88-039

1988 SUMMARY REPORT OF EXPLORATION
on the
LOGAN #1-200 CLAIM GROUP

Watson Lake Mining District, Y.T.
Little Moose River Area, Yukon Territory
Lat: 60°30'N; Long: 130°27'W
NTS: 105/B-7,8,9,10

March, 1989

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S U M M A R Y R E P O R T O F E X P L O R A T I O N

ON THE

L O G A N #1 - 200 C L A I M G R O U P

Watson Lake Mining District,
Little Moose River Area, Yukon Territory
Latitude 60°30'N; Longitude 130°27'W
NTS: 105/B-7,8,9,10

For

FAIRFIELD MINERALS LTD.
Vancouver, British Columbia

and

TOTAL ENERGOLD CORPORATION
Vancouver, British Columbia

By

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MARCH, 1989

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By: Pacific Geophysical Ltd.

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1.0 SUMMARY AND CONCLUSIONS

The Logan zinc-silver property is located 108 kilometres northwest of Watson Lake and 38 kilometres north of the Alaska Highway in the Watson Lake Mining District, southern Yukon. Staking of the contiguous Logan 1-200 mineral claims was initiated in July 1979 and completed in December 1987. Property acquisition and subsequent work have been conducted by Cordilleran Engineering Ltd. on behalf of Fairfield Minerals Ltd. and, prior to claim ownership transfer in May, 1986, for Regional Resources Ltd. The Logan claim group is under option to Total Energold Corporation.

The claims cover mixed forest, open valley meadows, subalpine and alpine terrain with elevations from 1100 to 1700 metres above sea level. Relief ranges from gentle in the east and central areas to moderate or steep in the west. Surface exposure of bedrock is poor throughout the property. Present access is by fixed-wing aircraft from Watson Lake to the 700-metre long, Logan gravel airstrip.

Work completed in 1988 included road construction, grid preparation, ground control surveys, excavator trenching, and geophysical and geochemical surveys. Previous work on the property was undertaken in 1979, 1980, 1982, 1984-1987 and comprised grid preparation, surveying, diamond drilling, hand trenching, airstrip and road construction, prospecting, geological mapping, soil geochemistry and geophysical surveys.

Exploration work has delineated an 8000-metre long northeast trending fault-related structure containing the Main, West and East Zones. Within the Main Zone, an 1100-metre long zinc-silver deposit with a calculated mineral inventory of 12,300,000 tonnes grading 6.17% zinc and 0.77 oz/ton silver has been outlined by diamond drilling. The Main Zone deposit, drill tested to vertical depths of up to 275 metres, is contained within a tabular, 50 to 140 metre wide, fault-bounded mineralized body that is dipping 70 degrees to the northwest. Sphalerite with lesser pyrite, arsenopyrite, chalcopyrite, pyrrhotite, silver-bearing lead sulfo-salts and cassiterite occurs within quartz veins, breccia bodies, stockworks and silicified zones in highly altered granodiorite and andesite dyke rocks. Results of metallurgical testing are very encouraging and include zinc and silver recoveries in the mid 90% and mid 80% range respectively, and zinc concentrates assaying in the mid 50% range.

The Logan deposit, open to depth, represents an important new reserve of zinc metal in western Canada. A full review of deposit economics is required before advancing to further pre-development work that may include additional diamond drilling, baseline road and environmental studies and a possible bulk sampling program.

****

2.0 RECOMMENDATIONS

Additional work on the property is subject to a review of deposit economics. Given favourable results, future work should include:

1. Fill-in diamond drilling in selected areas of the deposit to confirm the presently defined mineral inventory.
2. Additional deep diamond drilling to test the limits of the deposit to depth.
3. Baseline environmental and access road studies.
4. A bulk sampling program.

Respectfully submitted

CORDILLERAN ENGINEERING LTD.

M. A. Stammers, B.A., FGAC
Geologist

MS/z
March, 1989

****

3.0 INTRODUCTION

This report describes a program of excavator trenching and geophysical survey work carried out on the Logan claim group during the period March 19 to November 12, 1988.

The property hosts a significant zinc-silver deposit with potential to support a medium tonnage, moderate grade mining operation utilizing open pit methods.

3.1 LOCATION AND ACCESS (Figure 1)

The property is located 108 kilometres northwest of Watson Lake, Yukon, at latitude 60 degrees 30'N and longitude 130 degrees 27'W (Figure 1). The claims are situated 38 kilometres north of the Alaska Highway and 258 kilometres east of the Yukon capital of Whitehorse.

