CARBONATE VEINING AT 20 DEGREES TO CORE AXIS.						
/	3048	3810	BR HYVL	BRPP3545	P >>	20<	<-Q*-<		
L			6 GA	MX<<		>1			
R			SIMILAR TO ABOVE HYVL EXCEPT GENERALLY MORE CB+-EP VEINING,						
R			LOCALLY SOME KF PATCHY ALTERATION NEAR VEINLETS AND LOCALLY						
R			A GREATER PERCENTAGE OF CHLORITIZED MAFIC CRYSTALS OR CRYSTAL						

1 2 3 4 5 6 7 8  
 123456789012345678901234567890123456789012345678901234567890

R FRAGMENTS.  
 / 3810 6553 LOST P  
 / 6553 7163 AL HYVL BRSK P P2 >1  
 L 8 GO P2  
 R CARBONATIZED-EPIDOTIZED-HEMATITIC BX HYVL. BOTH SPECULAR  
 R AND REGULAR HEMATITE.  
 / 7163 7193 VLSI BD P BD 20 >( >\*)  
 L 8 AO P3  
 R POSSIBLY INTERBEDDED LENS OF FINER-GRAINED, REWORKED PYROCLASTIC  
 R WITHIN COARSER BRECCIA.  
 / 7193 7925 LOST P  
 / 7925 10074 VLSI BDVV P BD 20 <\*<  
 L 8 AO P2  
 R MANY OF VEINLETS ARE PARALLEL TO BEDDING, OTHERS CUT AT  
 R HIGH ANGLES. STILL A HINT OF OCCASIONAL LARGE LAPILLI FRAGMENTS  
 R MAKING UP ABOUT 10 PERCENT OF ROCK. MAYBE JUST A VLTF, NOT RW?  
 / 8443 10074 X BD D BD 25  
 L 0=  
 R MAGNETITE + HEMATITE OCCUR IN AGGREGATES DISSEMINATED  
 R THROUGHOUT PARTS OF ROCK. THEY LOOK SOMEWHAT PORPHYROBLASTIC.  
 / 10074 10698 DC TFXL BD 2425 P BD 20  
 L 4 GA  
 R ROCK IS SIMILAR TO VLSI, EXCEPT FOR COLOR AND DEGREE OF  
 R VEINING. DEFINITELY LOOKS MORE VOLCANIC. BOTH FELDSPAR AND  
 R MAFIC (HB) CRYSTAL FRAGS ARE VISIBLE.  
 / 10698 14173 LOST P  
 / 14173 17709 DC TFXL BD<<1435 P BD 20  
 L 4 GA <><>  
 R VARIABLE FROM VERY FINELY BEDDED VOLCANIC TUFF TO COARSER ASH  
 R AND LAPILLI TUFF, GENERALLY APPEARS TO BE ABOUT 10 TO 20  
 R PERCENT FRAGMENTS OF PORPHYRITIC DACITE WITH FELDSPAR AND  
 R LESSER MAFIC (HB?)PHENOCRYSTS. LOCALLY SOME MG-HM CRYSTAL  
 R AGGREGATES  
 R 17282 17556 MORE HEMATITIC IN SEMI-PERVASIVE PATCHES.  
 / 17709 18349 QL TFXL BD<<1435 P BD 25  
 L 4 GA  
 R APPEARS TO CONTAIN A GREATER AMOUNT OF QUARTZ AND POSSIBLY  
 R MORE K-SPAR THAN DC TFXL. MINOR MICROVEINING, BUT NOT  
 R PARTICULARLY NOTICABLE.  
 / 18349 19035 DC TFXL P  
 L 4 GA  
 R MUCH THE SAME AS BEFORE.  
 / 19035 19751 QL TFXL P  
 L  
 R MUCH THE SAME AS BEFORE. MINOR QZ-CB VEINING. MINOR DISSEM CP.  
 R 19218 19340 MG-HM CRYSTAL AGGREGATES SUPERIMPOSED ON THE ROCK.  
 / 19751 19797 VLSI BD<<1223 P BD 20 <-D)  
 L 5 UA C/ 20<+<+  
 R DEFINITE CHANGE INTO A BROWNISH, MORE SILTY OR REWORKED  
 R VOLCANIC. ABUNDANT STRINGERS MOSTLY PARALLEL TO BEDDING.

1 2 3 4 5 6 7 8  
 1234567890123456789012345678901234567890123456789012345678901234567890

R EVEN PYRITE DISSEMINATIONS ARE STRUNG OUT PARALLEL TO BEDDING.  
 / 19797 20391 DC TFXL P  
 L 4 GA  
 / 20391 20864 VLSI BD<<1223 P BD 20  
 L 5 UA  
 R MORE HEMATITIC THAN ABOVE.  
 / 20864 21306 QL TFXL P  
 L  
 R SIMILAR TO ABOVE. SOME SECTIONS RICH IN PERVASIVE CARBONATE  
 R AND HEMATITE. ALSO PYRITIC SECTIONS WHERE PYRITE CRYSTALS  
 R OCCUR IN PATCHES. OPEN-SPACE FILLINGS OF QZ +- CB.  
 / 20574 20604 XFALT R  
 R FAULT GOUGE WITH CB.  
 / 21306 22570 VLSN MX 2334 P  
 L 5 GA  
 R FINE VOLCANIC SANDSTONE. APPEARS TO BE ONLY SLIGHTLY REWORKED  
 R VOLCANIC.  
 / 21839 21946 XVLGT MX 3545 R  
 L 5 GA  
 R VOLCANIC GRIT.  
 / 21946 22007 XVLSI BD 1233 R BD 20  
 L 5 GA  
 R STRINGERS OF HM, EP AND CL SUBPARALLEL TO BEDDING  
 R 21306 22570 SOME SECTIONS GRADE MORE INTO A DC TFXL, ESPECIALLY 722 TO  
 R 723, 727 TO 731.  
 / 22570 22860 AN TFXL MX 3435 P <+  
 L 3 GA  
 R VARIABLE FROM MORE DACITIC TO ANDESITIC. CRYSTAL FRAGMENTS  
 R OF PLAGIOCLASE AND MAFICS (HB AND PERHAPS SOME PYROXENE).  
 R ROCK FRAGMENTS VARY FROM SMALL TO LARGE LAPILLI.

A001

AUMM

			PPMAu	% Cu
A001	107	259	1.23	0.09
A001	259	411	0.03	0.12
A001	411	564	1.78	0.13
A001	564	716	2.26	0.22
A001	716	869	1.99	0.16
A001	869	1021	2.13	0.13
A001	1021	1173	1.10	0.10
A001	1173	1326	1.65	0.15
A001	1326	1478	1.44	0.17
A001	1478	1631	1.72	0.13
A001	1631	1783	1.03	0.11
A001	1783	1935	1.44	0.12
A001	1935	2088	1.72	0.12
A001	2088	2240	1.51	0.19
A001	2240	2393	1.92	0.16
A001	2393	2545	0.96	0.11
A001	2545	2713	1.30	0.14
A001	2713	2865	1.30	0.14



1 2 3 4 5 6 7 8  
123456789012345678901234567890123456789012345678901234567890

A001	2865	3018	1.72	0.14
A001	3018	3170	0.75	0.09
A001	3170	3322	1.17	0.11
A001	3322	3475	1.17	0.10
A001	3475	3627	1.17	0.11
A001	3627	3780	1.65	0.14
A001	3780	3962	0.89	0.11
A001	3962	4115	1.23	0.13
A001	4115	4267	1.85	0.14
A001	4267	4420	1.17	0.10
A001	4420	4572	1.10	0.11
A001	4572	4724	2.47	0.06
A001	4724	4877	0.75	0.13
A001	4877	5029	0.82	0.09
A001	5029	5182	1.65	0.19
A001	5182	5334	1.30	0.11
A001	5334	5486	1.10	0.14
A001	5486	5639	1.30	0.13
A001	5639	5791	1.03	0.16
A001	5791	5944	1.65	0.14
A001	5944	6096	0.48	0.11
A001	6096	6248	0.21	0.10
A001	6248	6401	0.69	0.15
A001	6401	6553	0.14	0.07
A001	6553	6706	0.27	0.08
A001	6706	6858	0.55	0.19
A001	6858	7010	0.41	0.11
A001	7010	7163	0.41	0.07
A001	7163	7315	1.85	0.18
A001	7315	7437	0.48	0.12
A001	7437	7590	1.30	0.22
A001	7590	7742	1.10	0.12
A001	7742	7894	0.82	0.12
A001	7894	8047	1.99	0.18
A001	8047	8199	0.41	0.12
A001	8199	8352	1.30	0.14
A001	8352	8504	1.44	0.13
A001	8504	8656	1.44	0.11
A001	8656	8870	1.92	0.13
A001	8870	8992	0.82	0.09
A001	8992	9144	0.89	0.11
A001	9144	9449	0.14	0.06
A001	9449	9754	0.34	0.10
A001	9754	10058	1.03	0.12
A001	10058	10363	0.21	0.04
A001	10363	10668	0.14	0.02
A001	10668	10973	0.27	0.04
A001	10973	22860	0.03	0.01

/END

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IDEN6B0201	V-192	DDH74-02	BQ	83JUL22	SWC	74	MCG	0.00	0104
IPRJ		PLACER DEVELOPMENT LIMITED				HORSEFLY			
S000	0	17526	175.26205.	-45.		10913.	11065.	996.	
/NAM						EPCLKFCPPYHM			
/SCL		MT.2							
LSCL									
LNAM						QZCB	MGPO		
/	0	274	OVER		P				
/	274	457	CAVE		P				
R			SHOWS ABOUT 1.5 FT OF HYVL						
/	457	2469	BR HYVL	BR 3546	P <<	55<*	<*		
L			6 OG		<<	05<+<+			
R			MUCH THE SAME ROCK AS DDH 74-1 AT TOP.						
R	1768	2134	HEAVILY, Pervasively EPIDOTIZED, BOTH FELDSPAR PHENOCRYSTS						
R	1768	2134	IN FRAGMENTS AND GENERALLY IN MATRIX TOO.						
R	457	2469	SCATTERED STRINGERS AND VEINLETS OF QZ AND/OR CB AND MINOR						
R	457	2469	CP THROUGHOUT INTERVAL. ALSO SOME EPIDOTE STRINGERS.						
/	2469	3459	VLSN	BD<<2435	P BD	80Q)	<*		
L			7 BA		BD	70<)<)			
R			SOMEWHAT VARIABLE FROM MORE SILTY TO SANDY TO LOCALLY GRITTY.						
R			REWORKED VOLCANIC ? CONTAINS MUCH THE SAME MINERAL ASSEMBLAGE						
R			AS FOUND IN THE HYVL BX. EP OCCURS IN PATCHES GENERALLY						
R			AS SELVAGE TO QZ-CB VEINLETS AND IRREGULARLY OUT FROM THE						
R			VEINLET. COARSER (GRITTY) BEDS ALTERNATE WITH FINER-GRAINED						
R			LAYERS IN SOME PLACES. C/ AT 75 DEGREES TO CORE AXIS.						
R			LOCALLY, EP STRINGERS WITH K-SPAR ENVELOPES.						
/	3459	4968	BR VOLC	MXBR2546	P	Q=			
L			4 GA			<)<)			
R			SMALL TO LARGE, SUBANGULAR TO SUBROUNDED LAPILLI FRAGMENTS,						
R			AS WELL AS CRYSTAL FRAGMENTS OF FELDSPAR AND MAFICS. Pervasively						
R			EPIDOTIZED SECTIONS FROM 125 TO 126 FT, 128 TO 129 FT, AND						
R			140 TO 142 FT. LOCALLY, INCREASES IN AMOUNT OF CB AS PATCHES						
R			OR STRINGERS. SOME MG CRYSTAL AGGREGATES IN EP-RICH SECTIONS.						
/	4968	5456	BR HVVL	BR 2546	P				
L			4 GA						
R			MIXTURE OF ABOUT 50 PERCENT BR HYVL AND 50 PERCENT BR VOLC.						
R			FRAGMENT SIZE RANGES FROM SMALL TO LARGE LAPILLI, GENERALLY						
R			SUBANGULAR.						
/	5456	6462	DC TFXL	BDMX1465	P BD	80Q)	<*		
L			4 GA			<)<)			
R			BEDDED TO MASSIVE CRYSTAL-LAPILLI TUFF WITH LARGE LAPILLI						
R			FRAGMENTS ? OR COARSE LAYERS ? AT 180.5 TO 181.5, 182 TO						
R			184.5, AND 188 TO 189 FT.						
/	7864	8031	QL TFXL	MX 2455	P				
L			4 GA						
R			GREATER AMOUNT OF QUARTZ OCCURRING AS CRYSTAL FRAGMENTS.						
R			MOSTLY SMALL LAPILLI AND SUBANGULAR.						
/	8031	9053	AL VLGT	2576	P BD	70Q+	<(<		
L			7 OA			P2			
R			ALTERED VOLCANIC GRIT - POORLY BEDDED TO MASSIVE.						

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R 8138 8199VERY CRUMBLED, POSSIBLE FAULT OR SHEAR, ALSO HEMATITIC.  
 / 9053 10180 AL VLSN BD 1445 P BD 75Q)  
 L 7 OA P2  
 R BEDDED TO POORLY BEDDED. SAME ALTERATION AS ABOVE, ONLY  
 R FINER-GRAINED ROCK.  
 R SHOULD MENTION THAT CORE IS VERY BROKEN UP AND INCOMPLETE,  
 R SO EXACT FOOTAGES ARE DIFFICULT TO DETERMINE.  
 / 6462 7864 LOST P  
 / 10180 10942 AL TFXL MX 2546 P O(  
 L 7 OA >=>=  
 R ORIGINALLY QUARTZ LATITIC ? PERVASIVE CARBONATE AS WELL AS  
 R VEIN MATERIAL.  
 R CORE CONTINUES TO BE CRUMBLY AND SOME OF THE SECTION IS  
 R INCOMPLETE.  
 / 10942 11552 AL VLSN MX>>2546 P  
 L 8 OA >=>1  
 R SOMEWHAT VARIABLE FROM FINE SAND TO COARSE GRIT. POSSIBLY  
 R THIS IS STILL A TUFF, BUT CRYSTALS DO LOOK MORE ROUNDED AND  
 R GRAINIER. DIFFICULT TO TELL DUE TO SEVERE ALTERATION.  
 / 11552 12253 DC TFXL MX 2546 P Q\* <-  
 L 3 AG >)>)  
 R SMALL TO LARGE, SUBANGULAR LAPILLI FRAGMENTS - BOTH VOLCANIC  
 R AND HYPABYSSAL VOLCANIC FRAGS. PARTS OF SECTION MAYBE MORE  
 R QUARTZ LATITIC.  
 / 12253 12802 BR HVVL MX 2545 P Q+ <-  
 L 4 GA >+>=  
 R EQUAL AMOUNTS HVVL AND VOLC FRAGMENTS. SIMILAR TO THAT  
 R PREVIOUSLY DESCRIBED.  
 / 12802 13533 BR VOLC MX 1545 P Q\* 0.  
 L 3 AG <\*<)  
 R SOME CB STRINGERS CUT QZ-EP VEINLETS. GENERALLY ABOUT 20  
 R PERCENT SMALL LAPILLI AND <5 PERCENT COARSE.  
 / 13533 15545 DC TFXL MXPP2546 P Q)Q- D.D-0.  
 L 4 GA <)<) 0-  
 R PRESENCE OF CRYSTAL FRAGMENTS SETS THIS TFXL APART FROM  
 R PRECEEDING VL BR.  
 R 13914 14524MG-HM AGGREGATES ABOUT 5 TO 10 PERCENT DISSEMINATED IN ROCK  
 R 13914 14524TO GIVE A SPOTTED APPEARANCE. ALSO ABOUT 2 PERCENT DISSEMINATED  
 R PYRITE LOCALLY.  
 / 15545 15911 QL TFXL MX 2566 P  
 L 4 GA  
 R LOCALLY CONTAINS 5 PERCENT MG-HM CRYSTAL AGGREGATES.  
 R GENERALLY MADE UP OF SMALL LAPILLI FRAGS, AS WELL AS  
 R FELDSPAR AND MAFIC CRYSTAL FRAGMENTS.  
 / 15911 16886 BR VOLC P Q+  
 L 4 GA <+<+  
 R VARIABLE TO BR HVVL BUT GENERALLY A MUCH GREATER PROPORTION  
 R OF VOLC SMALL LAPILLI FRAGS. HVVL FRAGS ARE TYPICALLY  
 R LARGER.  
 R 16337 16398ROCK IS CRUMBLED - POSSIBLY SHEAR.

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/ 16886 17297 DC TFXL MXBD1435 P  
 L 4 GA <><+  
 R LOCALLY SHOWS POORLY DEVELOPED BEDDING, BUT NOT GOOD ENOUGH  
 R TO MEASURE.  
 / 17297 17526 FALT P  
 R CARBONATE-RICH FAULT GOUGE.

A001	AUMM		PPMAu	% Cu
A001	475	610	1.58	0.20
A001	610	762	1.44	0.11
A001	762	914	1.37	0.10
A001	914	1067	1.72	0.16
A001	1067	1219	0.96	0.08
A001	1219	1372	0.21	0.09
A001	1372	1524	0.62	0.09
A001	1524	1676	1.37	0.12
A001	1676	1829	1.37	0.09
A001	1829	1981	1.17	0.08
A001	1981	2133	1.37	0.09
A001	2133	2286	1.78	0.08
A001	2286	2438	0.89	0.08
A001	2438	2591	1.44	0.13
A001	2591	2743	1.51	0.11
A001	2743	2895	1.44	0.12
A001	2895	3048	1.58	0.12
A001	3048	3200	2.26	0.27
A001	3200	3353	1.10	0.13
A001	3353	3505	1.54	0.14
A001	3505	3657	2.06	0.08
A001	3657	3810	1.65	0.06
A001	3810	3962	1.78	0.04
A001	3962	4115	1.58	0.05
A001	4115	4267	0.82	0.05
A001	4267	4419	0.62	0.09
A001	4419	4572	0.75	0.07
A001	4572	4724	0.75	0.07
A001	4724	4877	1.10	0.09
A001	4877	5029	0.27	0.08
A001	5029	5181	0.75	0.07
A001	5181	5334	0.27	0.08
A001	5334	5486	0.75	0.07
A001	5486	5639	0.27	0.07
A001	5639	5791	0.69	0.07
A001	5791	5943	1.10	0.09
A001	5943	6096	1.10	0.08
A001	6096	6248	0.62	0.07
A001	6248	6400	0.62	0.08
A001	6400	6553	0.41	0.06
A001	6553	6705	0.62	0.08
A001	6705	6858	0.62	0.07

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A001	6858	7010	0.34	0.07
A001	7010	7162	1.23	0.08
A001	7162	7315	0.48	0.08
A001	7315	7467	0.14	0.06
A001	7467	7620	0.21	0.05
A001	7620	7772	0.21	0.05
A001	7772	7924	0.82	0.05
A001	7924	8077	0.41	0.05
A001	8077	8229	0.21	0.04
A001	8229	8382	0.21	0.07
A001	8382	8534	0.06	0.07
A001	8534	8686	0.06	0.08
A001	8686	8900	0.06	0.08
A001	8900	9053	0.34	0.06
A001	9053	9296	0.96	0.08
A001	9296	9448	0.55	0.09
A001	9448	9601	1.17	0.12
A001	9601	9753	1.72	0.08
A001	9753	9906	1.10	0.08
A001	9906	10058	1.44	0.12
A001	10058	10210	0.14	0.06
A001	10210	10363	0.14	0.06
A001	10363	10515	0.21	0.04
A001	10515	10667	0.21	0.09
A001	10667	10820	0.27	0.03
A001	10820	10972	0.21	0.07
A001	10972	11125	0.14	0.05
A001	11125	11277	0.21	0.06
A001	11277	11429	0.21	0.06
A001	11429	11552	0.14	0.05
A001	11552	11734	0.14	0.04
A001	11734	11887	0.21	0.05
A001	11887	12039	0.48	0.07
A001	12039	12191	0.55	0.09
A001	12191	12344	0.75	0.06
A001	12344	12496	1.37	0.08
A001	12496	12649	0.01	0.10
A001	12649	12801	0.62	0.07
A001	12801	12953	0.34	0.08
A001	12953	13106	0.45	0.07
A001	13106	13258	0.34	0.07
A001	13258	13411	0.21	0.06
A001	13411	13563	0.21	0.06
A001	13563	13715	0.82	0.06
A001	13715	13868	0.62	0.15
A001	13868	14020	0.41	0.11
A001	14020	14173	0.21	0.06
A001	14173	14325	0.62	0.04
A001	14325	14477	0.55	0.05
A001	14477	14630	1.10	0.07