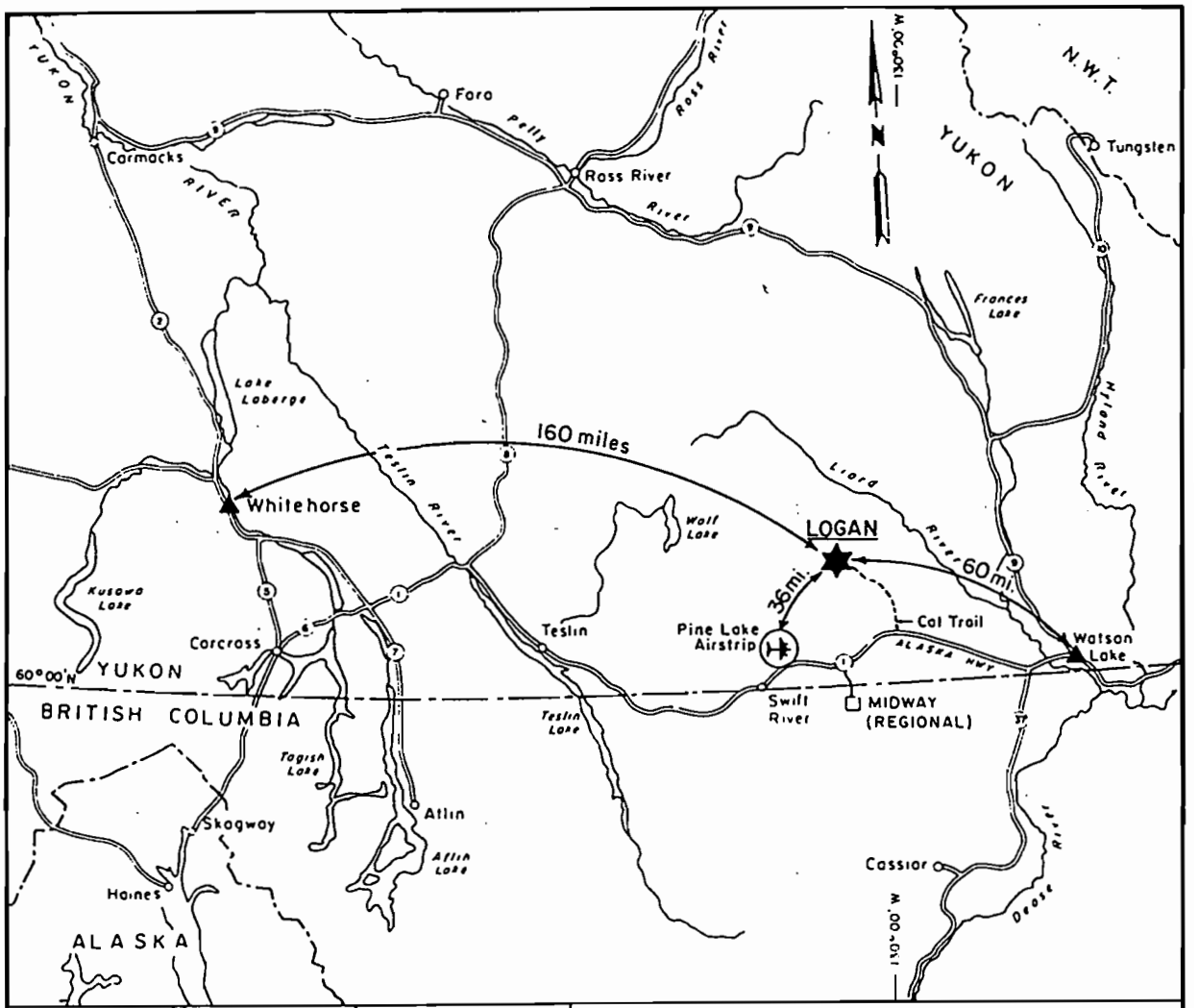
Field operations were based from a tent camp centrally located on the property. Access to the claim group is by fixed-wing aircraft from Watson Lake to a 700-metre long gravel airstrip. Light duty, four wheel drive trucks flown in by Caribou aircraft provided on-property transportation during the 1988 field season. A total of 224 flights into Logan were recorded this season giving a two year total of 495 flights.