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A001	14630	14782	1.85	0.06
A001	14782	14934	1.10	0.12
A001	14934	15087	0.55	0.06
A001	15087	15239	0.55	0.04
A001	15239	15392	0.55	0.04
A001	15392	15544	0.34	0.03
A001	15544	15696	0.48	0.07
A001	15696	15849	0.27	0.08
A001	15849	16001	0.62	0.05
A001	16001	16154	0.79	0.10
A001	16154	16306	0.21	0.07
A001	16306	16551	0.27	0.05
A001	16551	16703	0.21	0.02
A001	16703	16855	0.69	0.07
A001	16855	17008	0.21	0.15
A001	17008	17282	0.14	0.03
A001	17282	17526	0.21	0.05

/END

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IDEN6B0201 V-192DDH83-03 NQ83JUL24SWC DCLJUL83S38 MCG 0.00 0108  
 IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
 S000 0 17556 175.56179. -60. 11045. 11060. 989.  
 /NAM EPCLKFCPPYHM  
 /SCL MT.2  
 LSCL  
 LNAM QZCB MGPO

/ 0 478 OVER P  
 / 478 2185 VLGT RWMX35772 P << 010Q(Q+ <-<<<<  
 L 6 GA VV 22 << 060<><) D\*  
 R APPEARS TO BE REWORKED VOLCANIC - POSSIBLY DOMINANTLY OF  
 R HYPABYSSAL ORIGIN.  
 R CLASTS ARE SUBROUNDED AND GENERALLY VOLCANIC - ANDESITIC,  
 R FELDSPAR PORPHYRY, AND HEAVILY CHLORITIZED MATERIAL.  
 R HIGHLY FRACTURED BOTH MICRO AND LARGER SIZED.  
 R FRACTURE FILLINGS INCLUDE CL, CB, QZ, HM, AND PY.  
 R FELDSPARS IN MATRIX ARE PINK.  
 R 2 TO 5 PERCENT SMALL TO LARGE PEBBLE-SIZED CLASTS.  
 / 478 550 X D >)  
 R 478 2185 FAULT OR SHEAR WITH CL AND CB AT 30 DEGREE AT 9.5M  
 R 478 2185 MANY OF CLASTS ARE ELONGATE SUBPARALLEL TO EACH OTHER AND  
 R AT 85 DEGREES TO CORE AXIS.  
 R MODERATELY FRACTURED.  
 / 131 134 1FALT R F/ 005 C1 Q+  
 / 2012 211 X D P=  
 / 211 2185 X D >1 >=>+  
 R 211 2185 FRACTURE IS AT 10 DEGREES TO CORE AXIS AND IS FILLED BY  
 R 211 2185 HM, CB, AND SOME PY. THESE MINERALS ALSO PERMEATE OUT  
 R 211 2185 AWAY FROM FRACTURE.  
 R 211 2185 FRACTURE ACTUALLY CONTINUES TO 22.95 M, BUT AMOUNT OF PY  
 R 211 2185 AND CL DECREASE, ESPECIALLY OUT AWAY FROM FRACTURE.  
 / 2185 3050 VLGT RWMX35771 A << 015 <( <\*<\*<  
 L 6 GA VV 11 << 050 <+  
 R SAME AS ABOVE, EXCEPT FRACTURE DENSITY HAS DECREASED.  
 / 2425 2435 XVEIN R >> 040 P2  
 L >))>+  
 R SET OF SUBPARALLEL, SMALL VEINLETS THAT SHOW K-SPAR  
 R ALTERATION BETWEEN THEM.  
 R 2185 3050 AT 25.9 M ANOTHER QZ-CB VEINLET WITH 2.5 CM ENVELOPE EACH  
 R SIDE WITH K-SPAR ALTERATION.  
 R AT 27 M PY-HM VEINLET ALONG FRACTURE AT 20 DEGREES TO  
 R CORE AXIS.  
 / 3050 3575 VLGT RWVV35672 P << 005 P)  
 L 6 RA MX 11 << 055  
 R MUCH THE SAME AS PREVIOUS PGI - VEINED BY PY, CB, CL,  
 R AND SOME QZ, WITH PERVASIVE HEMATITE THROUGHOUT MOST OF  
 R SECTION.  
 R ONE FRACTURE PLANE FROM 33.2 TO 33.5 SHOWS PERVASIVE HM  
 R ON ONE SIDE AND MORE GREENISH-GREY ROCK WITH 7 PERCENT  
 R PATCHY TO DISSEMINATED PY ON OTHER SIDE. THIS FRACTURE IS

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R 5 DEGREES TO CORE AXIS.  
 / 3575 5230 VLGT RWVV 1 A <\* D+  
 L 6 GA MX 1 << D\*  
 R SAME AS ABOVE PGI'S ,EXCEPT PY IS BECOMING MORE DISSEMINATED  
 R THROUGHOUT AND NOT JUST RESTRICTED TO VEINLETS AND  
 R STRINGERS. AMOUNT OF PO INCREASES LOCALLY. NO CP SEEN.  
 R MAY BE SOME SERICITE IN WIH CL-CB STRINGERS AT 40 DEGREES  
 R TO CORE AXIS.  
 R 5165 5230 VARIES FROM VL GRIT TO COARSE VL SANDSTONE.  
 R 5165 5230 SOME STOCKWORK DEVELOPED WITH CB-QZ AND CL STRINGERS.  
 / 5230 5708 BR HVVL BRMX35451 P < D(D\*  
 L 5 GA VV 21 <<+ D(  
 R ABOUT 35 PERCENT SMALL TO LARGE LAPILLI FRAGMENTS, SUBANGULAR  
 R AND CONSISTING OF FELDSPAR PORPHYRY AND SERIATE PORPHYRITIC  
 R MONZONITE.  
 R MANY OF VEIN-FILLED FRACTURES ARE SHEARED.  
 R DISSEMINATED PY/PO IN FRAGS AND MATRIX.  
 / 5708 6810 BR HVVL MXBR35352 P << 010 <- D.D\*  
 L 5 GA VV 11 << 070 <<+ D\*  
 R FEWER PINKISH HYPABYSSAL VOLC FRAGMENTS. TENDS TO BE A  
 R BLEACH ZONE AROUND SOME OF FRAGMENTS. FRAGS TEND TO BE  
 R SMALL LAPILLI SIZE AND MORE FINER-GRAINED VOLC OR PORPHYRITIC  
 R WITH A FINER-GRAINED GROUNDMASS.  
 R FRAGS STILL MAKE UP ABOUT 30 PERCENT OF ROCK.  
 R NUMEROUS MICRO-STRINGERS THAT CARRY A BIT OF CB+-HM OR  
 R CB+-CL.  
 / 6810 7303 BR HVVL MXBR35452 P << 030 <- D\*(Q)  
 L 5 GA VV 11 << 005 <<+ D(  
 R 6815 6835 QZ-CB VEIN AT 35 DEGREES TO CORE AXIS. HAS ASSOCIATED PATCHY  
 R HM THAT PERVADED FRAGMENTS AND MATRIX AWAY FROM VEIN.  
 / 7303 7550 BR HVVL MXBR3545 P <- D(Q\*  
 L 5 GA VV << D(  
 R VARIABLE BETWEEN HVVL AND HVVL, BUT IN GENERAL APPEARS TO  
 R BE CLOSER TO HVVL.  
 R ABOUT PERCENT SMALL TO LARGE LAPILLI FRAGS.  
 / 7550 7865 BR VOLC MXBD25351 P BD 085 < <(  
 L 4 GA 22 <-<\* 0(  
 R MOSTLY SMALL LAPILLI FRAGMENTS MAKING UP 10 TO 15 PERCENT  
 R OF ROCK. LOCALLY POORLY DEVELOPED BEDDING.  
 R MG CRYSTAL AGGREGATES FROM 76 TO 76.1, 76.75 TO 77.15, AND  
 R 78.1 TO 78.4 M.  
 R PY ON HIGH ANGLE FRACTURE SURFACES.  
 / 7865 8600 DC TFXL BD 14352 P BD 085 <\*<\*  
 L 4 GA 12 << 010 << <-  
 R OTHER FRACTURES, VEIN-FILLED, AT 70 DEGREES TO CORE AXIS.  
 R SOME THIN INTERBEDS OF VERY FINE-GRAINED TUFF OR REWORKED  
 R TUFFACEOUS MATERIAL (SILTY).  
 R 8390 8395 FAULT WITH CB-SERICITE(?)-CL. ATTITUDE IS 70 DEGREES TO  
 R CORE AXIS.  
 / 8483 8512 OLXTFXL MX 2555 R



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L  
 R  
 / POSSIBLY A LARGE LAPILLI SIZED FRAGMENT WITHIN DC TFXL.  
 L 8512 8562 X D << 015<) <)  
 R << 060 <+  
 R LOCAL CONCENTRATION OF VEIN-FILLED FRACTURES AND FIRST  
 R APPEARANCE OF EP.  
 / 8600 9695 BR VOLC MX 3535 P << 060 D\*<  
 L 4 GA 22 << 010<<) D(  
 R INCREASE IN QUANTITY AND VARIETY OF FRAGS. ABOUT 40 PERCENT  
 R FRAGS - MOSTLY SMALL LAPILLI SIZE. PY IS DISSEMINATED IN  
 R BOTH MATRIX AND FRAGS.  
 R FRAGS RANGE FROM INT-MAFIC AND FINE-GRAINED TO RHYODACITIC  
 R OR PORPHYRITIC WITH LARGER FELDSPAR CRYSTALS.  
 R PY AND TRACE CP PRESENT IN CB-QZ VEINS 20 DEGREES TO CORE AXIS.  
 / 9319 9322 XFALT R G6  
 L G4  
 R CONSISTENCY OF CLAY.  
 R 8600 9695 LARGER LAPILLI FRAGMENTS ARE EPIDOTIZED AND SHOW A BLEACHED  
 R HALO UP TO 2 CM AROUND THEM.  
 R 9597 9653 SLIGHT PERVASIVE HEMATITE.  
 / 9695 10390 BR HVVL BD 1 P BD 085 D\*\*  
 L 4 GA 12 <-<)  
 R BECOMING MORE OF A TUFF WITH INCREASE IN THICKNESS OF  
 R TUFFACEOUS MATRIX AND DECREASE IN NUMBER OF FRAGMENTS.  
 R ABOUT 10 PERCENT FRAGMENTS  
 R PY DISSEMINATED AND ALONG FRACTURES  
 R 9576 9618 ABUNDANCE OF QZ-CB VEINS AT VARIOUS ANGLES. SHEARING IS  
 R APPARENT HERE TOO.  
 / 10390 11285 DC TFXL BDVV15351 P BD 087 D(0\*  
 L 3 AG 21 << 020<<+  
 R APPEARS THAT VOLC BR AND DC TFXL SORT OF GRADE ONE INTO  
 R THE OTHER.  
 R MANY OF THE STRINGERS AND VEINLETS ARE AT SHALLOW ANGLES  
 R TO BEDDING.  
 R FROM 107.45 TO 107.8 M, NUMEROUS CB, HM, AND PY STRINGERS  
 R AT 75 DEGREES TO CORE AXIS.  
 R SHEARED QZ-CB VEIN AT 108.5 M AT 80 DEGREES TO CORE AXIS.  
 R SOMEWHAT BROKEN UP FROM 108.5 TO 108.85 M.  
 / 11285 11885 BR HVVL BDVV25461 P BD 087 D(Q\*  
 L 3 AG 21 << 080<<+  
 R CONTAINS A MAJOR COMPONENT (ABOUT 50 PERCENT) OF DC TFXL  
 R AND ABOUT EQUAL PERCENTAGES OF HVVL AND BR VOLC.  
 R VEINING IS ABUNDANT AT ANGLES 0, 60, AND 80 DEGREES TO  
 R CORE AXIS.  
 R 11410 11420 STOCKWORK CB VEINING LEAVING THE ROCK ESSENTIALLY  
 R BRECCIATED.  
 R 11420 11480 VEIN OF CB-(CL) PARALLEL TO CORE AXIS.  
 / 11885 12320 BR HVVL BDVV2556 A BD 085<- D-Q\*  
 L 4 AG << 015<\*<+  
 R GREATER PERCENTAGE OF FRAGMENTS AND MATRIX IS GENERALLY

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R COARSER GRAINED.  
 R 12069 12110 VEINING AT HIGH ANGLES TO BEDDING (15 DEGREES TO CORE AXIS)  
 R WITH SHEARING PREVALENT.  
 R 12260 12280 SHEAR OR SMALL FAULT FILLED WITH CB AND CL AT 15 TO 20  
 R DEGREES TO CORE AXIS.  
 R 11885 12320 MINOR PY IN VEINLETS OR STRINGERS.  
 / 12320 13275 BR HVVL BDVV35552 P BD 085  
 L 4 AG 1  
 R SAME AS PREVIOUS PGI, EXCEPT TENDS TO BE COARSER GRAINED,  
 R AND LESS WELL FRACTURED.  
 R 12725 12745 ABUNDANT PY RELATED TO FRACTURING 5 DEGREES TO CORE AXIS.  
 R 12320 13275 APPEARS TO BE INTERBEDDED LAYERS, 1 TO A FEW CM WIDE,  
 R OF ALTERNATING COARSER AND FINER TUFFACEOUS MATERIAL.  
 R FRAGMENTS ARE MOSTLY SERIATE PORPHYRITIC MATERIAL - SYENITIC  
 R TO MONZONITIC ? - AND VOLCANIC FLOWS (FELDSPAR PORPHYRY AND  
 R FINER-GRAINED, MORE ANDESITIC ROCK (?)  
 R MUCH OF THIS SECTION IS (AS ABOVE) BEDDED TUFF - POSSIBLY  
 R SOME REWORKING, BUT IN GENERAL STILL LOOKING VOLCANIC.  
 / 13000 13125 XVLSN BD 2444 R  
 L 5 GA  
 R VARIABLE FROM VLSN TO TUFF - PARTS LOOK REWORKED, OTHERS  
 R DON'T.  
 / 13275 13945 BR VOLC MXVV25462 P << 010Q1 <-(<)  
 L 4 GA 2 << 040<-<+ D\*  
 R FRAGMENTS ARE SUBANGULAR AND TYPICALLY EPIDOTIZED. ABOUT  
 R 25 PERCENT SMALL LAPILLI AND 10 PERCENT LARGE SIZED.  
 R SOME NEBULOUS PATCHES OF HM IN ROCK AS WELL AS EP.  
 / 13945 14325 BR HVVL VVBN P << 070Q) <(  
 L 4 GA MXBD BD 085<-(<) 0\*  
 R 14084 14100 NOTICEABLE CRYSTALS AND AGGREGATES OF MG  
 R 13945 ABOUT 15 PERCENT VOLC FRAGS AND 10 PERCENT MORE HYPABYSSAL  
 R VOLC MATERIAL.  
 / 14325 14659 BR HVVL MXVV P << 060Q\* D(Q(  
 L 6 RG 1 <-<\* 0-  
 R FELDSPARS VARY FROM PINK TO PALE GREEN - THE LATTER DUE  
 R TO EPIDOTE.  
 R PY IS PARTLY DISSEMINATED AND PARTLY IN VEINLETS AND  
 R STRINGERS.  
 / 14659 15123 BR HVVL MXBD24552 P << 005Q) <<(<\*  
 L 5 GA VV 1 << 080<-<\* 0(  
 R 14675 14687 LOCAL CONCENTRATION OF MG CRYSTALS AND AGGREGATES.  
 R ALSO, BEDDING AT 87 DEGREES TO CORE AXIS.  
 R ABOUT 40 PERCENT OF IT LOOKS MORE LIKE A BEDDED TUFF. IN  
 R FACT THE WHOLE SECTION MAY BE BETTER NAMED A DC TFXL.  
 / 14978 15123 X D P=  
 / 15123 15295 BR HVVL MXVV2566 P << 030P) <(< <-<-<(  
 L 6 AG 3 <<(<\* 0(  
 R NOTICEABLE INCREASE IN QZ AS FRACTURE FILLINGS, ESP. AT 152.5M.  
 R FELDSPAR CRYSTALS ARE EPIDOTIZED.  
 / 15295 15575 DC TFXL BD<<14341 P << 040<\* D(

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L 3 GA 2 << 020 <) 0(  
 R BEDDING IS AT 85 DEGREES TO CORE AXIS.  
 / 15575 16155 BR VOLC BDMX25461 P << 035<< <<(<\*<-  
 L 4 GA VV 2 << 005<)<+  
 R THIS UNIT SHOWS THE FIRST SIGNIFICANT QUANTITY OF QZ  
 R VEINING WITH CP. THESE VEINS ARE GENERALLY AT 40 DEGREES  
 R TO CORE AXIS.  
 R FELDSPARS AND SOME OF FRAGMENTS ARE EPIDOTIZED. ALSO  
 R SOME NEBULOUS PATCHES OF EPIDOTE.  
 R SOME QL FRAGMENTS.

/ 16155 16430 DC TFXL BDVV1444 P << 040  
 L 3 GA 1 BD 087  
 R OTHER FRACTURES AT 20 DEGREES TO CORE AXIS.  
 / 16336 16386 XVLSI BDBN R BD 080  
 L 5 GA <\*<) 0+  
 / 16430 16830 BR VOLC BDMX25451 P << 0550) Q\*  
 L 4 GA 1 << 020<-<\*

R ALSO NUMEROUS FRACTURES AT 30 DEGREES TO CORE AXIS.  
 R BEDDING IS STILL AT ABOUT 85 DEGREES TO CORE AXIS.  
 R FELDSPARS IN BOTH FRAGMENTS AND MATRIX ARE EPIDOTIZED  
 R MOSTLY CB VEINLETS, QUARTZ STRINGERS NOT AS NOTICEABLE.  
 / 16830 17556 DC TFXL BDVV24652 P << 0150\* D\*<(  
 L 4 GA 2 BD 087<-<) D(  
 R PY ALSO OCCURS IN VEINLETS AND AS PATCHES IN THE ROCK,  
 R ESPECIALLY AT 169.8, 170.4 TO 170.8, 173, AND 174.45 TO  
 R 174.65 M.  
 R BIT OF A STOCKWORK DEVELOPED AT 174.5 WITH NUMEROUS  
 R STRINGERS, SOME OF THEM SHEARED.  
 R SPOTTY MG AT 175 AND 175.25 M.

A001	AUMM		SAMPLE	PPMAU	PPMAG	% CU	% AS
A001	478	600	74701	0.03	0.5	0.006	0.005
A001	600	900	74702	0.02	0.5	0.005	0.005
A001	900	1200	74703	0.03	0.5	0.007	0.005
A001	1200	1500	74704	0.01	0.5	0.008	0.005
A001	1500	1800	74705	0.03	0.5	0.006	0.005
A001	1800	2100	74706	0.07	0.5	0.008	0.005
A001	2100	2400	74707	0.33	0.5	0.043	0.005
A001	2400	2700	74708	0.01	0.5	0.002	0.005
A001	2700	3000	74709	0.17	0.5	0.016	0.005
A001	3000	3300	74710	0.44	3.0	0.056	0.005
A001	3300	3600	74711	0.64	7.0	0.210	0.005
A001	3600	3900	74712	0.01	0.5	0.001	0.005
A001	3900	4200	74713	0.03	0.5	0.005	0.005
A001	4200	4500	74714	0.03	0.5	0.005	0.005
A001	4500	4800	74715	0.05	0.5	0.005	0.005
A001	4800	5100	74716	0.04	0.5	0.004	0.005
A001	5100	5400	74717	0.02	0.5	0.003	0.005
A001	5400	5700	74718	0.01	0.5	0.002	0.005
A001	5700	6000	74719	0.02	0.5	0.003	0.005

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A001	6000	6300	74720	0.04	0.5	0.004	0.005
A001	6300	6600	74721	0.05	0.5	0.005	0.005
A001	6600	6900	74722	0.08	0.5	0.005	0.005
A001	6900	7200	74723	0.02	0.5	0.004	0.005
A001	7200	7500	74724	0.03	0.5	0.003	0.005
A001	7500	7800	74725	0.03	0.5	0.003	0.005
A001	7800	8100	74726	0.01	0.5	0.003	0.005
A001	8100	8400	74727	0.03	0.5	0.007	0.005
A001	8400	8700	74728	0.02	0.5	0.002	0.005
A001	8700	9000	74729	0.01	0.5	0.002	0.005
A001	9000	9300	74730	0.01	0.5	0.003	0.005
A001	9300	9600	74731	0.01	0.5	0.002	0.005
A001	9600	9900	74732	0.03	0.5	0.003	0.005
A001	9900	10200	74733	0.02	0.5	0.005	0.005
A001	10200	10500	74734	0.02	0.5	0.004	0.005
A001	10500	10800	74735	0.02	0.5	0.005	0.005
A001	10800	11100	74736	0.02	0.5	0.005	0.005
A001	11100	11400	74737	0.01	0.5	0.006	0.005
A001	11400	11700	74738	0.02	0.5	0.005	0.005
A001	11700	12000	74739	0.01	0.5	0.005	0.005
A001	12000	12300	74740	0.07	0.5	0.006	0.005
A001	12300	12600	74741	0.04	0.5	0.007	0.005
A001	12600	12900	74742	0.04	0.5	0.008	0.005
A001	12900	13200	74743	0.08	0.5	0.009	0.005
A001	13200	13500	74744	0.13	0.5	0.024	0.005
A001	13500	13800	74745	0.04	0.5	0.011	0.005
A001	13800	14100	74746	0.05	0.5	0.029	0.005
A001	14100	14400	74747	0.08	0.5	0.021	0.005
A001	14400	14700	74748	0.10	0.5	0.015	0.005
A001	14700	15000	74749	0.34	0.5	0.035	0.005
A001	15000	15300	74750	0.34	0.5	0.043	0.005
A001	15300	15600	74751	0.38	0.5	0.039	0.005
A001	15600	15900	74752	0.39	0.5	0.046	0.005
A001	15900	16200	74753	0.45	0.5	0.050	0.005
A001	16200	16500	74754	0.45	0.5	0.065	0.005
A001	16500	16800	74755	0.15	0.5	0.049	0.005
A001	16800	17100	74756	0.04	0.5	0.023	0.005
A001	17100	17400	74757	0.04	0.5	0.020	0.005
A001	17400	17556	74758	0.04	2.0	0.019	0.005

/END

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IDEN6B0201 V-192DDH83-04 NQ 83JUL26SWC DCLJUL83S38 MCG 0.00 0110  
 IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
 S000 000 152.39 152.39180. -60. 10970. 11105. 989.  
 /NAM EPCLKFCPPYHM  
 /SCL MT.2  
 LSCL  
 LNAM QZCB MGPO  
 / 000 366 CASE P  
 / 366 1255 VLGT MXVV4566 P << 045 <- <( <( <  
 L 5 GA 22 << 015<\*<\*<  
 R LENGTH SHOWS DISTINCT QUARTZ VEINS, SOME CP BEARING, AT  
 R ABOUT 40, 50, AND 60 DEGREES TO CORE AXIS.  
 R ROCK MAY ACTUALLY BE MORE OF A VOLC. CONGL. AS THERE  
 R APPEARS TO BE SOME (10 PERCENT) PEBBLE-SIZED CLASTS.  
 / 705 870 RYXBRAI MXBR13242 R >> 005P)<)Q(<\*<)<)  
 L 7 WG VV << 015>+>=  
 R FOR ABOUT .5 M ABOVE THIS BRECCIA, ROCK IS RIDDLED WITH  
 R ANASTAMOSING QZ VEINS, SOME CARRYING CP, GENERALLY PARALLEL  
 R TO CORE AXIS.  
 R BRECCIA HAS PALE GREEN TO OFF-WHITE RHYOLITIC FRAGMENTS  
 R (SUBANGULAR) IN AN APHANITIC DARKER GREEN MATRIX.  
 R A .2M FINGER OF BRECCIA, 1CM WIDE, HAS INTRUDED ROCK ABOVE.  
 R SHEARING, BRECCIATION, ALTERATION (K-SPAR AND EPIDOTE ?),  
 R PYRITIZATION, QZ VEINING, AND SOME CP AND HM ARE ASSOCIATED  
 R WITH THIS BRECCIA. VEINING WAS POST INTRUSION OF BRECCIA.  
 R OPEN-SPACES IN THIS INTRUSIVE BRECCIA HAVE BEEN FILLED BY  
 R CB, QZ, HM, AND PY. MANY OF TINY QZ STRINGERS ARE HORSE-  
 R TAILING. FROM ABOUT 8M ON, BRECCIA IS MORE SOLID.  
 R CONTACT WITH VLGT IS ROUGHLY 60 DEGREES TO CORE AXIS.  
 / 1255 2409 BR HYVL MXBR35562 P << 010<\*<(Q\*<\*<)<-  
 L 5 GA 3 << 020<)<+  
 R FELDSPARS ARE EPIDOTIZED. AS WELL THERE IS PERVASIVE EP  
 R IN MATRIX.  
 R CP ALONG BOTH QZ STRINGERS AND EPIDOTE VEINLETS THAT RUN  
 R PARALLEL TO CORE AXIS.  
 R AGAIN, NUMEROUS HORSETAILING QZ STRINGERS.  
 R A NUMBER OF VEINS, ESPECIALLY IF 5 MM WIDE OR SO, SHOW  
 R A CENTRAL ZONE OF EP AND MINOR CB WITH AN OUTER ZONE OF  
 R QZ, CP GENERALLY OCCURS IN QZ ZONE.  
 R INTENSITY OF VEINING LOCALLY INCREASES.  
 R 1255 2409 ABUNDANCE OF QZ, CB, AND EP VEINING AT 70, 50, AND 5  
 R DEGREES TO CORE AXIS CONTINUES. GENERALLY, THE CP-  
 R BEARING VEINLETS ARE PARALLEL TO CORE AXIS.  
 R K-SPAR ALTERATION IS PATCHY AND PERMEATES ROCK AWAY  
 R FROM VEIN WALLS. FELDSPARS CONTINUE TO SHOW EPIDOTIZATION.  
 / 2409 2960 BR VOLC BRVV24452 P << 005 <( <-D\*<(<  
 L 3 GA 2 << 030<\*<+  
 R CP IS BOTH DISSEMINATED AND ALONG VEINLETS. DISSEMINATED  
 R CP MAY BE RELATED TO VERY TINY MICROFRACTURES.  
 R 2560 2600 VEINING VERY PROMINENT - ALMOST PARALLEL TO CORE AXIS AND

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R MOSTLY CB - SOME SHEARING.  
 R 2409 2960CP-BEARING QZ VEINLETS ARE MOSTLY 30 OR LESS TO CORE AXIS.  
 / 2715 2795 BRXHYVL R  
 L 5 GA  
 R PATCHY K-SPAR ALTERATION, MINOR EPIDOTIZATION, AND  
 R ABUNDANT STRINGERS AND VEINLETS OF QZ, HM, AND CB, FORMING  
 R HORSETAILS AND MINI-STOCKWORKS.  
 / 2795 2950 DC5TFXL R <( <\* <-  
 L 4 GA <)<  
 R VARIABLE BETWEEN BR VOLC AND DC TFXL.  
 / 2960 3250 BR HVVL BRVV24352 P << 030<\* Q\*<  
 L 5 GA 21 << 005<)<+ 0(  
 R A FEW VEIN-FILLED FRACTURES AT 80 TO CORE AXIS.  
 R STARTS OFF WITH PATCHY EPIDOTIZATION THAT INCREASES TO  
 R 30.55 M.  
 R FROM 31.35 TO 32 M, APPEARS TO BE PERVASIVE (TO PATCHY)  
 R EP, HM, AND K-SPAR, GIVING THE ROCK A GUNGY REDDISH-GREENISH  
 R GREY COLOR.  
 / 3250 3435 AL HVVL BRVV 3 P F/ 020P= <( Q)  
 L 7 UA 3 >)P1 0\*  
 R ALTERED BR HVVL WITH ABUNDANT VEINING.  
 R FAULT OCCURS FROM 33.9 TO 34.24 M.  
 / 3435 3868 BR VOLC BRVV 2 P << 005Q\* Q(<-<-<  
 L 6 UA 2 << 035<\*<)  
 R MODERATELY ALTERED ROCK - BUT CAN STILL PICK OUT MUCH OF  
 R ORIGINAL TEXTURE AND CONTENT. ALTERATION IS SIMILAR TO  
 R THAT FROM 31.35 TO 32 M.  
 R 3635 3868BECOMES EVEN MORE ALTERED AND WITH INCREASE IN CB,QZ, AND  
 R HM VEINING AT 5, 30, AND 40 DEGREES TO CORE AXIS.  
 R ROCK IS ALSO MORE BROKEN UP.  
 R QZ-CP VEINLETS AT 20 DEGREES TO CORE AXIS HAVE BEEN CUT  
 R AND OFFSET BY LATER CB-QZ-HM VEINING AT 55 DEGREES TO CORE  
 R AXIS.  
 / 3868 4338 AL VOLC BRVV 3 P << 010Q- <(<<<)  
 L 8 GA 2 << 050<)<+ 0\*  
 R SPOTTED PALE GREENISH-GREY TO OFF-WHITE, RIDDLED WITH  
 R FRACTURES (VEIN-FILLED) AN PERVASIVELY ALTERED.  
 R BRIGHT GREEN, SOFT MINERAL - TRACE AMOUNTS - MAY BE  
 R MARIPOSITE.  
 R MG-HM ARE DISSEMINATED THROUGHOUT AS TINY BLACK SPOTS -  
 R APPEAR TO BE VERY LATE STAGE.  
 R CP OCCURS IN QZ VEINLETS (GENERALLY 20 TO 50 DEGREES TO  
 R CORE AXIS) AND IN HM-CB-(EP-MG) STRINGERS WHICH RUN 5 TO  
 R 10 DEGREES TO CORE AXIS.  
 / 4338 4600 FALT BRVV P F/ 035 <-<-<  
 L 9 GW  
 R FAULT ZONE WITH GOUGE HEALED BY QZ-CB, MAYBE SOME CLAY  
 R AND EPIDOTE. FAULT ZONE HAS DEFINITELY BEEN SILICIFIED AND  
 R CARBONATIZED.  
 / 4600 5045 AL TFXL VV 2 P << 010P\* E\*<-<-<\*

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L 7 GA 21 << 070<\*>) 0\*  
 R VEINING AT 50 DEGREES TO CORE AXIS AS WELL.  
 R SPOTTED WITH MG-HM. K-FELDSPAR ENVELOPES ARE ON THE QZ-CB  
 R +-CP VEINLETS. STRINGERS CONTINUE TO HORSETAIL.  
 R 4840 4917COLOR BECOMES MORE REDDISH, MG SPOTTING BECOMES MINOR AND  
 R VEINING AND PERVASIVE ALTERATION DECREASE.  
 R 4917 4965LARGE VEIN AT 15 DEGREES TO CORE AXIS CARRIES QZ-CB-HM-CP  
 R AND MARIPOSITE? OR JUST GREEN SERICITE?  
 R ABUNDANT MICROVEINING AS WELL, PARALLEL TO THIS LARGER  
 R VEIN.  
 / 5045 6278 BR VOLC BRVV24352 P << 040Q+ <-  
 L 4 GA 2 << 010<\*>+ 0(  
 R MOST OF VEINING IS CB+-EP, HOWEVER, STILL A FEW QZ VEINLETS  
 R WITH MINOR CP. SOME HORSETAILING AND SEMI-STOCKWORKING  
 R OF VEINS (IE - MANY OF SMALL STRINGERS BRANCH OUT FROM  
 R LARGER ONES. SOME RIBBON-TEXTURES IN VEINLETS.  
 R MOSTLY SMALL LAPILLI FRAGS, SUBANGULAR, MAKING UP 30  
 R PERCENT OF ROCK. SOME FRAGS EPIDOTIZED.  
 / 5775 5840 RY8BRAI BR 0243 R C/ 020  
 L 7 WG  
 R PALE GREENISH-WHITE FRAGS IN DARKER GREENISH-GREY MATRIX.  
 R BOUNDED ON EITHER SIDE BY QZ VEINS CARRYING MINOR CP. ALSO :  
 R NARROW, PARTIAL ENVELOPE OF K-SPAR ALTERATION.  
 R THIS INTRUSIVE BRECCIA HAS BEEN PARTLY INFILLED BY CB  
 R AND QZ, WITH SOME PY AND MINOR CP.  
 R 6000 6015NOTABLE EP VEINING AT 20 DEGREES TO CORE AXIS  
 R 6260 6270NOTABLE EP VEINING WITH CP AT 30 DEGREES TO CORE AXIS.  
 / 6278 6420 DC TFXL 24352 P C/ 085>(>- >(  
 L 4 GA 11 << 002>>>)  
 R OTHER VEINLETS AT 35 AND 80 DEGREES TO CORE AXIS.  
 R ONE MAIN VEIN RUNNING NEARLY PARALLEL TO CORE AXIS WITH  
 R CB-QZ-EP-CL PLUS MINOR CP. WHICH HAS A WHOLE NETWORK OF  
 R 6278 6420SUBORDINATE STRINGERS AND VEINLETS AT VARIOUS ANGLES  
 R WHICH BRANCH OUT. THESE CARRY QZ, CB, AND MINOR CP.  
 R THIS ONE MAIN VEIN RUNS FOR MOST OF THE SECTION.  
 R BEDDING IS ABOUT 85 DEGREES TO CORE AXIS.  
 / 6420 7720 VLSN 25351 P BD 080Q\* Q(<. <-  
 L 6 GA 11 <<(<) 0(  
 R MAY IN PART BE BR HYVL AND IN PART A TUFF, BUT GENERALLY  
 R LOOKS LIKE IT'S BEEN REWORKED.  
 R VARIABLE FROM GRIT LAYERS TO SN SI LAYERS.  
 R MUCH OF VEINING IS 30 TO 70 DEGREES TO CORE AXIS.  
 R SOME BANDS OF SPOTTY MAGNETITE RUNNING NEARLY PARALLEL TO  
 R BEDDING.  
 / 7600 7720 XVLGT MXVV3546 R  
 L 6 GO 21  
 R BECOMES A PEBBLY VOLCANIC GRIT WITH SUBROUNDED CLASTS OF  
 R FINE-GRAINED VOLCANIC AND MORE HYPABYSSAL MATERIAL.  
 R SHOWS A SLIGHT ORANGY COLORING (DUE TO HM?) APPEARS TO  
 R CONTAIN A GREATER PERCENTAGE OF QZ+-CP VEINS PER METRE

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R THAN REST OF THE PGI.  
 R 6420 7720 THROUGHOUT ENTIRE SECTION ROCK GRADES FROM COARSE SN AND  
 R GRIT TO FINER SN AND TO SI. GENERALLY WELL BEDDED THROUGHOUT.  
 R LOCAL INCREASE IN EPIDOTE VEINING FROM 74.35 TO 75.65 M.  
 / 7720 7978 VLSI BD 14252 P BD 085 <-<-<(  
 L 6 GA 2 << 005<)<+ 0-  
 R MAY BE A FINE-GRAINED TUFF, BUT HAS A SOMEWHAT REWORKED  
 R APPEARANCE.  
 R VEINING IS MOST ABUNDANT PARALLEL TO CORE WITH HORSETAILING  
 R HEMATITIC AND CB-QZ STRINGERS. SOME ARE BRAIDED  
 R SPOTTY MG THROUGHOUT.  
 R MORE GRITTY SECTION BETWEEN 78.65 AND 79.45 M.  
 / 7978 8085 FALT P F/ 035  
 L 9 GW >> 035  
 R FAULT ZONE CONTAINS GOUGE HEALED BY QZ AND CB WITH VERY  
 R MINOR HM AND CP. ENTIRE FAULT ZONE IS Pervasively  
 R SERICITIZED WITH GREEN SERICITE. (MAY ALSO BE SOME CLAY).  
 / 8085 9875 VLGT MXBD15352 P << 035 <. <(  
 L 7 GA 21 << 010<)<+ 0\*  
 R SPOTTY REWORKED VOLCANIC OR VOLC GRIT WHICH HAS BEEN  
 R BLEACHED? (SERICITIZED?) VARIABLE IN PART TO VOLC. SN.  
 / 8285 8345 XFALT R F/ 035  
 L 9 GW >> 035  
 R VIRTUALLY SAME AS ABOVE FAULT - HIGHLY SERICITIZED AND  
 R HEALED BY QZ AND CB.  
 / 8590 8700 XFALT R F/ 035  
 L 9 GW >> 035  
 R 8085 9875 VOLC GRIT BETWEEN FAULT ZONES IS WELL VEINED (QZ-CB) AND  
 R SHEARED AT 20 TO 30 DEGREES TO CORE AXIS.  
 / 8720 8820 XFALT R F/ 040  
 R SAME AS FAULTS ABOVE.  
 / 8847 8868 XFALT R F/ 040  
 R SAME AS FAULTS ABOVE.  
 / 8904 8952 XFALT R F/ 010  
 R SAME AS FAULTS ABOVE.  
 R 8085 9875 INTENSITY OF VEINING CONTINUES, HOWEVER MOST OF THE  
 R STRINGERS AND VEINLETS ARE HM-MG AND APPEAR TO CARRY ONLY  
 R MINOR CP. OTHER, LESS ABUNDANT, FRACTURE FILLINGS INCLUDE  
 R CB AND QZ, SOME OF WHICH CUT THE HM-MG STRINGERS.  
 R ROCK CONTINUES TO SHOW A PEPPERING OF MG-HM.  
 R 8085 9875 SECTIONS OF VOLC SANDSTONE FROM 88.78 TO 89.04, 90.04 TO  
 R 90.80M, 91.88 TO 93.46, 97.06 TO 97.55, AND 98.23 TO 98.75M.  
 R SMALL SHEAR WITH CB FILLING, QUARTZ VEINING, AND  
 R 9100 9135 SERICITIZATION, AT 15 DEGREES TO CORE AXIS.  
 R 9255 9278 SMALL SHEAR AT 15 DEGREES TO CORE AXIS.  
 R 9367 9405 ANOTHER SHEAR.  
 / 9527 9706 XFALT R  
 / 9755 9823 XFALT R  
 R 8085 9875 THERE ARE A FEW QZ STRINGERS ON EITHER SIDE OF THE FAULT  
 R ZONES THAT DO CARRY MINOR CP.



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/ 9875 10850 FALT P  
 L 9 GW  
 R CONTAINS SOME BROKEN-UP, PEPPERY VOLC SN, BUT MOSTLY  
 R GOUGE WITH CB, SERICITE, MINOR QZ, AND SOME CLAY?  
 / 10196 10237 XVLSN R  
 L 8 GW 0=  
 R APPEARS TO BE PERVASIVELY SERICITIZED AND CARBONATIZED.  
 / 10337 10433 XVLSN R  
 / 10604 10820 XVLSN R  
 R MINOR CP IN QZ VEINS AT 15 DEGREES TO CORE AXIS.  
 / 10850 11875 VLSN BDRW24652 P << 005 <. <-  
 L 5 GA 2 << 040<\*> 0-  
 R BEDDING IS AT 85 DEGREES TO CORE AXIS.  
 R 11315 11415 ONE .5 CM WIDE QZ VEIN RUNNING NEARLY PARALLEL TO CORE  
 R AXIS, AND CARRYING THE ODD SPECK OF CP. ALSO SOME  
 R SUBPARALLEL CB AND QZ-CB VEINS. SHEARING HAS OCCURRED ALONG  
 R THEM AS WELL. SERICITIZATION IS PERVASIVE ALONG THE VEIN  
 R WALLS.  
 / 11745 11875 XVLGT 35562 R << 005  
 L 5 GA 2  
 / 11875 12154 QL TFXL VV 1445 P << 075<- <- <<  
 L 4 GA 12 << 030<\*>  
 R ALTHOUGH VEINING HAS DECREASED SOMEWHAT FROM THE ABOVE  
 R VLSN, THE AMOUNT OF CP FOUND IN QZ AND HM VEINLETS  
 R HAS INCREASED.  
 R THIS ROCK MAY ACTUALLY BE PARTLY REWORKED, SINCE SOME  
 R FRAGS AND GRAINS LOOK FAIRLY ROUNDED, IE MAYBE VLSN RATHER  
 R THAN A TUFF.  
 / 12154 12700 BR VOLC VVBR P << 080 <- <.D<\*>  
 L 4 AG 12 << 035<(<) 0(D  
 R OTHER STRINGERS AT 50 DEGREES TO CORE AXIS. SOME  
 R HORSETAILING OF HM AND CB VEINLETS.  
 R 1263 12700 BECOMING BLEACHED DUE TO PERVASIVE CB AND SERICITE (AND  
 R CLAY?) AND PEPPERED WITH MG. MINOR CP, APPEARING  
 R DISSEMINATED, BUT MORE LIKELY RELATED TO MICROFRACTURES,  
 R 12154 12700 POSSIBLY SOME REWORKING HAS AFFECTED THIS ROCK.  
 / 12700 12810 FALT VV P F/ 005 <\*> <. <<  
 L 8 GW << 005<(<) <2 0(  
 R FAULT ZONE IS SIMILAR TO THOSE DESCRIBED ABOVE - WITH  
 R PERVASIVE GREENISH SERICITE AND IN-FILLED WITH QZ AND CB  
 R VEINING PARALLEL TO CORE AXIS. NUMEROUS, DISCONTINUOUS  
 R STRINGERS OF CB AND VERY MINOR QZ BRANCH OFF FROM MAIN  
 R VEINS AND RUN AT 50 DEGREES TO CORE AXIS. MINOR CP IS  
 R PRESENT IN SOME OF QZ AND/OR HM STRINGERS.  
 / 12810 13275 BR VOLC VVBD 2 P << 030<- <. <-<\*>  
 L 4 AG 11 << 070<(<) 0(<-  
 R ALTERED TO 129.15M (BY FLUIDS THAT TRAVELLED ALONG FAULT?)  
 R MAYBE MORE OF A VOLC GRIT OR PEBBLY GRIT.  
 R BEDDING APPEARS TO BE ROUGHLY 85 DEGREES TO CORE AXIS.  
 R ALTHOUGH MANY OF STRINGERS ARE QUITE MINISCULE, THEY TEND