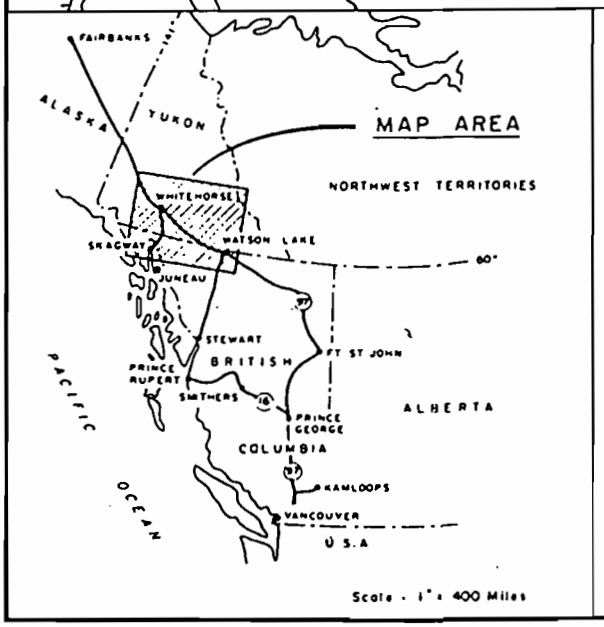
A 52-kilometre trail originating from Milepost 687 on the Alaska Highway provides November to April access to the property for track-equipped machinery.

3.2 PHYSIOGRAPHY AND CLIMATE

The claims are situated in the northeastern Cassiar Mountains and cover mixed alpine, subalpine, forest and open valley meadow terrain. Glacial drift, including a prominent east-west trending esker and a large outwash fan situated near the airstrip, is found on the property. Elevations range from 1100 to 1700 metres above sea level; relief is gentle in the central and eastern claims area, becoming moderate to steep in the west.

Wildlife spotted by crews working in the claim area include moose, caribou, sheep, black bear, martin, beaver, goat, porcupine and wolverine. Vegetation is generally sparse and includes fir, spruce, pine, willow and alder.





FAIRFIELD MINERALS LTD.
TOTAL ENERGOLD CORPORATION

PROPERTY LOCATION MAP

20 0 10 20 30 40 Miles

30 0 30 60 Kilometres

CORDILLERAN ENGINEERING LTD.
1980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9

JANUARY 1989

FIGURE 1

INTRODUCTION (Continued)

Climate in the area is characterized by short, warm summers and long, cold winters. Precipitation is light to moderate year round. The best exploration season lasts from late May until the middle of September. Figure 2 is a photograph of the property looking west.

3.3 EXPLORATION HISTORY

Initial staking (Logan 1-6) was undertaken in July 1979 to cover a gossan-related discovery of zinc-silver-tin-copper mineralization. Subsequent staking was completed in October 1979 (Logan 7-36), June 1984 (Logan 37-88), July 1984 (Logan 89-94), July 1986 (Logan 95-106), September 1986 (Logan 107-168) and December 1987 (Logan 169-200) to protect areas of favourable geology and geochemistry.

A brief summary of work conducted on the Logan claims follows:

1979: Geological mapping, soil and stream sediment geochemical sampling, hand trenching and test IP, EM and magnetometer geophysical surveys.

1980: The area southeast of the present claim boundary was explored with soil geochemistry.

1982: Soil sampling was completed in the West Zone and hand trenching was carried out in the Main Zone.

1984: Grid preparation, extensive soil geochemical sampling, geological mapping, hand trenching, magnetometer and IP surveys.

1985: Grid preparation, detailed geological mapping, soil geochemistry, Induced Polarization surveys and hand trenching was completed in the East Zone.

1986: A diamond drill program comprising 15 holes totalling 1897.68 metres was completed in the Main Zone (13 holes - 1682.49 m) and in the East Zone (2 holes - 215.19 m).

1987: A diamond drill program comprising 44 holes totalling 7769.66 metres in the Main Zone with supplementary airstrip, camp and road construction; East grid soil geochemistry; IP geophysical surveys; ground control surveys; aerial photography and grid preparation work.

All work on the property has been conducted by Cordilleran Engineering Ltd. on behalf of Fairfield Minerals Ltd. and, prior to claim ownership transfer in May 1986, for Regional Resources Ltd.

INTRODUCTION Continued)

3.4 1988 EXPLORATION PROGRAM

A D-6 Caterpillar tractor and a John Deere 490 excavator were walked to the property over a 52 kilometre route originating from the Alaska Highway during a five-day period in mid-March. The equipment returned to the Alaska Highway along the same route during a four-day period in mid-November. The bulldozer was used to prepare drill and trench sites, construct access roads and to move the drills.

A trenching program utilizing a leased JD490 excavator and consisting of 15 trenches totalling 2412 linear metres displacing 17,400 cubic metres was completed in the Main, East and West Zones. Trenches were systematically mapped and sampled. A total of 1368 rock and 113 soil samples were collected and shipped to Bondar-Clegg and Company for zinc-silver analyses.