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R TO FORM A STOCKWORK PATTERN LOCALLY.  
 / 13275 13528 AL VOLC BR P  
 L 5 GA  
 R ROCK SHOWS PATCHY TO CONTINUOUS BLEACHING, BUT OTHERWISE  
 R IS SIMILAR TO ABOVE.  
 / 13528 13908 AL VLSN 2 P << 015<\* <.<-<\*<  
 L 8 GA 1 << 035<)<+ 0)<.  
 R ROCK IS PEPPERED WITH MG(-HM) AND CONTAINS .5 TO 1 CM  
 R VEINS CARRYING CB, SOME QZ, AND MINOR EPIDOTE.  
 R SOME CP-BEARING QZ VEINLETS ARE CUT BY CB STRINGERS,  
 R WHEREAS OTHERS CUT THE CB. CP-BEARING STRINGERS ARE  
 R GENERALLY 40 DEGREES TO CORE AXIS.  
 R ABOVE ROCK TYPE IS A GUESS! ROCK IS SO COMPLETELY  
 R ALTERED - PERVASIVE CB, CLAY?, AND SERICITE - THAT ANY  
 R ORIGINAL TEXTURES, STRUCTURES, OR MINERALS CANNOT BE  
 R CONFIDENTLY IDENTIFIED.  
 R MINOR FAULT ZONE AT 137.85 M ABOUT 5 CM WIDE, INFILLED  
 R BY CB AND MINOR QZ, AND RUNNING 25 DEGREES TO CORE AXIS.  
 / 13908 14150 AL VOLC BRVV 2 P << 025 Q\*<.D-0)  
 L 7 GA 1 << 010<\*<) 0\*D-  
 R CONTAINS NUMEROUS FRAGMENTS OF FELDSPAR PORPHYRY. THESE  
 R RANGE IN SIZE FROM SMALL TO LARGE LAPILLI  
 R MAY ALSO BE SOME SERICITE VEINING.  
 R ROCK IS BLEACHED BY PERVASIVE SERICITE-(CLAY?)AND CB AND  
 R SHOWS SPOTTY HM-MG.  
 / 14150 14310 BR VOLC BRVV25351 P << 020Q+ Q)<- 0\*  
 L 5 GA 2 << 045<)<) 0(  
 R NOT ALTERED AS ABOVE, BUT DOES SHOW PATCHY EPIDOTE AND  
 R LESS COMMONLY PATCHY K-SPAR ALTERING FRAGMENTS IN THE  
 R BRECCIA. BOTH SMALL AND LARGE LAPILLI FRAGS MAKE UP ABOUT  
 R 45 PERCENT OF ROCK.  
 / 14310 14575 VLSN BDMX14451 P << 020 <-Q\*<(<\*<0\*  
 L 6 GU VV 2 << 040<)<)<) 0(  
 R BEDDING IS ABOUT 85 DEGREES TO CORE AXIS.  
 R SOME OF VEINLETS ARE HORSETAILING.  
 R OLD HEALED FRACTURE PARALLEL TO CORE WITH SPOTTY HM.  
 / 14575 14690 DC TFXL MXVV25351 P << 030 <\*<-<)<  
 L 4 AG 2 << 005<)<+<  
 R THERE IS ACTUALLY A CONSIDERABLE AMOUNT OF VISUAL CP  
 R OCCURRING BOTH IN QZ AND/OR HM VEINLETS AND AS APPARENT  
 R DISSEMINATIONS (PROBABLY RELATED TO MINISCULE FRACTURES.  
 R ONE HM STRINGER SHOWS A ZONED ENVELOPE OUTWARD FROM CB -  
 R SERICITE? TO K-SPAR. CP OCCURS WITHIN THE ALTERATION  
 R ENVELOPE.  
 R VARIES TO MORE QL TFXL.  
 / 14690 15239 AL VOLC VVBR 2 P << 010 <- 0\*  
 L 7 GW << 080<\*<)<) 0(  
 R BACK INTO BILL'S SPOTTED DOG ROCK. NUMEROUS VEINLETS  
 R RUNNING PARALLEL TO CORE AXIS, MANY ARE HORSETAILING.  
 R CP IS QUITE VISIBLE ALONG QZ AND HM STRINGERS.

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/ 14750 14775 XFALT R F/ 010  
 R SAME AS PREVIOUS ONES. SERICITIZATION ON EITHER SIDE.  
 R 15150 15150 RIDDLED WITH MAJOR CB VEINING PARALLEL TO CORE AXIS AND  
 R A MYRIAD OF BRANCHING STRINGERS.  
 R 14915 14970 ABUNDANT CB VEINS, FORMING A BIT OF A STOCKWORK.  
 R 14690 15239 MANY OF VOLC PORPHYRY FRAGS SHOW GREEN SERICITE PSEUDOMORPHS  
 R AFTER PLAG.

A001	AUMM		SAMPLE	PPMAU	PPMAG	% CU	% AS
A001	366	600	74759	1.78	3.1	0.149	0.005
A001	600	900	74760	1.65	3.2	0.158	0.005
A001	900	1200	74761	2.06	3.8	0.207	0.005
A001	1200	1500	74762	1.54	3.3	0.196	0.005
A001	1500	1800	74763	1.54	3.4	0.195	0.005
A001	1800	2100	74764	1.26	3.1	0.122	0.005
A001	2100	2400	74765	1.23	3.0	0.140	0.005
A001	2400	2700	74766	1.23	3.3	0.166	0.005
A001	2700	3000	74767	1.03	3.4	0.143	0.005
A001	3000	3300	74768	1.20	3.5	0.133	0.005
A001	3300	3600	74769	0.96	2.9	0.151	0.005
A001	3600	3900	74770	0.82	2.8	0.180	0.005
A001	3900	4200	74771	1.37	2.8	0.202	0.005
A001	4200	4500	74772	1.06	2.9	0.158	0.005
A001	4500	4800	74773	0.93	2.9	0.113	0.005
A001	4800	5100	74774	1.27	2.8	0.155	0.005
A001	5100	5400	74775	0.69	2.6	0.087	0.005
A001	5400	5700	74776	0.70	0.5	0.098	0.005
A001	5700	6000	74777	0.76	0.5	0.120	0.005
A001	6000	6300	74778	0.94	1.0	0.141	0.005
A001	6300	6600	74779	0.59	2.0	0.080	0.005
A001	6600	6900	74780	0.68	2.0	0.089	0.005
A001	6900	7200	74781	0.69	3.0	0.105	0.005
A001	7200	7500	74782	0.61	2.0	0.097	0.005
A001	7500	7800	74783	0.79	2.0	0.127	0.005
A001	7800	8100	74784	0.76	2.0	0.131	0.005
A001	8100	8400	74785	0.81	1.0	0.100	0.005
A001	8400	8700	74786	0.49	1.0	0.101	0.005
A001	8700	9000	74787	0.45	1.0	0.104	0.005
A001	9000	9300	74788	0.68	2.0	0.099	0.005
A001	9300	9600	74789	0.51	2.0	0.099	0.005
A001	9600	9900	74790	0.39	2.0	0.091	0.005
A001	9900	10200	74791	0.64	1.0	0.115	0.005
A001	10200	10500	74792	0.55	2.0	0.099	0.005
A001	10500	10800	74793	0.53	2.0	0.092	0.005
A001	10800	11100	74794	0.95	2.0	0.141	0.005
A001	11100	11400	74795	0.90	3.0	0.138	0.005
A001	11400	11700	74796	0.91	3.0	0.138	0.005
A001	11700	12000	74797	0.74	2.0	0.099	0.005
A001	12000	12300	74798	0.53	2.0	0.085	0.005
A001	12300	12600	74799	0.51	2.0	0.079	0.005

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A001	12600	12900	74800	0.43	2.0	0.066	0.005
A001	12900	13200	74801	0.56	2.0	0.085	0.005
A001	13200	13500	74802	0.80	2.0	0.121	0.005
A001	13500	13800	74803	0.55	2.0	0.082	0.005
A001	13800	14100	74804	0.50	2.0	0.072	0.005
A001	14100	14400	74805	1.15	2.0	0.127	0.005
A001	14400	14700	74806	1.59	2.0	0.183	0.005
A001	14700	15000	74807	0.81	2.0	0.108	0.005
A001	15000	15239	74808	0.55	2.0	0.087	0.005

/END

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IDEN6B0201 V-192DDH83-05 NQ 83JUL28PP SWCODCLJUL83S38 MCG 0.00 0102  
IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
S000 000 6583 65.83180. -60. 10740. 10995. 995.  
/NAM EPCLKFCPPYHM  
/SCL MT.2  
LSCL  
LNAM QZCB MCPO

/ 000 2987 OVER P  
R QZ PEBBLES REDDISH BROWN DIRT,LARGE BOULDERS  
R OF VOLC BX,FELDS PORPH.,GRANITE

/ 000 1646 XCASE R  
/ 2987 3802 DC TFXL MX 35251 P << 0150)J. 0 0.0)  
L 4 AG 0 <.- D)

R UP TO 5 TO 10% VOLC RX FRAGS.SMALL TO LARGE LAPILLI SIZE  
R SUBANGULAR TO SUBROUNDED,SUBPARALLEL 85 TO CORE AXIS

/ 3490 3628 X D  
L 5 GA

R INCREASE IN KF XL FRAG CONTENT AVG 15%  
R ESSENTIALLY SAME AS ABOVE

/ 3628 3802 X D 0+ 0\*  
L 6 WG D\*

R VISUAL INCREASE IN KF  
/ 3802 4204 FALT P S/ 007  
L 8 WA S/ 060 D\*

R PERVASIVE SERICITE ALT.SOME CLAY FRAG OF WALL ROCK  
/ 3802 3888 ALXTFXL R << 0200) D1  
L 7 GW D1 D.

R PERVASIVE SERICITE ALT  
/ 4145 4204 X R S/ 0100) D.  
L 7 GW D\* 0

R SERICITE ALT INCREASE IN SMALL LAPILLI SIZE RX FRAG  
/ 4204 5070 DC TFXL MX 3525 P << 0500)J. D.D\*0)  
L 5 AG << 000<.- D\*

R SIMILAR TO TOP OF HOLE BEDDING 090  
/ 4204 4389 X D D.

L 6 WG  
R RELATIVELY MORE KF  
/ 5070 6583 BR VOLC BRVV3526 P Q)D) OD1D.  
L 6 AG 32 <.D) D)

R SUBROUNDED TO SUBANGULAR FRAGMENTS OF FELD PORPHYRY, HYVL,  
R ANDESITE, XL FRAG UP TO 50% FRAGS.

R MORE LARGE LAPILLI FRAG THAN SMALL LAPILLI FRAG  
R VOLC BR MORE MAFIC THAN VOLC BR IN PREVIOUS HOLES

R 5852 6187CONTAINS MUCH LESS FRAGMENTS

A001  
AUMM SAMPLE PPM AU PPM AG % CU % AS  
A001 3600 3900 74809 0.03 2.0 0.009 0.005  
A001 4800 5100 74810 0.01 2.0 0.015 0.005  
A001 6000 6300 74811 0.01 2.0 0.001 0.005

/END

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IDEN6B0201 V-192DDH83-06 NQ 83JUL29SWC DCLJUL83S38 MCG 0.00 0104  
 IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
 S000 000 9631 96.31360. -50. 10925. 10975. 1000.  
 /NAM EPCLKFCPPYHM  
 /SCL MT.2  
 LSCL  
 LNAM QZCB MGPO  
 / 000 1855 OVER P  
 / 1829 1855 XCASE R  
 / 1855 3335 BR HYVL BRVV25661 P << 040Q)Q(Q\*-<(<\*<  
 L 5 OG 2 << 010<)<)< D\*  
 R SOME VEINING AT 60DEGREES TO CORE AXIS AS WELL.  
 R CONTAINS PREDOMINANTLY HYVL FRAGS, GENERALLY LARGE LAPILLI,  
 R AND SUBROUNDED TO SUBANGULAR. PINKISH FELDSPAR IN BOTH  
 R MATRIX AND FRAGS. LOCALLY BEGINNING TO APPROACH GRANULAR  
 R ROCK. NOTICEABLE HB CRYSTAL FRAGMENTS. HORSETAILING OF  
 R SOME OF HM STRINGERS AND SOME OF LARGER QZ-CB VEINLETS.  
 / 1855 2100 ALXHYVL BRVV25661 R << 045Q\* <(<-<)  
 L 8 WG 21 << 010<)<+  
 R ESSENTIALLY BLEACHED. OTHER VEINS AT 75 DEGREES. ROCK IS  
 R PERVASIVELY SERICITIZED AND ALTERED TO CB AND CLAY? HM  
 R STRINGERS TEND TO RUN AT HIGH ANGLE TO CORE AXIS.  
 / 2755 2930 DCXTFXL BDVV25451 R BD 010Q)<(<-<(<-  
 L 4 GA 2 << 065<\*<)< D\*  
 R OTHER VEINLETS AT 25 DEGREES TO CORE AXIS. MAIN CP-BEARING  
 R VEINLETS WITH QZ +-CB TEND TO BE ABOUT 60 TO 70 DEGREES  
 R TO CORE AXIS, HOWEVER SOME ARE 10 TO 20 DEGREES TO CORE AXIS.  
 R 2738 2755LARGE VEIN AND SHEAR CONTAINING CB, SERICITE, QZ, AND  
 R CP AT 75 DEGREES TO CORE AXIS.  
 / 3335 3680 AL HYVL BRMX2565 P  
 L 7 WA  
 R NOT AS HIGHLY ALTERED AS AL HYVL ABOVE, NOR AS WELL VEINED.  
 R CORE IS QUITE BROKEN THOUGH AND ROCK IS BLEACHED BY  
 R PERVASIVE SERICITE, CB, AND CLAY?  
 R ACTUALLY VEINING IS VERY MINOR.  
 / 3680 4110 FALT BRSH 1 P F/ 030Q) <(<(<+  
 L 9 GW VV 2 << 030<)<P= 0-  
 R VEINING IS ALSO PRESENT AT 15 DEGREES TO CORE AXIS.  
 R PERVASIVE SERICITE AND CLAY? FAULT ZONE IS IN BR HYVL.  
 R ROCK HAS BEEN EXTENSIVELY BLEACHED.  
 / 4110 6260 AL HYVL BRMX25652 P << 025Q) E\*<(<(<(<(<  
 L 7 WA 2 << 050<)<P=  
 R SIMILAR TO PREVIOUS AL HYVL INTERVAL, EXCEPT THIS SHOWS  
 R MORE FRACTURING AND MICROVEINS.  
 R 4145 4200PATCHY K-SPAR ALTERATION.  
 / 4740 4920 BRXHYVL BRVV25451 R << 025  
 L 5 GA 2 << 060  
 R ACTUALLY IN PART BR HYVL AND PARTLY DC TFXL.  
 R NUMEROUS FRACTURES AT 5 TO 10 DEGREES TO CORE AXIS, MANY  
 R OF THEM ARE HORSETAILING OR BRAIDED.

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/ 4920 5525 X VVBR D S/ 0600( <-  
 L <\*p= 0-  
 R MORE EXTENSIVELY ALTERED THAN PGI - IE BLEACHING DUE TO  
 R PERVASIVE CB, SERICITE, AND CLAY IS MORE PRONOUNCED. HAS  
 R BEEN SOME SHEARING, SO POSSIBLY AN INCIPIENT FAULT ZONE.  
 R MORE BROKEN UP THAN PGI AS WELL.  
 R CONTAINS A FEW VOLC LAPILLI FRAGS, BUT GENERALLY MOST  
 R ARE HYVL FRAGMENTS. OTHER SHEARS AT 40 TO 60 DEGREES.  
 / 6097 6260 X D P1 Q( 0(  
 L 6 AG < P= 0(  
 R SERICITIZED AS WELL. STANDS OUT MOSTLY FOR PERVASIVE EP.  
 R 4110 6260 OTHER FRACTURES, VEIN-FILLED AT 40 AND 15 DEGREES TO CORE  
 R AXIS. MANY OF VEINLETS ARE 1 TO 5 MM WIDE AND RIBBONED.  
 R THE QZ VEINLETS AT 0 TO 15 DEGREES ARE COMMONLY HORSETAILING.  
 R 5850 6260 VEINING IS PARTICULARLY PROMINENT.  
 / 6260 6871 BR HYVL 25562 P << 0100) Q(<-<(0(  
 L 4 GA 1 << 040<\*<) 0-  
 R BOTH SMALL AND LARGE LAPILLI, MOSTLY HYVL, BUT A FEW VOLC  
 R FRAGS PRESENT ALSO, USUALLY OF SMALL LAPILLI SIZE.  
 R MANY OF VEINLETS ARE HORSETAILING.  
 R SOME OF LARGER CB VEINS HAVE ASSOCIATED HM.  
 R 6622 6650 LARGE PALE PINKISH-GREY FRAG. THAT IS SERIATE PORPH. TO  
 R ALMOST GRANULAR - MONZONITIC - FELDSPARS ARE SAUSSURITIZED.:  
 / 6760 6871 BRXVOLC 2545 R << 080P)<( <)<+  
 L 4 AG 1 << 020<\*<)  
 R ROCK IS POORLY VEINED AND FRACTURED. ONE PROMINENT VEIN  
 R AT 20 DEGREES TO CORE AXIS, CONTAINING HM, CB, MINOR QZ,  
 R AND CARRYING ABUNDANT PY, LOCATED AT 68.07 TO 68.28 M.  
 / 6871 7100 BR HYVL BRVV2556 A << 020P) Q( <\*0(  
 L 6 GA 2 << 040<(<) 0(  
 R OTHER VEINLETS AT 60 DEGREES TO CORE AXIS.  
 R PY ALSO OCCURS AS DISSEMINATIONS THROUGH CORE  
 R DIFFERENT FROM ABOVE UNIT IN THAT IT CONTAINS A MUCH  
 R GREATER PERCENTAGE OF FRAGS AND LARGE LAPILLI SIZED ONES  
 R AT THAT. MOST OF FRAGS ARE FELDSPAR PORPHYRY AND  
 R SUBGRANULAR MATERIAL.  
 R MUST BE NEARING A FAULT ZONE AS ROCK BECOMES PROGRESSIVELY  
 R BLEACHED DOWN THE HOLE.  
 / 7100 7372 AL VOLC BR 14451 P S/ 030Q\* D+<(  
 L 7 GA << 020Q(P+  
 R NOT SURE WHETHER IT'S HIGHLY ALTERED HYVL OR VOLC BR.  
 R CHOOSING THE LATER BECAUSE FRAGS ARE SMALL LAPILLI SIZED,  
 R AND LOOK LIKE THEY MAY BE MOSTLY VOLC.  
 R ROCK IS PERVASIVELY SERICITIZED AND CARBONATIZED (FIZZES  
 R WHEN POWDERED).  
 R SOME PY AS VEINLETS AND STRINGERS.  
 R FRAGS ARE SUBANGULAR AND SLIGHTLY DARKER GREENISH THAN  
 R MATRIX.  
 / 7236 7315 X D C/ 030  
 L 9 GW

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R MUST BE NEARING FAULT ZONE. PY IS ALMOST EXCLUSIVELY AS  
 R DISSEMINATIONS. ROCK IS ABOUT AS BLEACHED AS IT COULD GET.  
 R POSSIBILITY THIS MAYBE SOME OF THAT BRAI FOUND IN DDH 83.4.  
 / 7372 7457 FALT P F/ 060  
 L 9 AW  
 R BASICALLY COMPOSED OF GOUGE WITH A FEW FRAGMENTS IDENTIFIABLE.  
 R PERVASIVE CB, CLAY, AND SOME SERICITE.  
 / 7457 9300 AL VOLC BRVV 1 P << 050P) Q\* D(0\*  
 L 7 GA 1 << 020<<\*<  
 R POORLY VEINED, PERVASIVELY SERICITIZED.  
 R FRAGS ARE 50 PERCENT SMALL LAPILLI AND 20 PERCENT LARGE,  
 R REST (30 PERCENT) IS MATRIX.  
 R PATCHY KSPAR ALTERATION FROM 75.95 TO 76.80 M.  
 R 7730 7750SMALL FAULT - CB, SERICITE, AND CLAY-RICH.  
 R 7457 9300CB-HM-PY STRINGERS AT 40 DEGREES TO CORE AXIS.  
 R FRAGS GENERALLY TEND TO BE PALER GREYISH-WHITE COMPARED  
 R TO MATRIX.  
 R 8230 8275HM-CB-MINOR PY VEINING AT 20 AND 30 DEGREES TO CORE AXIS.  
 / 7830 9300 X D D=  
 R 7457 9300FAULT AT 45 DEGREES TO CORE AXIS AT 85.15 M.  
 R 8670 9300HB CRYSTAL FRAGMENTS BECOMING VISIBLE.  
 R 7457 9300FAULTS AT 90 AND 92.4M. SMALL ONES WITH NO ANGLE MEASURABLE.  
 / 9300 9631 BR VOLC BRVV P << 035 <\*<\*<  
 L 5 GA 2 << 010 < )  
 R THIS ROCK IS STILL SOMEWHAT BLEACHED, BUT IS NOTICEABLY  
 R LESS ALTERED THAN ABOVE. SOME DISSEMINATED PY AS WELL.  
 R PREDOMINANTLY SMALL LAPILLI SIZED FRAGS, PALER COLOR THAN  
 R MATRIX. PERVASIVE CB AND SERICITE, ESPECIALLY IN FRAGS.

A001	AUMM	SAMPLE	PPMAU	PPMAG	% CU	% AS	
A001	1829	2100	74812	0.85	2.0	0.118	0.005
A001	2100	2400	74813	0.46	2.0	0.071	0.005
A001	2400	2700	74814	0.28	2.0	0.042	0.005
A001	2700	3000	74815	0.46	2.0	0.071	0.005
A001	3000	3300	74816	0.83	2.0	0.132	0.005
A001	3300	3600	74817	0.48	2.0	0.069	0.005
A001	3600	3900	74818	0.43	3.0	0.087	0.005
A001	3900	4200	74819	0.88	4.0	0.122	0.005
A001	4200	4500	74820	0.76	4.0	0.109	0.005
A001	4500	4800	74821	0.59	4.0	0.084	0.005
A001	4800	5100	74822	1.14	4.0	0.143	0.005
A001	5100	5400	74823	0.81	3.0	0.108	0.005
A001	5400	5700	74824	0.41	2.0	0.066	0.005
A001	5700	6000	74825	1.26	4.0	0.152	0.005
A001	6000	6300	74826	0.65	3.0	0.076	0.005
A001	6300	6600	74827	0.58	2.0	0.053	0.005
A001	6600	6900	74828	0.24	1.0	0.019	0.005
A001	6900	7200	74829	0.24	1.0	0.029	0.005
A001	7200	7500	74830	0.18	0.5	0.008	0.005
A001	7500	7800	74831	0.03	1.0	0.014	0.005



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A001	7800	8100	74832	0.05	1.0	0.010	0.005
A001	8100	8400	74833	0.16	0.5	0.017	0.005
A001	8400	8700	74834	0.18	0.5	0.015	0.005
A001	8700	9000	74835	0.06	0.5	0.010	0.005
A001	9000	9300	74836	0.08	1.0	0.009	0.005
A001	9300	9631	74837	0.14	2.0	0.009	0.005

/END

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R MOST OF KSPAR ENVELOPES ARE ASSOCIATED WITH QZ VEINING,  
 R NOT THE CB STRINGERS.  
 / 4610 5200 AL VLGT MXVV25452 P S/ 030Q E(<- <(   
 L 8 GA 1 << 015>+>+  
 R VEINING ALSO AT 40 AND 60 DEGREES TO CORE AXIS.  
 R SHEARING AT 46.4 M, 47.60 M, AND A FAULT, 35 DEGREES TO AXIS,  
 R AT 48.2 TO 48.70 M  
 R 1.5 CM WIDE QZ VEIN AT 48.70 M, CARRYING SOME CB, MINOR PY,  
 R AND TRACE CP, AND AT 35 DEGREES TO CORE AXIS.  
 R SOME SHEARING ALONG CORE AXIS.  
 R ROCK HAS BEEN AFFECTED BY PERVASIVE SERICITE.  
 R ROCK IS FAIRLY SOFT AND CRUMBLY AND BREAKS ALONG FRACTURES  
 R VERY EASILY.  
 / 5200 5700 VLGT MXVV2545 P << 030E)<(E\*<- <\*   
 L 6 GA 2 << 065<+<+ 0-  
 R A FEW OTHER FRACTURES AT 10 DEGREES TO CORE AXIS.  
 R SOME EP IN VEINS WITH CB AND MINOR HM.  
 R THIS IS THE FIRST TIME CL ENVELOPES HAVE APPEARED, ASSOCIATED  
 R WITH QZ-CB VEINS.  
 R SHOWS SOME BLEACHING, BUT GENERALLY DARKER THAN THE  
 R PERVASIVELY ALTERED GRIT.  
 / 5700 6797 AL VLGT MX 25452 P << 050P) E(<-<(<\*   
 L 7 GA 1 << 020<)<)  
 R PERVASIVELY SERICITIZED, ALSO CB AND SOME EP.  
 R SOME OF CB STRINGERS CUT QZ VEINS.  
 R EP ALSO OCCURS IN STEEP STRINGERS BY ITSELF OR WITH CB.  
 R NUMEROUS SMALL FAULTS OR SHEARS AT 59, 59.65, 59.8, AND  
 R 60.3 M.  
 R SOME PY AS MONO-MINERALLIC STRINGERS AT 30 DEGREES TO AXIS.  
 / 6045 6272 6FALT R F/ 050  
 L 6 AW  
 R CONTAINS CB, QZ, HM, AND SERICITE AND CLAY.  
 R 6495 6540 ABUNDANT SHEARING AND QZ, CB, AND HM VEINING AT 30 DEGREES  
 R TO CORE AXIS.  
 / 6735 6797 XVLGT 2 R << 005Q+ E\*<-D)D)   
 L 6 GA 1 << 065  
 R SAME AS PREVIOUS PGI. ABUNDANT DISSEMINATED PY AND HM.  
 R MOST OF STRINGERS ARE PARALLEL TO CORE AXIS.

A001

AUMM	SAMPLE	PPMAU	PPMAG	% CU	% AS
A001 2133 2400	74838	0.45	3.0	0.069	0.005
A001 2400 2700	74839	0.41	0.5	0.066	0.005
A001 2700 3000	74840	0.33	2.0	0.086	0.005
A001 3000 3300	74841	0.81	2.0	0.116	0.005
A001 3300 3600	74842	0.21	0.5	0.060	0.005
A001 3600 3900	74843	0.26	0.5	0.073	0.005
A001 3900 4200	74844	0.21	0.5	0.048	0.005
A001 4200 4500	74845	0.91	0.5	0.111	0.005
A001 4500 4800	74846	0.68	0.5	0.115	0.005
A001 4800 5100	74847	0.54	1.0	0.062	0.005

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A001	5100	5400	74848	0.30	2.0	0.047	0.005
A001	5400	5700	74849	0.59	3.0	0.093	0.005
A001	5700	6000	74850	0.81	2.0	0.097	0.005
A001	6000	6300	74851	0.51	5.0	0.132	0.005
A001	6300	6600	74852	0.23	3.0	0.057	0.005
A001	6600	6797	74853	0.21	0.5	0.046	0.005

/END

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	1	2	3	4	5	6	7	8	
IDEN	6B0201	V-192	DDH83-08	NQ	83AUG01PP	SWCODCLAUG83S38	MCG	0.00	0104
IPRJ			PLACER DEVELOPMENT LIMITED		HORSEFLY				
S000	000	8412	84.12001.	-60.		10875.	11190.	971.	
/NAM						EPCLKFCPPYHM			
/SCL		MT.2							
LSC									
LNAM						QZCB	MGPO		
/	000	1936	OVER		P				
R			MOSTLY DIRT.ONE BOULDER OF EPIDOTIZED BR						
/	000	1524	XCASE		R				
/	1936	3170	DC TUFF	BDMX24451	P BD	032	0)	D1L.	
L			3 AG	1			P1	D.	
R			PY ALSO ALONG BEDDING, STRINGERS ALMOST PARALLEL TO CORE AXIS						
R			WELL BEDDED.MAY HAVE PERVASIVE CL. VISIBLE KF XL FRAG						
R			MINOR HM IN BEDS.						
/	2120	2280	X		D BD	035	0=	D=	
R			SPOTS OF CL AND BI WITH MG						
/	2280	2525	DCXTFXL	MX 25561	R >>	020	Q=	B=L.	
L			4 AG	2	>>	040	P1	0+	
R			COARSER THAN PREVIOUS, MINOR RX FRAGS, MORE MAG						
/	2525	2838	X		D BD	032		D1	
R			SAME AS PREVIOUS DITTO EXCEPT SLIGHTLY COARSER						
/	3170	3450	DC TFXL	MX 25551	P <<	015	P.	D)	
L			3 AG	1			P.	D.	
R			FRAGS OF FELDS PORPHYRY SMALL TO LARGE LAPILLI SIZE						
/	3322	3414	XTUFF	24351	R			D=	
L			3 AG	1					
R			SAME AS FIRST PGI TUFF						
/	3450	4400	DC TUFF	24351	P BD	032		D1L.	
L			3 AG	1	<<	020	D+	D.	
R			SAME AS PREVIOUS PGI TUFF						
R			OTHER MICROVEINS ARE 040 AND 070 CONTAINS CARBONATE						
R			GRAIN SIZE SLIGHTLY COARSER						
/	3759	3880	4FALT	1	R F/	010	G1	D1	
L							G1		
R			CY IN GOUGE ROCK BROKEN						
/	3880	4106	X	24451	D <<	050			
L				3	<<	025	P.		
R			MICROVEINS OF CARBONATE ONE SET AT 050 CUT ANOTHER SET AT						
R			050, ONE SET AT 025 CUT ANOTHER SET AT 025						
R			SOME SHEARING IN MICROVEINS						
/	4106	4318	2FALT		R F/	045	G1	D1	
L							G1		
R			HM AT BASE OF FAULT						
/	4400	5000	AL TFXL	MX 25461	P >>	027	0=	D=L.	
L			6 WA	1	>>	050	P=	0(	
R			SMALL ANGULAR LAPILLI SIZE FRAGS.						
R			3CM GOUGE AT 4400 THEN DISM OF PERVASIVE SERICITE AT BASE						
R			FAULTS AT 45M, 45.5M, 45.9 TO 46.2M, 47.4M TO 47.85M						
R			48.69M SPOTTY CL IN BED? 3.5CM WIDE SOME CL SPHERULITIC						

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R FAULT ANGLES 015 AND 025 DEGREES  
/ 5000 5630 TUFF BD 14251 P BD 030 0= D)L.  
L 5 AG 2 P= 0.  
R INTERCULATIONS OF FINER ASH PALE COLOUR  
R FRACTURES 030,080,000 DEGREES TO CORE AXIS  
R SPOTTY CL LOCALLY  
/ 5000 5129 ALXTUFF BD R  
/ 5630 6600 BR VOLC BR 25461 P >> 020 0.Q- D=  
L 6 AG 1 >> 060 P= 0.  
R HALF OF ROCK FRAGS ARE SMALL LAPILLI SIZE AND ARE  
R SUBANGULAR FRAGMENT BOUNDARIES ARE OBSCURE  
R SOME FRAGS SILICEOUS, FELD PORPHYRY, ANDESITIC? QTZ. FELDS POR  
R VEINS CONTAIN CARBONATE FRACTURES OPEN SPACE FILLING, VUGS  
R AT 60M CARBONATE IN HEALED BR ZONE IN VOLC BR  
R SILICEOUS FRAGS ARE PINKISH  
R STEEP FRACTURES CUTTING SHALLOW ONES  
/ 6600 7200 TFXL 2546 P BD 035 0+ D)L.  
L 5 AG 11 >> 075 P= 0.  
R PY ALSO IN VEINS ASWELLAS CB  
/ 7200 7412 PP LATT MXSH15251 P F/ 075  
L F/ 075V-  
R LESS THAN 5% QUARTZ PHENOCRYSTS  
R UNIT BOUNDED BY FAULTS SMALL QZ VEINS SUBPARALLEL TO FAULTS  
R NO CP  
R ABOUT 7% HB PHENOCRYST  
R FIRST TIME LATITE PORPHYRY SEEN  
/ 7412 7964 TFXL BDSH25351 P C/ 030 D=  
L 5 AG VV 21 V-P= 0.  
R FRACTURES AND VEINS 020,040,090 FRACTURED  
R CL AND CB IN VEINS AND FRACTURES  
R MINOR CL, HM AND SERICITE  
/ 7964 8140 BR VOLC MXBR2556 P C/ 040 D=  
L 6 AG 1 P=  
R SAME AS PREVIOUS BRVOLC  
/ 8140 8412 TUFF BD 2445 P BD 030 D=  
L 5 AG 2 S/ 060 P+ 0.  
R FRACTURES HAVE BLEACHED ENVELOPES, PY IN VEINS  
R OCCASIONAL ROCK FRAG LOCALLY

A001

AUMM

	SAMPLE	PPMAU	PPMAG	% CU	% AS
A001	2100	2400	74854	0.03	0.5 0.006 0.005
A001	3300	3600	74855	0.01	0.5 0.006 0.005
A001	4200	4500	74856	0.01	0.5 0.006 0.005
A001	5100	5400	74857	0.01	0.5 0.005 0.005
A001	6000	6300	74858	0.01	0.5 0.008 0.005
A001	6900	7200	74859	0.01	0.5 0.008 0.005
A001	7800	8100	74860	0.03	0.5 0.011 0.005

/END

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IDEN6B0201 V-192DDH83-09 NQ 83AUG02SWC ODCLAUG83S38 MCG 0.00 0103  
 IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
 S000 000 9022 90.22203. -50. 10880. 11108. 980.  
 /NAM EPCLKFCPPYHM  
 /SCL MT.2  
 LSCL  
 LNAM QZCB MGPO  
 / 000 1128 OVER P  
 / 1128 1775 BR VOLC MXBR24550 P Q(  
 L 5 AG 00 D-  
 R CONTAINS ABOUT 50 PERCENT FRAGS - 25 PERCENT LARGE LAPILLI  
 R AND 25 PERCENT SMALL LAPILLI SIZE. FRAGS ARE SUBROUNDED.  
 R FRAG COMPOSITIONS INCLUDE INTERMEDIATE TO MAFIC VOLCANICS,  
 R SOME FELDSPAR PORPHYRY, AND A FEW FELDSPAR CRYSTAL FRAGS.  
 R MAJORITY APPEAR TO BE ANDESITIC.  
 / 1775 2073 BR HVVL MXBD2535 P << 0020(  
 L 4 AG BR BD 070 << D\*  
 R ABOUT 40 PERCENT FRAGS - MOSTLY SUBROUNDED LARGE LAPILLI  
 R FRAGS, ALTHOUGH VOLC PORTION TEND TO BE SMALL LAPILLI  
 R SIZE. HVVL FRAGS ARE MOSTLY SERIATE PORPHYRITIC MONZONITIC  
 R ROCK.  
 / 2073 4738 DC TFXL BD 2455 P BD 065 <-<(  
 L 3 AG 1 << 050<-<\* D+  
 R ONE VEIN, 10 DEGREES TO CORE AXIS, FROM 22.6 TO 22.8 M,  
 R CARRYING CB, KSPAR AND MINOR QZ AND NOTABLE CP.  
 R A FEW FRACTURES AT 65 DEGREES TO CORE AXIS.  
 R ABOUT 5 TO 10 PERCENT SUBROUNDED, SMALL LAPILLI-SIZE  
 R FRAGS.  
 R FINER AND COARSER FRACTIONS IN ALTERATING LAMINAE OR THICKER  
 R BEDS.  
 R 3695 37156 TO 8 MM WIDE RIBBONED CB-QZ VEIN AT 15 DEGREES.  
 / 3315 3390 BRXHVL MXVV25662 R << 015 Q(  
 L 4 GA <<<+ D\*  
 R 2073 4738CONTAINS ABOUT 2 PERCENT LARGE LAPILLI SIZE FRAGS.  
 R OTHER VEINLETS AT 25 AND 40 DEGREES TO CORE AXIS.  
 / 4738 5125 AL VLGT BRBD2565 P C/ 060 <- D(G)  
 L 8 WG 1 BD 060<)<+ O.  
 R ROCK IS BLEACHED AND BRECCIATED BY FAULTING.  
 R FAULT WITH PINK GOUGE AT 50.75 M. (PINK DUE TO HM?)  
 R FRAGMENTED GRIT AND VLSN WITH INFILLING OF MORE SILTY  
 R MATERIAL. FRAGS SUBANGULAR. A VEW PORPHYRITIC VOLC. FRAGS.  
 R BRECCIATED ZONE IS HEALED WITH CB, SERICITE, AND SOME QZ.  
 R ANOTHER FAULT AT 50.25 TO 50.38 M.  
 R FAULTING IS AT ABOUT 55 DEGREES TO CORE AXIS(CCS BD).  
 R SOME HM AS STRINGERS WITH CB.  
 R VEINING MOSTLY AT 50 DEGREES TO CORE AXIS(CUTTING ACROSS BD).  
 / 5125 5572 DC TFXL BD 24651 P BD 060 <.  
 L 4 AG 21 << 050<\*<) D(  
 R OTHER VEINS AT 40,10,70AND 85 DEGREES TO CORE AXIS.  
 R ALTERNATING COARSE AND FINE LAYERS. ALSO, ABOUT 10% SMALL





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A001	5100	5400	74865	0.01	1.0	0.008	0.005
A001	6000	6300	74866	0.10	2.0	0.006	0.005
A001	6795	7200	74867	0.10	4.0	0.032	0.005
A001	7800	8100	74868	0.16	4.0	0.017	0.005
A001	8400	8700	74869	0.14	3.0	0.019	0.005
A001	8700	9022	74870	0.27	2.0	0.040	0.005

/END

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R 5852 5890VEINLETS OF HM AND PY (FRACTURE FILLING) AT 15 DEGREES TO  
R CORE.  
R 4780 6200THERE'S THE ODD MG-HM BAND (SET OF SUBPARALLEL LINES)  
R AT 75 DEGREES TO CORE AXIS.  
R AT 60.5 M ALTERNATING COARSE AND FINE TUFF BANDS AT 30  
R DEGREES TO CORE AXIS - IS THIS BEDDING? BEDDING IN A FRAG.  
R OR IN ROCK?  
R ANOTHER BEDDING? AT 61.7M, 40 DEGREES TO CORE AXIS.  
/ 5780 6050 DC8TFXL R  
L 4 AG  
/ 6200 7010 DC TFXL 2545 P << 010<( <)  
L 4 GA << 045<( <) D)  
R VARIABLE FROM FINE-GRAINED TO COARSER-GRAINED TUFF WITH  
R CRYSTAL AND SMALL LAPILLI ROCK FRAGS. LATTER IS MINOR.  
R BEDDING? AT 75 DEGREES TO CORE AXIS.  
R PY AND EP ALONG FRACTURES.  
R 6593 6650BROKEN UP FAULT ZONE WITH ABUNDANT SMALL CB-HM VEINLETS  
R RIDDLED THROUGHOUT.  
R 6740 6750FAULT GOUGE (DIP UNDETERMINABLE).  
R 6800 6950ROCK BECOMES QUITE SPOTTY WITH ABOUT 5 TO 7 PERCENT  
R DISSEMINATED MG.

A001  
AUMM

SAMPLE	PPMAU	PPMAG	% CU	% AS
A001 1200 1500	74871	0.01	2.0 0.004	0.005
A001 2100 2400	74872	0.01	2.0 0.004	0.005
A001 3000 3300	74873	0.01	1.0 0.010	0.005
A001 3900 4200	74874	0.01	1.0 0.003	0.005
A001 4800 5100	74875	0.005	0.5 0.003	0.005
A001 5700 6000	74876	0.01	0.5 0.006	0.005
A001 6600 6900	74877	0.14	4.0 0.004	0.005

/END

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IDEN6B0201 V-192DDH83-11 NQ 83AUG04SWC ODCLAUG83S38 MCG 0.00 0104  
 IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
 S000 000 8077 80.77 -90. 11175. 11150. 972.  
 /NAM EPCLKFCPPYHM  
 /SCL MT.2  
 LSCL  
 LNAM QZCB MGPO  
 / 000 960 OVER P  
 / 960 2515 VLGT MX 3556 P << 030 <=  
 L 5 GA << 045<.<( 01  
 R CONTAINS ABOUT 5 PERCENT SUBROUNDED, MEDIUM PEBBLE TO  
 R LARGE PEBBLE SIZE CLASTS OF FELDSPAR PORPHYRY AND OTHER  
 R FINER-GRAINED INTERMEDIATE TO POSSIBLY MORE MAFIC  
 R VOLCANIC ROCK. ALSO SOME CLASTS OF HYPABYSSAL ROCK.  
 R OTHER STRINGERS AT 70 DEGREES.  
 R SOME SUBPARALLEL ELONGATE CLASTS ARE ORIENTED AT 30  
 R DEGREES TO CORE AXIS - THIS MAY REPRESENT BEDDING.  
 R PY ALSO TYPICALLY OCCURS AS STRINGERS +-CB AND SOMETIMES  
 R WITH A BLEACHED ENVELOPE(CB+SERICITE).  
 / 2515 3040 AL VLGT 25562 P << 010 <\*D+  
 L 8 GW << 065<1<= 01  
 R FAULT GOUGE AT 25.15 TO 25.25 M.  
 R ROCK IS BLEACHED BY PERVASIVE SERICITE, CB, (AND CLAY?).  
 R RIDDLED BY STEEP VEINS AND STRINGERS OF QZ WITH SOME CB  
 R AND SERICITE.  
 R CP OCCURS AS 1 TO 5 MM BLEBS WITHIN THE VEINS.  
 R SECTIONS THAT LACK QZ-CB VEINING SHOW WISPY STRINGERS OF  
 R HM WITH MINOR MG ALSO AT STEEP ANGLES.  
 / 2685 2730 X D << 045 <=  
 R LARGE (.3 TO 2 CM)"GOBS" OF CP IN QZ-CB-SERICITE VEINS.  
 / 2840 3040 XVLGT MX 3556 R << 030 >) D1>)  
 L 6 GA 0(  
 R SHOWS PATCHY BLEACHED ZONE APPEARING TO COME IN AT AN  
 R ANGLE OF 45 DEGREES TO CORE AXIS.  
 R SECTION CONTAINS 3 LARGE VEINS (1 TO 1.5 M WIDE) CARRYING  
 R SPECULAR HM, CL, AND SOME CB AND PY. MAY ALSO BE MINOR  
 R QZ AND SERICITE.  
 / 3040 3560 AL VLGT MX 2556 A << 025 <- D1  
 L 8 RW <-<( D.  
 R MORE OF A PINKISH TINT THAN GREENISH. ALSO MG HAS DECREASED  
 R DRASTICALLY. SOME PY ALONG STRINGERS.  
 / 3370 3410 XFALT VVBR R F/ 027  
 L 6 GA  
 R SHOWS SOME BROKEN UP BITS OF AL VLG. INFILLED WITH  
 R ABUNDANT QZ, CB, CL, MINOR HM AND PY.  
 / 3510 3550 XFALT VVBR R F/ 020  
 L 6 GA  
 R INFILLING SAME AS ABOVE EXCEPT NO HM.  
 / 3560 4700 AL VLG 2556 P << 035 D1  
 L 9 WA S/ 010 P\* D.