Grid preparation included 41.6 kilometres of chained and picketed cut line in the West, Main and East Zones. Work was conducted by G. Clark and Associates of Whitehorse, Y.T.

A total of 1107 soil samples were collected every 50 metres on lines 100 metres apart in the West Zone and on lines 200 metres apart in the new western claims area. Samples were sent to Bondar Clegg and Co's North Vancouver laboratory for sample preparation and zinc-silver-tin analysis.

Induced Polarization geophysical surveys were carried out over the Main and West Zones during the period June 27 to August 9, 1988 by Pacific Geophysical Ltd. of Vancouver. Surveys included 9.0 kilometres of 100-metre; 6.0 kilometres of 50-metre and 10.0 kilometres of 25-metre dipole-dipole work mostly in the West Zone.

Survey work was conducted in August by G. Aucoin and Associates of Whitehorse, Yukon. Additional ground control stations were established, Main Zone deposit area claim posts were surveyed and all trenches and drill hole collars up to and including TR 810 and DDH 88-99 were assigned elevation, grid and UTM coordinates.

Reclamation work was completed in the Main, West and East Zones and included filling in non-mineralized trenches, grooming and contouring drill sites, and reseeding abandoned roads, trenches and drill sites. Approximately 725 kilograms of seed mix consisting of 23% creeping red fescue, 22% climax timmothy, 23% meadow foxtail, 24% alsike fescue and 8% sheep fescue was spread over disturbed areas by hand.

INTRODUCTION Continued

3.5 CLAIM DATA (Figure 2)

The Logan property consists of 200 contiguous Quartz claims located in the Watson Lake Mining District, Yukon Territory. The project has been operated by Fairfield Minerals Ltd. of Vancouver, B.C. and is subject to an agreement with Total Energold Corporation of Vancouver, B.C. who have recently earned a 50% interest in the property.

Table 1 **CLAIM DATA**

CLAIM	GRANT No's	EXPIRY DATE
LOGAN 1 - 6	YA 45047 - YA 45052	31 DEC. 2003
LOGAN 7 - 36	YA 46254 - YA 46283	31 DEC. 2003
LOGAN 37 - 88	YA 71027 - YA 71078	31 DEC. 2005
LOGAN 89 - 94	YA 71360 - YA 71365	31 DEC. 2002
LOGAN 95 - 106	YA 91214 - YA 91225	31 DEC. 1999
LOGAN 107 - 168	YA 98615 - YA 98676	31 DEC. 1995
LOGAN 169 - 200	YA 10686 - YA 10717	31 DEC. 1992