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R LOCALLY PY UP TO 15 PERCENT.  
 R DISTINCTLY PALER THAN PREVIOUS ALTERED OR BLEACHED SECTIONS.  
 R FELDSPARS ARE WHITE - THEY APPEAR TO BE ALTERED TO CLAY  
 R +- MINOR CB.  
 R AT 38.3 M A SUBANGULAR FRAG OF ORANGY-GREY GRAINY-LOOKING  
 R ROCK THAT IS VEINED BY PY AND ALSO RIMMED BY IT. FRAG IS  
 R 2.5 CM ACROSS AND CONTAINS ABOUT 10 STRINGERS (ALL  
 R SUBPARALLEL).  
 R APPEARS TO BE AN INCREASE IN CLAST CONTENT TO ABOUT 10  
 R PERCENT. SOME OF CLASTS APPEAR TO BE LATITE PORPHYRY.  
 R SHEAR AT 10 DEGREES AT 41.45 M.  
 R SOME MICROFRACTURES AT 10 DEGREES TO CORE AXIS.  
 R 4450 4520 SHEAR AT 15 DEGREES TO AXIS.  
 R 3560 4700 NOTICED A FEW CLASTS OF LATITE PORPHYRY.  
 R AT 45.55 M SOME AMYTHEST QZ IN A PATCH WITH K-SPAR, CB,  
 R AND PY.  
 / 4700 5455 AL VLGT MX 2556 A D-01  
 L 8 GA <( D-  
 R CONTAINS ABOUT 15 PERCENT CLASTS.  
 R FELDSPARS ARE PINKISH - DUE TO FELDSPATHIZATION  
 / 5455 6047 AL VLGT MX 2556 P << 015 P( D1  
 L 9 WA << 040 P\* D.  
 R MINOR STRINGERS OF PYRITE. ALSO PATCHES OF PYRITE.  
 R SHEAR WITH CL AT 59.15 TO 59.45 M.  
 R ABOUT 10 TO 15 PERCENT CLASTS, MOSTLY SMALL TO MEDIUM  
 R PEBBLE SIZE.  
 R CONTACT WITH PREVIOUS SECTION IS GRADATIONAL FROM 54.55 TO  
 R 56.20 M. FROM 55.75 TO 56.09 M PERVASIVE CL, AS WELL AS  
 R SOME SMALL STRINGERS OF CL AT 10 TO 20 DEGREES TO AXIS.  
 / 6047 6484 AL VLGT MX 2556 P << 005 <(01 D1  
 L 7 RW S/ 020 <) D.  
 R SHEAR OR SMALL FAULT OCCURS AT 61.45 M. CL AND SOME CB  
 R OCCURS ALONG SHEAR PLANES.  
 R FELDSPARS ARE SALMON RED DUE TO FELDSPATHIZATION.  
 R 6278 6320 VLGT IS MORE WHITISH, LIKE PREVIOUS PGI.  
 R 6047 6484 AT 64.25 M SHEAR WITH CL AT 12 DEGREES TO AXIS.  
 R ANOTHER OCCURRENCE OF AMYTHEST QZ NOTED.  
 / 6484 7560 VLGT MX 2556 P << 010 Q\*0) D(0)  
 L 5 AG << 030 <\* 0=  
 R ABUNDANT CLASTS OF VOLCANIC ROCK - ABOUT 25 PERCENT, MOSTLY  
 R FELDSPAR PORPHYRY OR MORE MAFIC MATERIAL.  
 R OTHER FRACTURES WITH MICROVEINING AT 65 DEGREES.  
 R SOME OF FELDSPARS ARE STILL SOMEWHAT PINKISH, OTHERS APPEAR  
 R FAIRLY WHITE OR SLIGHTLY GREENISH.  
 R CONTAINS THE ODD SMALL CLAST OF QZ - SO DO SOME OF PREVIOUS  
 R VLGT PGIS.  
 R 7080 7131 FAULT AT 18 DEGREES HEALED BY CB, SOME CL, QZ AND SERICITE.  
 R 6484 7560 MG-HM INCREASED AND PY NOTABLY LESS. PY AS ONLY A FEW  
 R SMALL BLEBS OR PATCHES LOCALLY MAKING UP 5 PERCENT OF THE  
 R ROCK, BUT AS AN OVERALL AVERAGE AMOUNTING TO LESS THAN

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R 1 PERCENT. LOCALLY MG-HM "PATCHES" FORM ABOUT 10 TO 15  
 R PERCENT OF ROCK.  
 R 7510 7560 TRANSITION ZONE - SAME ROCK TYPE, BUT GOING FROM  
 R MG-(HM) RICH) TO PY-RICH. SOME MG GRAINS SHOW MINOR PY  
 R AS IF PY IS GROWING FROM MG - BUT COULD ALSO BE OTHER WAY  
 R AROUND.  
 / 7560 7630 VLGT MX 2556 A << 045 D10.  
 L 6 GA < \* 0(  
 R FELDSPARS ARE MOSTLY WHITISH. PY OCCURS AS DISSEMINATED  
 R BLEBS AND PATCHES IN BOTH MATRIX AND CLASTS.  
 R CONTAINS ABOUT 5 TO 10 PERCENT SMALL TO MEDIUM PEBBLE  
 R CLASTS.  
 / 7630 7945 BR VOLC MXRW2545 P << 035 Q) Q=  
 L 6 AG << 065 < \* 0-  
 R ROCK GIVES IMPRESSION OF HAVING BEEN REWORKED SOMEWHAT.  
 R CONTAINS 20 PERCENT SMALL AND LARGE LAPILLI SIZED FRAGS,  
 R SUBANGULAR, AND MOSTLY FELDSPAR PORPHYRY TO ANDESITIC IN  
 R COMPOSITION. MAFICS ALTERED TO CL.  
 R PY IS PREDOMINENTLY IN FRAGS.  
 R HEMATIZED SHEAR ZONE AT 78.8 TO 78.95M AT 35 DEGREES TO AXIS.  
 / 7945 8077 AL VOLC MXRW2545 P C/ 060 0- Q=  
 L 7 GA 0-  
 R THIS MAY IN FACT JUST BE MORE GRIT, BUT ITS BEGINNING TO  
 R LOOK MORE VOLCANIC IN ORIGIN - ALTHOUGH SOME GRAINS LOOK  
 R QUITE ROUNDED.  
 R ROCK APPEARS BLEACHED - MAY BE COMING UP ON ANOTHER FAULT  
 R ZONE. ROCK BECOMES MORE CHLORITIC AND HEMATITIC IN LAST .05M.  
 R CONTAINS ABOUT 15 PERCENT FRAGS - SMALL AND LARGE.

A001 AUMM	SAMPLE	PPMAU	PPMAG	% CU	% AS
A001	960	1200	74878	0.01	2.0 0.024 0.005
A001	1800	2100	74879	0.005	0.5 0.006 0.005
A001	2400	2700	74880	0.01	0.5 0.057 0.005
A001	2700	3000	74881	0.02	0.5 0.199 0.005
A001	3300	3600	74882	0.04	2.0 0.079 0.005
A001	3600	3900	74883	0.01	0.5 0.026 0.005
A001	4500	4800	74884	0.005	0.5 0.002 0.005
A001	5400	5700	74885	0.01	0.5 0.004 0.005
A001	6300	6600	74886	0.01	0.5 0.006 0.005
A001	7200	7500	74887	0.01	0.5 0.010 0.005

/END

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A3. ASSAY RESULTS FOR Au, Ag, Cu and As

Table 2. Assay Results From All Drill Holes

DDH#	From	To	Sample	ppmAu	ppmAg	% Cu	%As
	meters						
74-01	107	259		1.23		0.09	
	259	411		0.03		0.12	
	411	564		1.78		0.13	
	564	716		2.26		0.22	
	716	869		1.99		0.16	
	869	1021		2.13		0.13	
	1021	1173		1.10		0.10	
	1173	1326		1.65		0.15	
	1326	1478		1.44		0.17	
	1478	1631		1.72		0.13	
	1631	1783		1.03		0.11	
	1783	1935		1.44		0.12	
	1935	2088		1.72		0.12	
	2088	2240		1.51		0.19	
	2240	2393		1.92		0.16	
	2393	2545		0.96		0.11	
	2545	2713		1.30		0.14	
	2713	2865		1.30		0.14	
	2865	3018		1.72		0.14	
	3018	3170		0.75		0.09	
	3170	3322		1.17		0.11	
	3322	3475		1.17		0.10	
	3475	3627		1.17		0.11	
	3627	3780		1.65		0.14	
	3780	3962		0.89		0.11	
	3962	4115		1.23		0.13	
	4115	4267		1.85		0.14	
	4267	4420		1.17		0.10	
	4420	4572		1.10		0.11	
	4572	4724		2.47		0.06	
	4724	4877		0.75		0.13	
	4877	5029		0.82		0.09	
	5029	5182		1.65		0.19	
	5182	5334		1.30		0.11	
	5334	5486		1.10		0.14	
	5486	5639		1.30		0.13	
	5639	5791		1.03		0.16	
	5791	5944		1.65		0.14	
	5944	6096		0.48		0.11	
	6096	6248		0.21		0.10	
	6248	6401		0.69		0.15	
	6401	6553		0.14		0.07	
	6553	6706		0.27		0.08	
	6706	6858		0.55		0.19	

A3. ASSAY RESULTS FOR Au, Ag, Cu and AsTable 2. Assay Results From All Drill Holes

DDH#	From meters	To	Sample	ppmAu	ppmAg	%Cu	%As
74-01	6858	7010		0.41		0.11	
	7010	7163		0.41		0.07	
	7163	7315		1.85		0.18	
	7315	7437		0.48		0.12	
	7437	7590		1.30		0.22	
	7590	7742		1.10		0.12	
	7742	7894		0.82		0.12	
	7894	8047		1.99		0.18	
	8047	8199		0.41		0.12	
	8199	8352		1.30		0.14	
	8352	8504		1.44		0.13	
	8504	8656		1.44		0.11	
	8656	8870		1.92		0.13	
	8870	8992		0.82		0.09	
	8992	9144		0.89		0.11	
	9144	9449		0.14		0.06	
	9449	9754		0.34		0.10	
	9754	10058		1.03		0.12	
	10058	10363		0.21		0.04	
	10363	10668		0.14		0.02	
10668	10973		0.27		0.04		
10973	22860		0.03		0.01		
74-02	475	610		1.58		0.20	
	610	762		1.44		0.11	
	762	914		1.37		0.10	
	914	1067		1.72		0.16	
	1067	1219		0.96		0.08	
	1219	1372		0.21		0.09	
	1372	1524		0.62		0.09	
	1524	1676		1.37		0.12	
	1676	1829		1.37		0.09	
	1829	1981		1.17		0.08	
	1981	2133		1.37		0.09	
	2133	2286		1.78		0.08	
	2286	2438		0.89		0.08	
	2438	2591		1.44		0.13	
	2591	2743		1.51		0.11	
	2743	2895		1.44		0.12	
2895	3048		1.58		0.12		
3048	3200		2.26		0.27		



A3. ASSAY RESULTS FOR Au, Ag, Cu and AsTable 2. Assay Results From All Drill Holes

DDH#	From	To	Sample	ppmAu	ppmAg	%Cu	%As
	meters						
74-02	3200	3353		1.10		0.13	
	3353	3505		1.54		0.14	
	3505	3657		2.06		0.08	
	3657	3810		1.65		0.06	
	3810	3962		1.78		0.04	
	3962	4115		1.58		0.05	
	4115	4267		0.82		0.05	
	4267	4419		0.62		0.09	
	4419	4572		0.75		0.07	
	4572	4724		0.75		0.07	
	4724	4877		1.10		0.09	
	4877	5029		0.27		0.08	
	5029	5181		0.75		0.07	
	5181	5334		0.27		0.08	
	5334	5486		0.75		0.07	
	5486	5639		0.27		0.07	
	5639	5791		0.69		0.07	
	5791	5943		1.10		0.09	
	5943	6096		1.10		0.08	
	6096	6248		0.62		0.07	
	6248	6400		0.62		0.08	
	6400	6553		0.41		0.06	
	6553	6705		0.62		0.08	
	6705	6858		0.62		0.07	
	6858	7010		0.34		0.07	
	7010	7162		1.23		0.08	
	7162	7315		0.48		0.08	
	7315	7467		0.14		0.06	
	7467	7620		0.21		0.05	
	7620	7772		0.21		0.05	
	7772	7924		0.82		0.05	
	7924	8077		0.41		0.05	
	8077	8229		0.21		0.04	
	8229	8382		0.21		0.07	
	8382	8534		0.06		0.07	
	8534	8686		0.06		0.08	
	8686	8900		0.06		0.08	
	8900	9053		0.34		0.06	
	9053	9296		0.96		0.08	
	9296	9448		0.55		0.09	
	9448	9601		1.17		0.12	
	9601	9753		1.72		0.08	
	9753	9906		1.10		0.08	
	9906	10058		1.44		0.12	
	10058	10210		0.14		0.06	
	10210	10363		0.14		0.06	
	10363	10515		0.21		0.04	
	10515	10667		0.21		0.09	
	10667	10820		0.27		0.03	

A3. ASSAY RESULTS FOR Au, Ag, Cu and AsTable 2. Assay Results From All Drill Holes

DDH#	From meters	To	Sample	ppmAu	ppmAg	%Cu	%As
74-02	10820	10972		0.21		0.07	
	10972	11125		0.14		0.05	
	11125	11277		0.21		0.06	
	11277	11429		0.21		0.06	
	11429	11552		0.14		0.05	
	11552	11734		0.14		0.04	
	11734	11887		0.21		0.05	
	11887	12039		0.48		0.07	
	12039	12191		0.55		0.09	
	12191	12344		0.75		0.06	
	12344	12496		1.37		0.08	
	12496	12649		0.01		0.10	
	12649	12801		0.62		0.07	
	12801	12953		0.34		0.08	
	12953	13106		0.45		0.07	
	13106	13258		0.34		0.07	
	13258	13411		0.21		0.06	
	13411	13563		0.21		0.06	
	13563	13715		0.82		0.06	
	13715	13868		0.62		0.15	
	13868	14020		0.41		0.11	
	14020	14173		0.21		0.06	
	14173	14325		0.62		0.04	
	14325	14477		0.55		0.05	
	14477	14630		1.10		0.07	
	14630	14782		1.85		0.06	
	14782	14934		1.10		0.12	
	14934	15087		0.55		0.06	
	15087	15239		0.55		0.04	
	15239	15392		0.55		0.04	
	15392	15544		0.34		0.03	
	15544	15696		0.48		0.07	
	15696	15849		0.27		0.08	
	15849	16001		0.62		0.05	
16001	16154		0.79		0.10		
16154	16306		0.21		0.07		
16306	16551		0.27		0.05		
16551	16703		0.21		0.02		
16703	16855		0.69		0.07		
16855	17008		0.21		0.15		
17008	17282		0.14		0.03		
17282	17526		0.21		0.05		

A3. ASSAY RESULTS FOR Au, Ag, Cu and AsTable 2. Assay Results From All Drill Holes

DDH#	From meters	To	Sample	ppmAu	ppmAg	%Cu	%As
83-03	478	600	74701	0.03	0.5	0.006	0.005
	600	900	74702	0.02	0.5	0.005	0.005
	900	1200	74703	0.03	0.5	0.007	0.005
	1200	1500	74704	0.01	0.5	0.008	0.005
	1500	1800	74705	0.03	0.5	0.006	0.005
	1800	2100	74706	0.07	0.5	0.008	0.005
	2100	2400	74707	0.33	0.5	0.043	0.005
	2400	2700	74708	0.01	0.5	0.002	0.005
	2700	3000	74709	0.17	0.5	0.016	0.005
	3000	3300	74710	0.44	3.0	0.056	0.005
	3300	3600	74711	0.64	7.0	0.210	0.005
	3900	4200	74713	0.03	0.5	0.005	0.005
	4200	4500	74714	0.03	0.5	0.005	0.005
	4500	4800	74715	0.05	0.5	0.005	0.005
	4800	5100	74716	0.04	0.5	0.004	0.005
	5100	5400	74717	0.02	0.5	0.003	0.005
	5400	5700	74718	0.01	0.5	0.002	0.005
	5700	6000	74719	0.02	0.5	0.003	0.005
	6000	6300	74720	0.04	0.5	0.004	0.005
	6300	6600	74721	0.05	0.5	0.005	0.005
	6600	6900	74722	0.08	0.5	0.005	0.005
	6900	7200	74723	0.02	0.5	0.004	0.005
	3600	3900	74712	0.01	0.5	0.001	0.005
	7200	7500	74724	0.03	0.5	0.003	0.005
	7500	7800	74725	0.03	0.5	0.003	0.005
	7800	8100	74726	0.01	0.5	0.003	0.005
	8100	8400	74727	0.03	0.5	0.007	0.005
	8400	8700	74728	0.02	0.5	0.002	0.005
	8700	9000	74729	0.01	0.5	0.002	0.005
	9000	9300	74730	0.01	0.5	0.003	0.005
	9300	9600	74731	0.01	0.5	0.002	0.005
	9600	9900	74732	0.03	0.5	0.003	0.005
	9900	10200	74733	0.02	0.5	0.005	0.005
10200	10500	74734	0.02	0.5	0.004	0.005	
10500	10800	74735	0.02	0.5	0.005	0.005	
10800	11100	74736	0.02	0.5	0.005	0.005	
11100	11400	74737	0.01	0.5	0.006	0.005	
11400	11700	74738	0.02	0.5	0.005	0.005	
11700	12000	74739	0.01	0.5	0.005	0.005	
12000	12300	74740	0.07	0.5	0.006	0.005	
12300	12600	74741	0.04	0.5	0.007	0.005	
12600	12900	74742	0.04	0.5	0.008	0.005	
12900	13200	74743	0.08	0.5	0.009	0.005	
13200	13500	74744	0.13	0.5	0.024	0.005	
13500	13800	74745	0.04	0.5	0.011	0.005	
13800	14100	74746	0.05	0.5	0.029	0.005	
14100	14400	74747	0.08	0.5	0.021	0.005	

A3. ASSAY RESULTS FOR Au, Ag, Cu and As  
Table 2. Assay Results From All Drill Holes

DDH #	From	To	Sample	ppmAu	ppmAg	%Cu	%As	
	meters							
83-03	14400	14700	74748	0.10	0.5	0.015	0.005	
	14700	15000	74749	0.34	0.5	0.035	0.005	
	15000	15300	74750	0.34	0.5	0.043	0.005	
	15300	15600	74751	0.38	0.5	0.039	0.005	
	15600	15900	74752	0.39	0.5	0.046	0.005	
	15900	16200	74753	0.45	0.5	0.050	0.005	
	16200	16500	74754	0.45	0.5	0.065	0.005	
	16500	16800	74755	0.15	0.5	0.049	0.005	
	16800	17100	74756	0.04	0.5	0.023	0.005	
	17100	17400	74757	0.04	0.5	0.020	0.005	
	17400	17556	74758	0.04	2.0	0.019	0.005	
	83-04	366	600	74759	1.78	3.1	0.149	0.005
		600	900	74760	1.65	3.2	0.158	0.005
		900	1200	74761	2.06	3.8	0.207	0.005
1200		1500	74762	1.54	3.3	0.196	0.005	
1500		1800	74763	1.54	3.4	0.195	0.005	
1800		2100	74764	1.26	3.1	0.122	0.005	
2100		2400	74765	1.23	3.0	0.140	0.005	
2400		2700	74766	1.23	3.3	0.166	0.005	
3000		3300	74768	1.20	3.5	0.133	0.005	
3300		3600	74769	0.96	2.9	0.151	0.005	
3600		3900	74770	0.82	2.8	0.180	0.005	
3900		4200	74771	1.37	2.8	0.202	0.005	
4200		4500	74772	1.06	2.9	0.158	0.005	
4500		4800	74773	0.93	2.9	0.113	0.005	
4800		5100	74774	1.27	2.8	0.155	0.005	
5100		5400	74775	0.69	2.6	0.087	0.005	
5400		5700	74776	0.70	0.5	0.098	0.005	
5700		6000	74777	0.76	0.5	0.120	0.005	
6000		6300	74778	0.94	1.0	0.141	0.005	
6300		6600	74779	0.59	2.0	0.080	0.005	
6600		6900	74780	0.68	2.0	0.089	0.005	
6900		7200	74781	0.69	3.0	0.105	0.005	
7200		7500	74782	0.61	2.0	0.097	0.005	
7500		7800	74783	0.79	2.0	0.127	0.005	
7800		8100	74784	0.76	2.0	0.131	0.005	
8100		8400	74785	0.81	1.0	0.100	0.005	
8400		8700	74786	0.49	1.0	0.101	0.005	
8700		9000	74787	0.45	1.0	0.104	0.005	
9000		9300	74788	0.68	2.0	0.099	0.005	
9300		9600	74789	0.51	2.0	0.099	0.005	
9600		9900	74790	0.39	2.0	0.091	0.005	
9900		10200	74791	0.64	1.0	0.115	0.005	
10200		10500	74792	0.55	2.0	0.099	0.005	
10500		10800	74793	0.53	2.0	0.092	0.005	
10800	11100	74794	0.95	2.0	0.141	0.005		
11100	11400	74795	0.90	3.0	0.138	0.005		
11400	11700	74796	0.91	3.0	0.138	0.005		
11700	12000	74797	0.74	2.0	0.099	0.005		
12000	12300	74798	0.53	2.0	0.085	0.005		
12300	12600	74799	0.51	2.0	0.079	0.005		
12600	12900	74800	0.43	2.0	0.066	0.005		

A3. ASSAY RESULTS FOR Au, Ag, Cu and As  
Table 2. Assay Results From All Drill Holes

DDH#	From	To	Sample	ppmAu	ppmAg	%Cu	%As
	meters						
83-04	12900	13200	74801	0.56	2.0	0.085	0.005
	13200	13500	74802	0.80	2.0	0.121	0.005
	13500	13800	74803	0.55	2.0	0.082	0.005
	13800	14100	74804	0.05	2.0	0.072	0.005
	14100	14400	74805	1.15	2.0	0.127	0.005
	14400	14700	74806	1.59	2.0	0.183	0.005
	14700	15000	74807	0.81	2.0	0.108	0.005
	15000	15239	74808	0.55	2.0	0.087	0.005
83-05	3600	3900	74809	0.03	2.0	0.009	0.005
	4800	5100	74810	0.01	2.0	0.015	0.005
	6000	6300	74811	0.01	2.0	0.001	0.005
83-06	1829	2100	74812	0.85	2.0	0.118	0.005
	2100	2400	74813	0.46	2.0	0.071	0.005
	2400	2700	74814	0.28	2.0	0.042	0.005
	2700	3000	74815	0.46	2.0	0.071	0.005
	3000	3300	74816	0.83	2.0	0.132	0.005
	3300	3600	74817	0.48	2.0	0.069	0.005
	3600	3900	74818	0.43	3.0	0.087	0.005
	3900	4200	74819	0.88	4.0	0.122	0.005
	4200	4500	74820	0.76	4.0	0.109	0.005
	4500	4800	74821	0.59	4.0	0.084	0.005
	4800	5100	74822	1.14	4.0	0.143	0.005
	5100	5400	74823	0.81	3.0	0.108	0.005
	5400	5700	74824	0.41	2.0	0.066	0.005
	5700	6000	74825	1.26	4.0	0.152	0.005
	6000	6300	74826	0.65	3.0	0.076	0.005
	6300	6600	74827	0.58	2.0	0.053	0.005
	6600	6900	74828	0.24	1.0	0.019	0.005
	6900	7200	74829	0.24	1.0	0.029	0.005
	7200	7500	74830	0.18	0.5	0.008	0.005
	7500	7800	74831	0.03	1.0	0.014	0.005
	7800	8100	74832	0.05	1.0	0.010	0.005
	8100	8400	74833	0.16	0.5	0.017	0.005
	8400	8700	74834	0.18	0.5	0.015	0.005
	8700	9000	74835	0.06	0.5	0.010	0.005
9000	9300	74836	0.08	1.0	0.009	0.005	
9300	9631	74837	0.14	2.0	0.009	0.005	
83-07	2133	2400	74838	0.45	3.0	0.069	0.005
	2400	2700	74839	0.41	0.5	0.066	0.005
	2700	3000	74840	0.33	2.0	0.086	0.005
	3000	3300	74841	0.81	2.0	0.116	0.005
	3300	3600	74842	0.21	0.5	0.060	0.005
	3600	3900	74843	0.26	0.5	0.073	0.005
	3900	4200	74844	0.21	0.5	0.048	0.005
	4200	4500	74845	0.91	0.5	0.111	0.005
	4500	4800	74846	0.68	0.5	0.115	0.005
	4800	5100	74847	0.54	1.0	0.062	0.005
	5100	5400	74848	0.30	2.0	0.047	0.005
	5400	5700	74849	0.59	3.0	0.093	0.005
	5700	6000	74850	0.81	2.0	0.097	0.005
	6000	6300	74851	0.51	5.0	0.132	0.005
6300	6600	74852	0.23	3.0	0.057	0.005	
6600	6797	74853	0.21	0.5	0.046	0.005	

A3. assay results from Au, Ag, Cu and Ag  
Table 2. Assay Results From All Drill Holes

DDH#	From	To	Sample	ppmAu	ppmAg	%Cu	%As
	meters						
83-08	2100	2400	74854	0.03	0.5	0.006	0.005
	3300	3600	74855	0.01	0.5	0.006	0.005
	4200	4500	74856	0.01	0.5	0.006	0.005
	5100	5400	74857	0.01	0.5	0.005	0.005
	6000	6300	74858	0.01	0.5	0.008	0.005
	6900	7200	74859	0.01	0.5	0.008	0.005
	7800	8100	74860	0.03	0.5	0.011	0.005
83-09	1200	1500	74861	0.04	0.5	0.001	0.005
	2100	2400	74862	0.01	0.5	0.057	0.005
	3300	3600	74863	0.02	0.5	0.002	0.005
	4200	4500	74864	0.06	0.5	0.001	0.005
	5100	5400	74865	0.01	1.0	0.008	0.005
	6000	6300	74866	0.10	2.0	0.006	0.005
	6795	7200	74867	0.10	4.0	0.032	0.005
	7800	8100	74868	0.16	4.0	0.017	0.005
	8400	8700	74869	0.14	3.0	0.019	0.005
83-10	8700	9022	74870	0.27	2.0	0.040	0.005
	1200	1500	74871	0.01	2.0	0.004	0.005
	2100	2400	74872	0.01	2.0	0.004	0.005
	3000	3300	74873	0.01	1.0	0.010	0.005
	3900	4200	74874	0.01	1.0	0.003	0.005
	4800	5100	74875	0.005	0.5	0.003	0.005
	5700	6000	74876	0.01	0.5	0.006	0.005
83-11	6600	6900	74877	0.14	4.0	0.004	0.005
	960	1200	74878	0.01	2.0	0.024	0.005
	1800	2100	74879	0.005	0.5	0.006	0.005
	2400	2700	74880	0.01	0.5	0.057	0.005
	2700	3000	74881	0.02	0.5	0.199	0.005
	3300	3600	74882	0.04	2.0	0.079	0.005
	3600	3900	74883	0.01	0.5	0.026	0.005
	4500	4800	74884	0.005	0.5	0.002	0.005
	5400	5700	74885	0.01	0.5	0.004	0.005
	6300	6600	74886	0.01	0.5	0.006	0.005
7200	7500	74887	0.01	0.5	0.010	0.005	

/cs

A4.            Supplemental Diamond Drilling, December 1983

During the period December 3-8, 1983 an additional 62.5 m of drilling was done in three holes on the Horsefly property. The holes were located to the southwest of the collars for 74-1 and 2 and were drilled to check for a possible extension of the higher grade mineralization, i.e. 1.25 gms Au/tonne. The work was done by Northspan Exploration Limited using a truck mounted drill.

Drilling Results

Hole 83-12 intersected mainly volcanic breccia with short intervals of volcanic grits and sandstones and minor tuff. Gold values were very low.

Hole 83-13 encountered hypabyssal volcanic breccia identical to that found in the top sections of holes 74-1 and 2. The core contained chalcopyrite as disseminations and in the occasional small quartz vein. Gold values were less than 1 gm/tonne.

Hole 83-14, located as a further step-out to the southwest, was abandoned at 19.8 m in overburden.

1 2 3 4 5 6 7 8  
 1234567890123456789012345678901234567890123456789012345678901234567890

IDEN6B0201 V-192DDH83-12 NQ83DEC03BWBWSPNORTDEC83REC 7 MCG 0.00  
 IPRJ PLACER DEVELOPMENT HORSEFLY  
 S000 0 3048 30.48360.00-90.00 10830.00 11020.00 992.00  
 /NAM EPCLKFCPPYHM  
 /SCL MT.2  
 LSCL  
 LNAM

/ 000 1160 OVER P QZCB MGPO  
 R  
 / 1160 1360 VOLC BRVV P >> 90 <<(\*#1  
 L 5 G  
 R  
 R

CORE IS COARSELY VEINED WITH MASSIVE HEMATITE AND CHALCOPYRITE  
 ROCK IS PALE GREEN, SOFT PROBABLY HEAVY SERICITE ALTERATION

/ 1330 1360 5 D D.  
 R  
 / 1360 1412 VLSN BD P BD 020  
 L 5 G  
 R  
 / 1412 1717 VLGT BD P >> 045 V=  
 L 5 GA BD 020 V=  
 R

GRIT BECOMES FINER DOWN SECTION; GRAYISH GREEN BANDED GRIT AND  
 SANDSTONE

/ 1505 1524 XFALT R F/ 060 M1  
 L 5 GA M1  
 / 1717 2084 VOLC P P= B.D)V\*  
 L 5 GA V=  
 R

FRAGMENTS UP TO 10CM. OF GREY GRIT, FINE MATRIX, ONE FRAGMENT  
 IS A REDDISH SANDSTONE. MICROVEINS OF HEMATITE WITH A FEW BLEBS  
 OF CHALCOPYRITE AND HEMATITE, SOME PERVASIVE WHITE BLEBS SOFT;  
 CORE : POSSIBLE LIGHT CARBONATE ALTERATION

/ 2084 2180 VOLC VV P P) D.  
 L 3 G V=  
 R

BASICALLY SAME ROCK AS ABOVE BUT DARKER GREEN

/ 2180 2340 TUFF P P= D.  
 L 3 G VV V(  
 R

OCCASIONAL SMALL CLASTS ABOUT .5 CM.

/ 2340 2438 VOLC VV P P) B.  
 L 5 UG V)  
 R



1 2 3 4 5 6 7 8  
 1234567890123456789012345678901234567890123456789012345678901234567890

R FRAGMENTS UP TO 15 CM. OF GRIT MATERIAL, SOME ORANGY BROWN  
 R STAINING, CARBONATE PODS AND VEINS UP TO 3 CM.  
 R

/ 2438 2740 TUFF VV P >> 055V)P) V.  
 L 3 G V)

R BANDS OF ALTERATION AROUND THE VEINS, EPIDOTE , VEINS ARE ABOUT  
 R 2-3 MM. WIDE . AT 25.4 2 CM. WIDE VEIN OF CARBONATE, QTZ AND  
 R BLEBS OF PYRITE AND CHALCOPYRITE  
 R

/ 2740 3048 VOLC P P)  
 L 5 AG V)

R PYROCLASTIC FRAGMENTS UP TO 5MM, FRAGMENTS ARE DARK AND FINE  
 R GRAINED  
 R

/ 2760 2820 X D S/ 060  
 L 8 BG V2

R STRONGLY ALTERED SHEAR SOFT PALE GREEN ALTERATION= SERICITE?  
 R OVERBURDEN SAMPLE FROM REVERSE CIRCULATION DRILLING  
 R

A001  
 AUMM  
 ALAB  
 ATYP  
 AMTH  
 RASY

A001 000 200 25HFX850  
 A001 200 400 25HFX851  
 A001 400 600 25HFX852

A002  
 AUMM  
 ALAB  
 AMTH  
 RASY

	SAMPLE			PPMAU	PPMAG	%CU
	NO					
A002	1160	1500	74891	0.24	10.0	0.406
A002	1500	1800	74892	0.20	1.5	0.008
A002	2100	2400	74893	0.20	1.5	0.041
A002	2700	3000	74894	0.27	2.0	0.046

/END

1 2 3 4 5 6 7 8  
 1234567890123456789012345678901234567890123456789012345678901234567890

IDEN6B0201 V-192DDH83-13 NQ 83DEC08BWBWSPNORTDEC83 MCG 0.00  
 IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
 S000 000 1204 12.04 -90.00 10866.00 10984.00 996.00  
 /NAM EPCLKFCPPYHM

/SCL MT.2  
 LSC  
 LNAM QZCB MGPO

R  
 / 000 213 OVER P  
 R  
 / 213 1204 AL HYVL PP<<4657 P Q\*P.E-7\*D- LI  
 L 5 AG 44MO 7(P( <\*

CHALCOPYRITE IS DISSEMINATED AND OCCURS IN MICROVEINS.  
 FRAGMENTS AND MATRIX CONTAIN FELSPAR PORPHYRY. THESE FELDSPAR  
 ARE EPIDOTIZED. FEW BLACK APHANITIC FRAGMENTS. LIMONITE OCCURS  
 ON FRACTURE. K-SPAR ENVELOPES SOME QUARTZ MICROVEINS.

R  
 / 457 610 X D 7( Q-  
 L 5 GA  
 R FROM 4.58 TO 6.10 M. LESS VISIBLE CHALCOPYRITE. MATRIX MORE  
 R GREY THAN GREENISH.

R  
 / 1091 1092 XVEIN R >> 045V9

A001  
 AUMM

SAMPLE	PPMAU	PPMAG	% CU
A001 213 300	74895	0.94	1.5 0.128
A001 300 600	74896	0.78	1.5 0.111
A001 600 900	74897	0.87	2.0 0.115
A001 900 1204	74898	0.66	3.5 0.098

/END

Project HORSEFLY

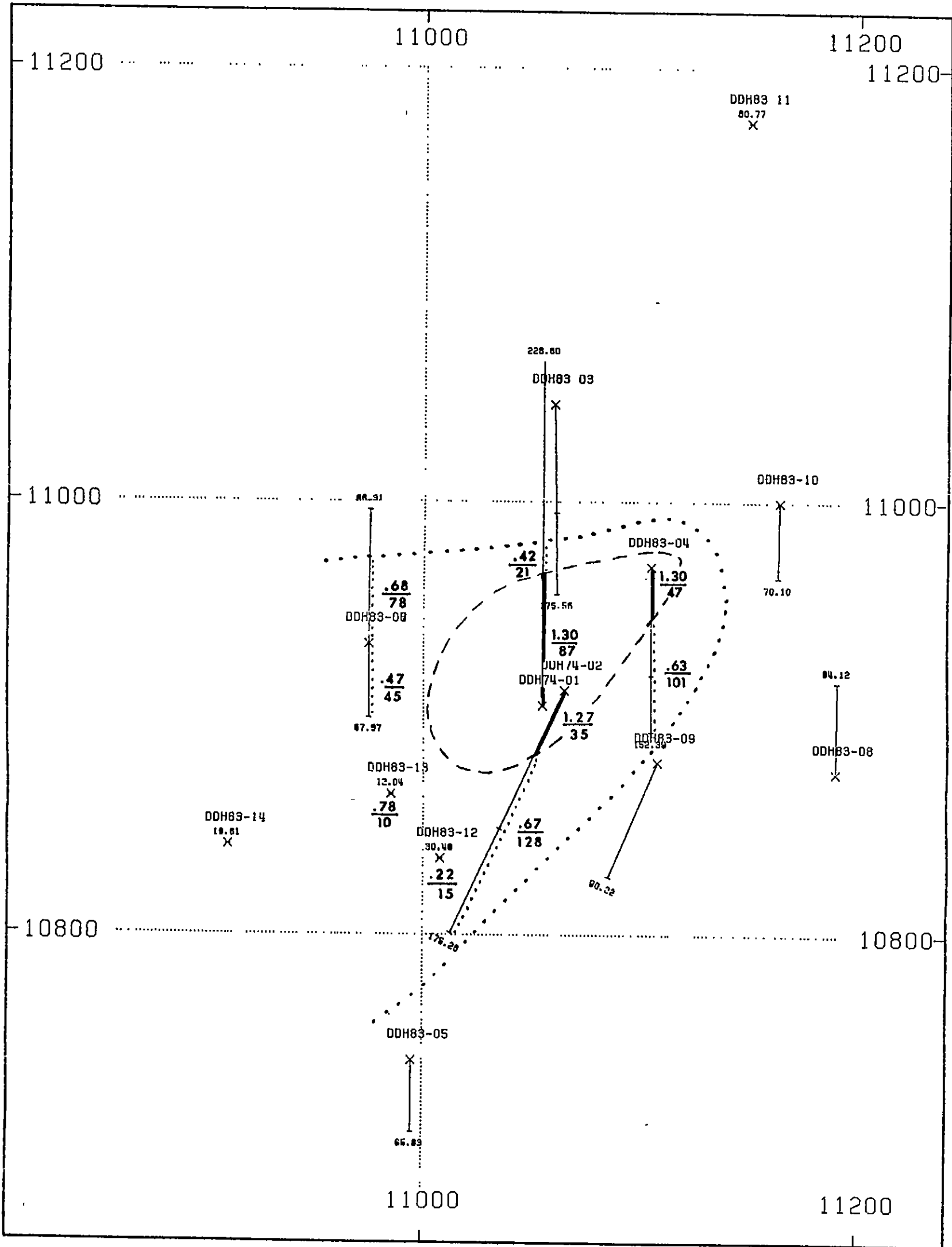
Drill-hole: DDH83-14

DATE: 83-12-14 PAGE 1

1 2 3 4 5 6 7 8  
1234567890123456789012345678901234567890123456789012345678901234567890

IDEN6B0201 V-192DDH83-14 NQ 83DEC08BWBWSPNORTDEC83 MCG 0.00  
IPRJ PLACER DEVELOPMENT LIMITED HORSEFLY  
S000 000 1981 19.81 -90.00 10834.00 10910.00 997.00  
/NAM EPCLKFCPPYHM  
/SCL MT.2  
LSCL  
LNAME QZCB MGPO  
R  
/ 000 1981 OVER P  
R  
R DRILLED ONLY OVERBURDEN , BEDROCK NOT REACHED!  
R  
/END

---

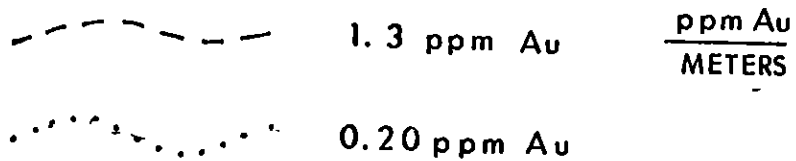


PLACER DEVELOPMENT LIMITED

"GEOLOG" SYSTEM:

PROJECT NAME: HORSEFLY  
 REVISED THE 16 DEC. 1983

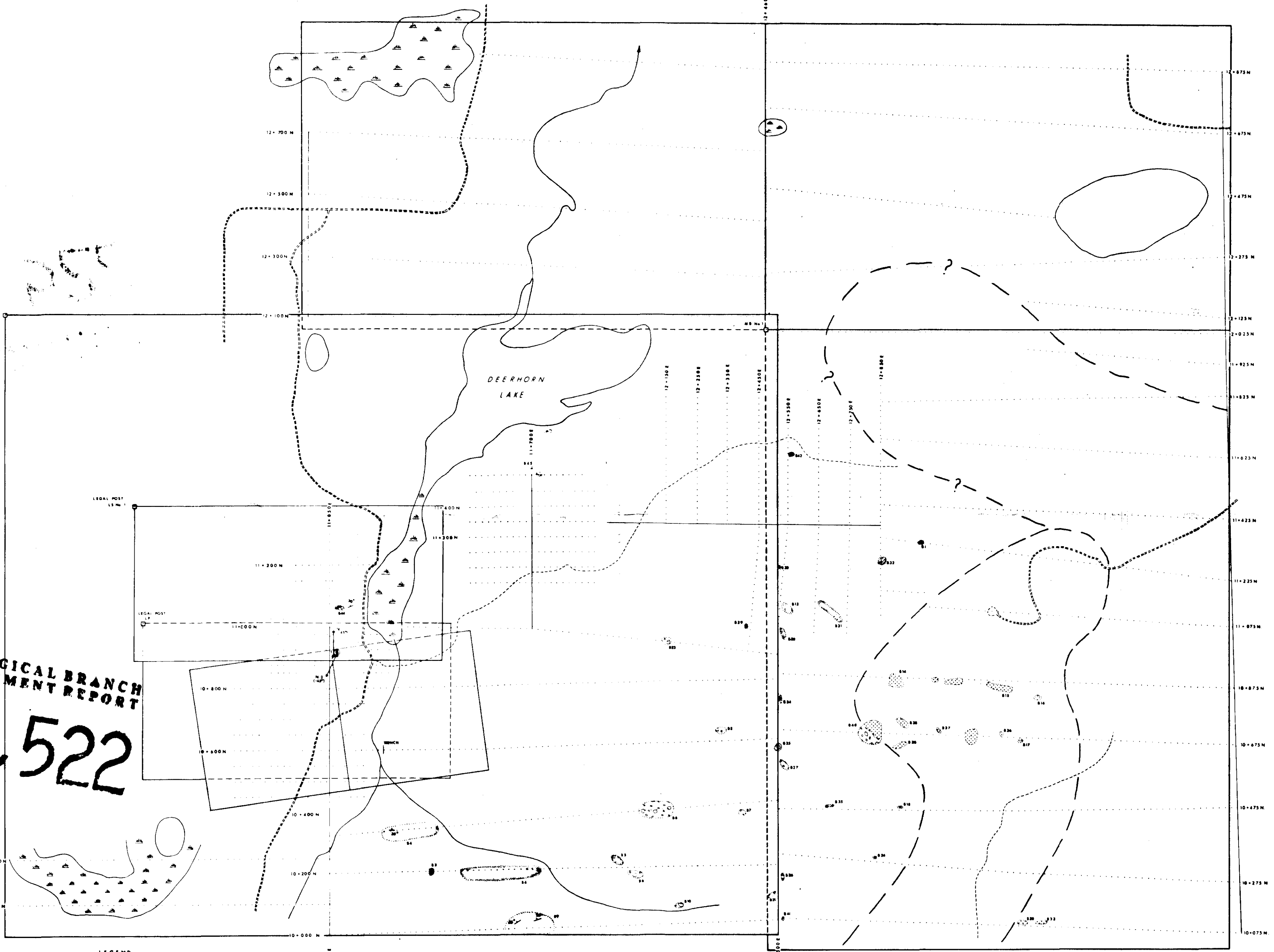
LOCATION MAP



PLOTTED ON: 83-12-15 SCALE 1: 2000 (METRES)



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**  
**12,522**



**LEGEND**

- MIOCENE AND/OR LATER**
- VOLCANIC BRECCIA
- SANDSTONE
- HORNBLENDE AND FELSPAR CRYSTAL TUFFS
- MINOR ASH TUFFS
- JURASSIC**
- HORNBLENDE - BIOTITE - GRANODIORITE
- INFERRED GEOLOGICAL BOUNDARIES
- OUTCROP
- BEDDING ATTITUDE
- DRILL HOLE
- ROAD
- OLD BULLDOZER TRAIL
- SWAMP

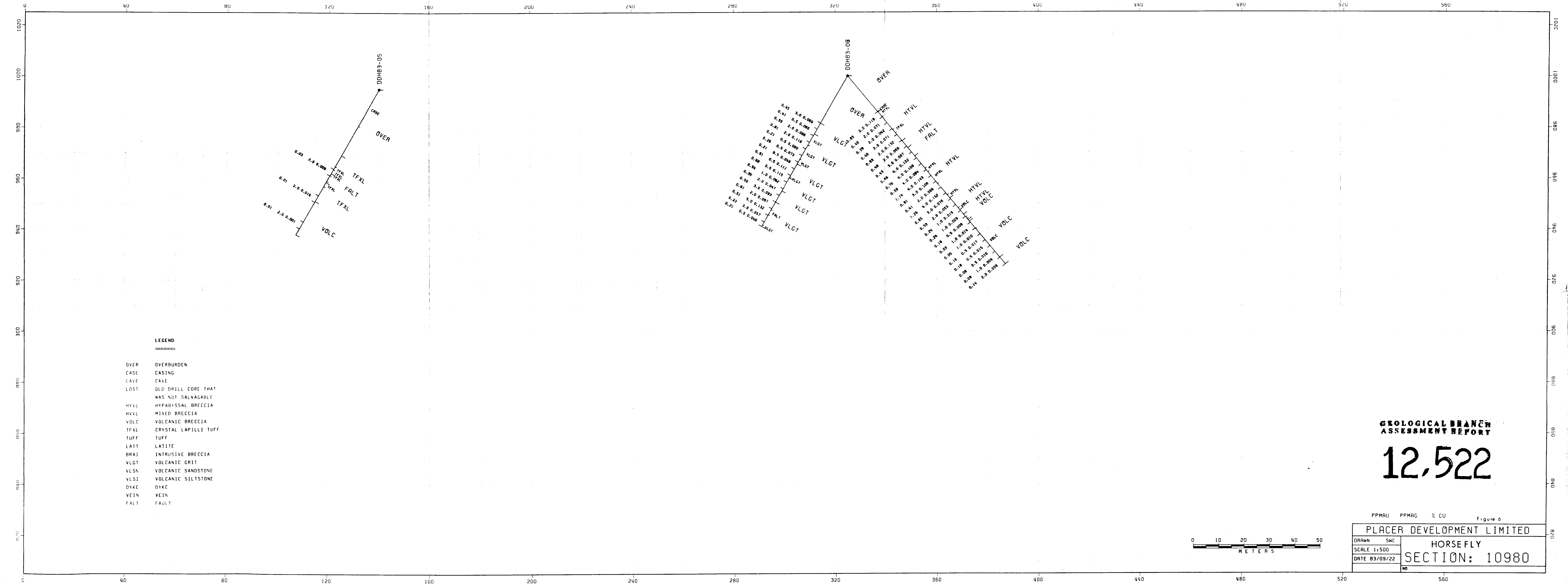
**NOTE** - (1) Geological Legend from Map 3-1961  
          Quessal Lake (West Half)  
          G S C  
          (2) Claim Post Locations are Approximate



DRAWN W.S.P.	SCALE 1:8000	PLACER DEVELOPMENT LIMITED	<b>GEOLOGY</b>
DRAFTING A.K.	DATE JUNE 1983	HORSEFLY - V-192.	
APPROVED	REVISED	FILE REF. No. 83-04-V192-28 (030)	

FIGURE 4

HORSEFLY SECTION 0-GRADE STATION 10980 N

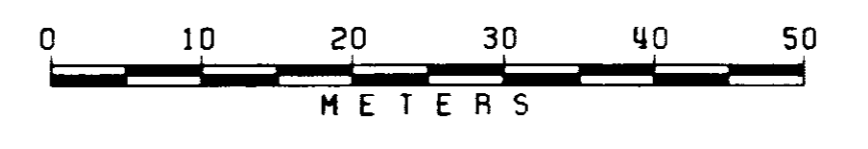


**LEGEND**

- OVER OVERBURDEN
- CASE CASING
- CAVE CAVE
- LOST OLD DRILL CORE THAT WAS NOT SALVAGABLE
- HYVL HYPABYSSAL BRECCIA
- HVVL MIXED BRECCIA
- VOLC VOLCANIC BRECCIA
- TFXL CRYSTAL LAPILLI TUFF
- TUFF TUFF
- LATT LATITE
- BRA1 INTRUSIVE BRECCIA
- VLGT VOLCANIC GRIT
- VLSK VOLCANIC SANDSTONE
- VLSI VOLCANIC SILTSTONE
- DYKE DYKE
- VEIN VEIN
- FALT FAULT

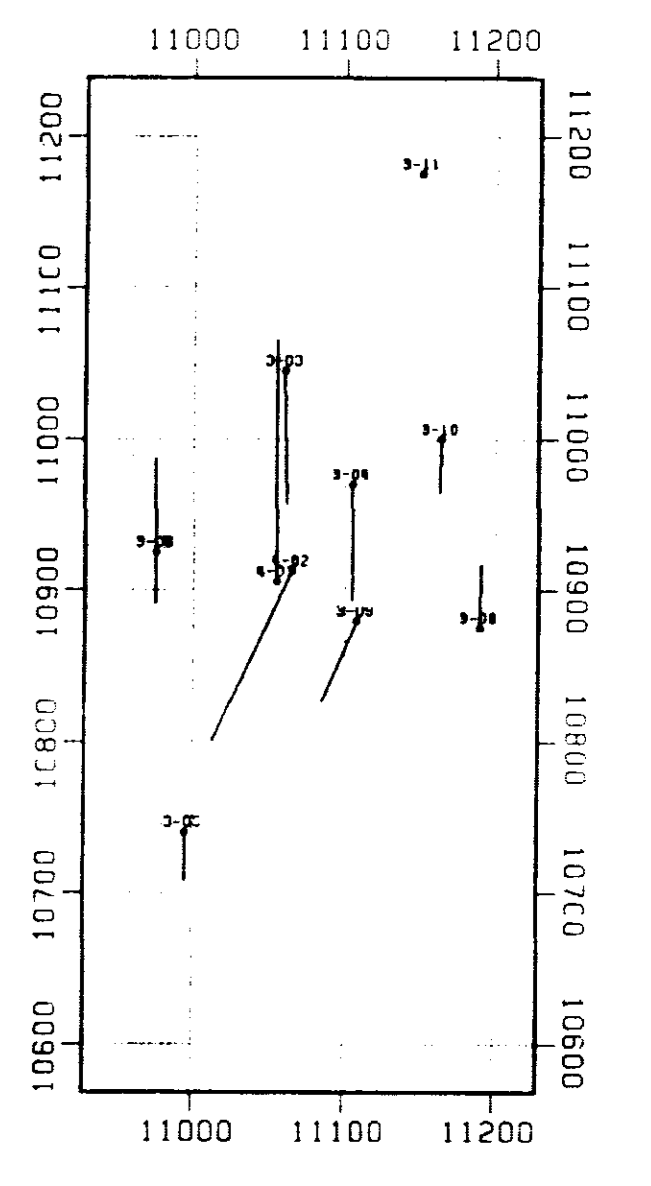
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

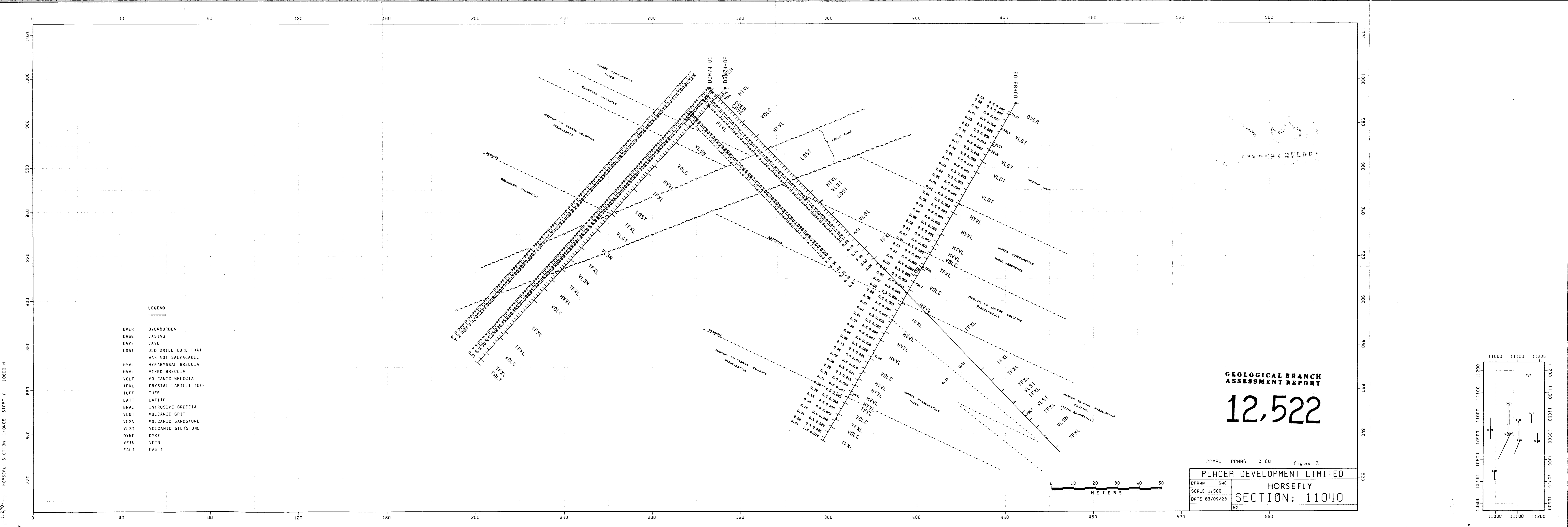
# 12,522



PPMAU PPMAG % CU Figure 6

PLACER DEVELOPMENT LIMITED	
DRAWN SWC	HORSEFLY
SCALE 1:500	SECTION: 10980
DATE 03/09/22	NO





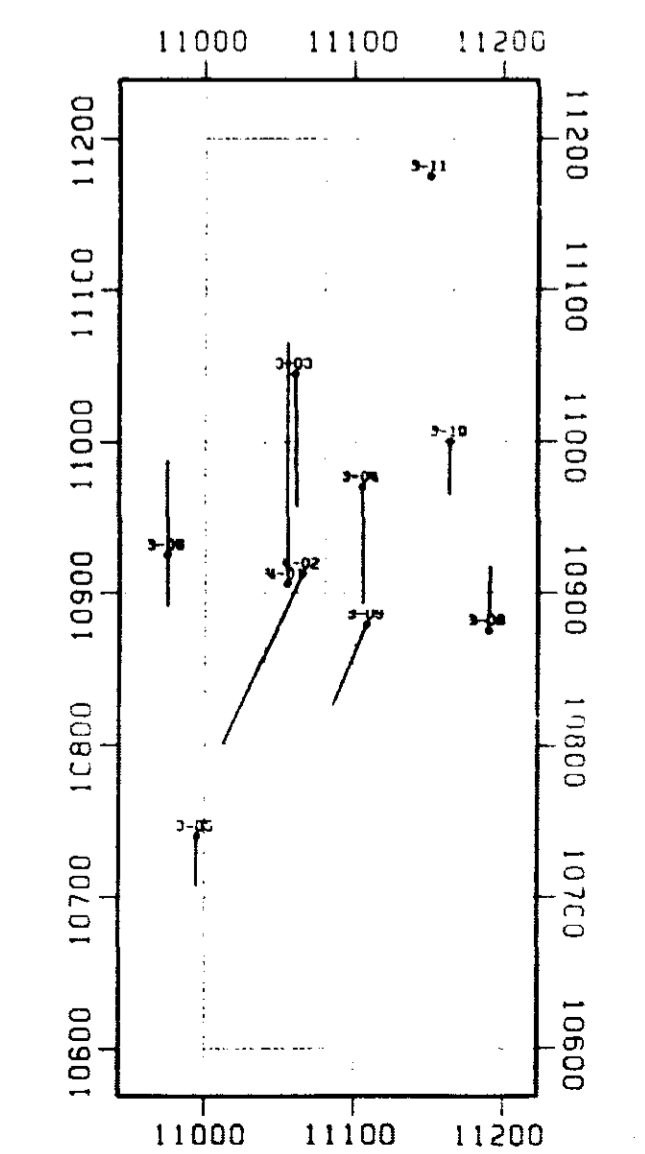
- LEGEND**
- OVER OVERBURDEN
  - CASE CASING
  - CAVE CAVE
  - LOST OLD DRILL CORE THAT WAS NOT SALVAGABLE
  - HYVL HYPABYSSAL BRECCIA
  - HVVL MIXED BRECCIA
  - VOLC VOLCANIC BRECCIA
  - TFXL CRYSTAL LAPILLI TUFF
  - TUFF TUFF
  - LATT LATITE
  - BRAI INTRUSIVE BRECCIA
  - VLGT VOLCANIC GRIT
  - VLSN VOLCANIC SANDSTONE
  - VLSI VOLCANIC SILTSTONE
  - DYKE DYKE
  - VEIN VEIN
  - FALT FAULT

**GEOLOGICAL BRANCH  
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# 12,522

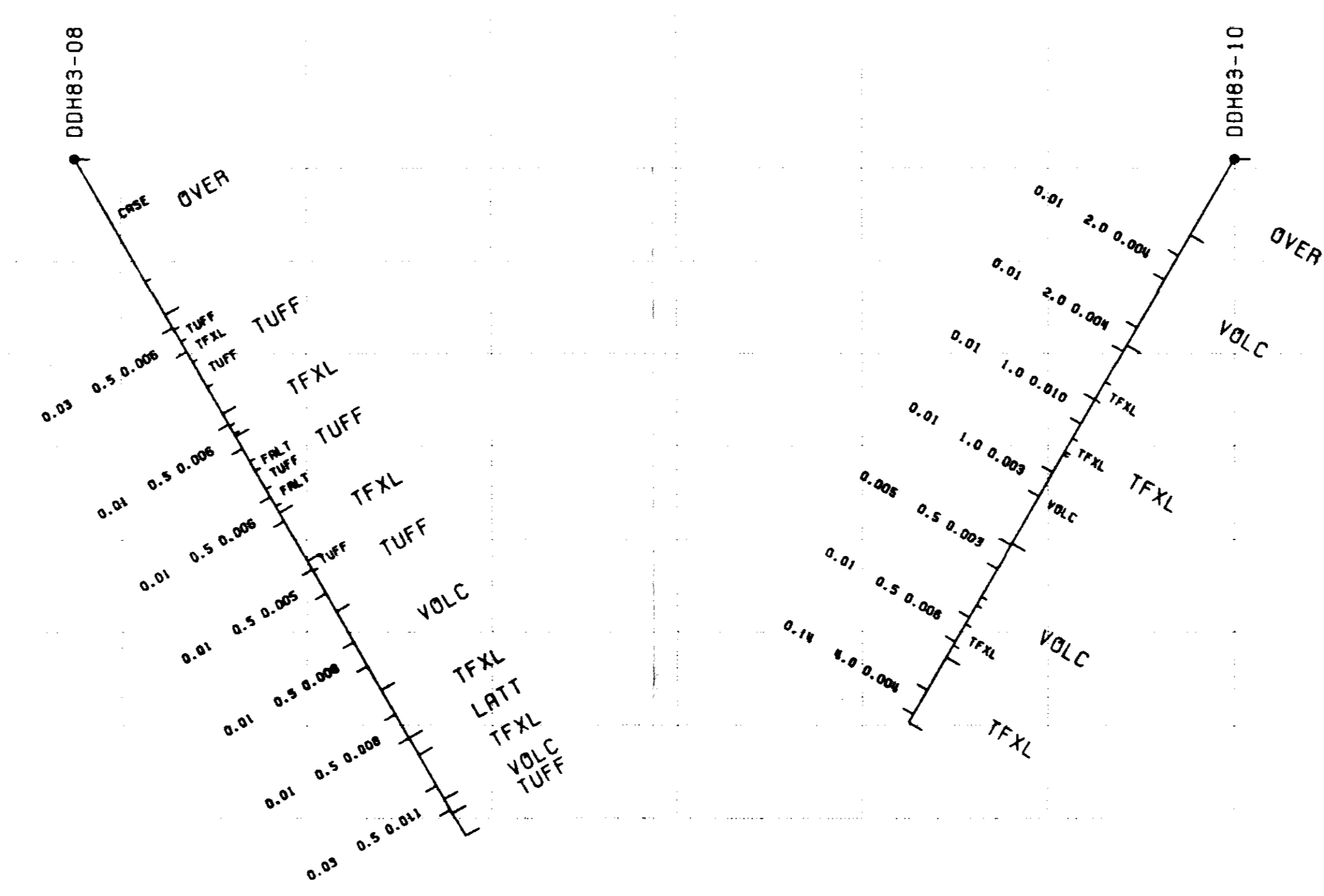
PPMAU PPMAG % CU Figure 7

DRAWN SWC		HORSEFLY	
SCALE 1:500		SECTION: 11040	
DATE 03/09/23		NO	



HORSEFLY SECTION 11170E START Y - 10500 N

- LEGEND**
- =====
  - OVER OVERBURDEN
  - CASE CASING
  - CAVE CAVE
  - LOST OLD DRILL CORE THAT WAS NOT SALVAGABLE
  - HVVL HYPABYSSAL BRECCIA
  - HVVL MIXED BRECCIA
  - VOLC VOLCANIC BRECCIA
  - TFXL CRYSTAL LAPILLI TUFF
  - TUFF TUFF
  - LATT LATITE
  - BRAI INTRUSIVE BRECCIA
  - VLGT VOLCANIC GRIT
  - VLSN VOLCANIC SANDSTONE
  - VLSI VOLCANIC SILTSTONE
  - DYKE DYKE
  - VEIN VEIN
  - FALT FAULT



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**12,522**

PPMAU PPMAG % CU Figure 9

DRAWN SWC		PLACER DEVELOPMENT LIMITED	
SCALE 1:500		HORSEFLY	
DATE 03/09/23		SECTION: 11170	
NO			