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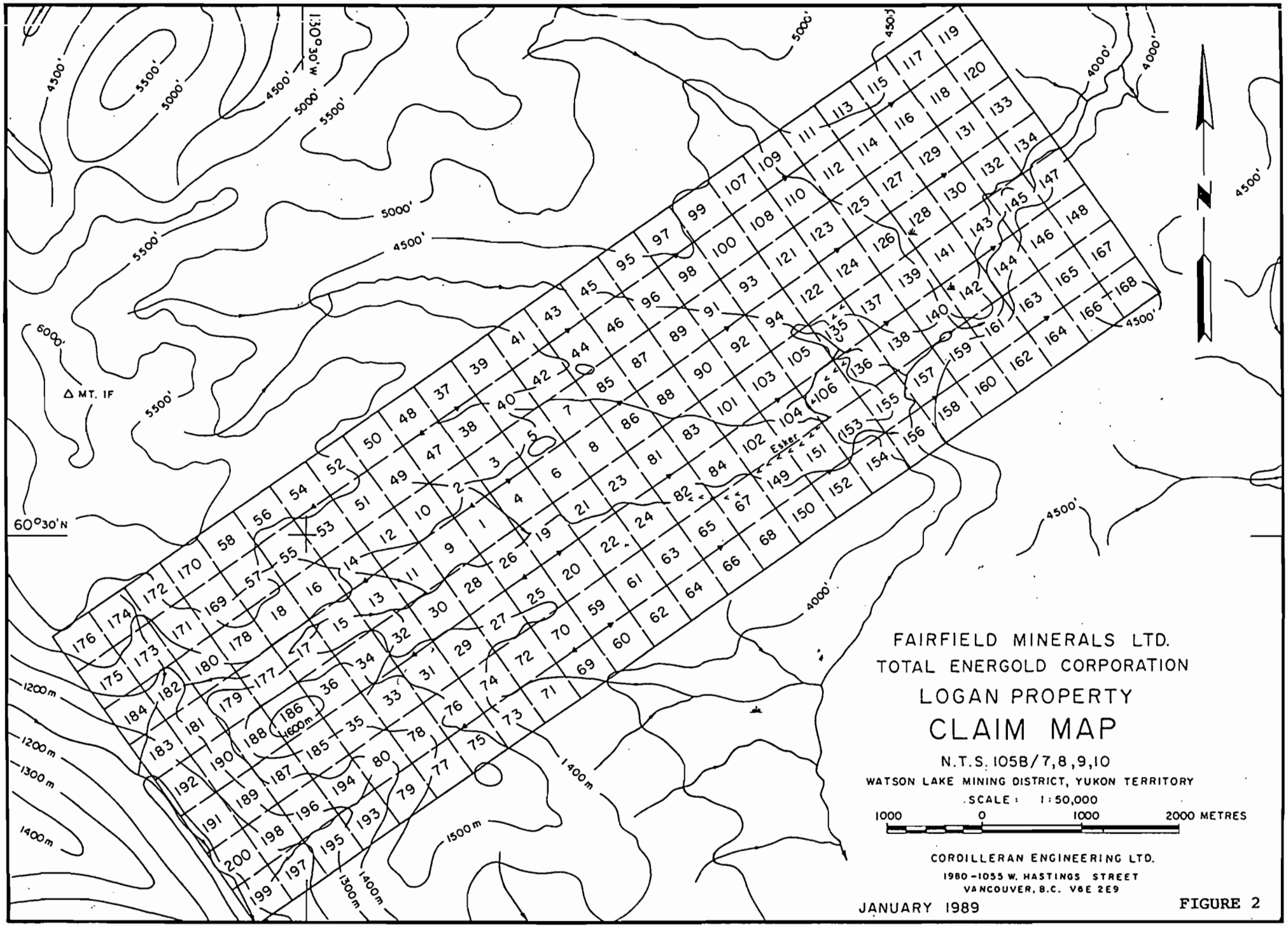
FAIRFIELD MINERALS LTD.
TOTAL ENERGOLD CORPORATION
LOGAN PROPERTY
CLAIM MAP
N.T.S. 105B/7,8,9,10
WATSON LAKE MINING DISTRICT, YUKON TERRITORY
SCALE: 1:50,000
1000 0 1000 2000 METRES
CORDILLERAN ENGINEERING LTD.
1980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9
JANUARY 1989
FIGURE 2
Δ MT. IF
60°30'N
130°30'W
Esker

4.0 GEOLOGY

4.1 REGIONAL GEOLOGY

Regional geology is based on mapping of the Wolf Lake map area (NTS 105/B) by Poole (1951-1955) and Roddick and Green (1959) of the Geological Survey of Canada. Recent mapping of four 1:50,000 map sheets in the Logan area has been completed by Amukun and Lowey (1986) and Murphy (1987) for the Department of Indian and Northern Affairs (DIAND) Geology Division. Maps of the Sab Lake area (NTS 105/B-7) and the Meister Lake area (NTS 105/B-8) were released in 1987 while Murphy's 1987 work for NTS 105/B-10 and 105/B-11 was published in June 1988.

The Logan claims area has been mapped by the G.S.C. as a single unit comprising biotite schist and quartzite with sills, dykes and irregular bodies of pegmatite. Amukum and Lowey of DIAND have incorporated Cordilleran Engineering Ltd. geologist's mapping in the area and show Cretaceous pegmatite and granodiorite in contact with the lower Cambrian siliciclastic rocks in the southwest claims area. This generalized mapping by both groups of federal geologists has failed to recognize the relative abundance of granodiorite over lesser pegmatitic phases of the Marker Lake Batholith.

The granodiorite of the Marker Lake Batholith differs from the nearby Cassiar Batholith by its higher percentage of muscovite versus biotite micas. The northwest trending body of the Cassiar Batholith is located about 15 kilometres south of the recently named Marker Lake Batholith.

Fault related, Tertiary-aged "felsite" dykes, quartz-feldspar porphyry dykes, quartz veins and breccias similar to those hosting the Logan deposit are commonly associated with other mineral occurrences in the Rancheria district such as those on the Meister River, YP (Butler Mountain) and Oro claims (Abbott 1983). The deposits and mineral occurrences listed above all appear to be closely related to Late Cretaceous to Early Tertiary, large scale, regionally extensive, northwest trending dextral transcurrent faults. Abbott (1983) provides an excellent review of presently known mineral occurrences in the southern Wolf Lake map area.

GEOLOGY Continued

4.2 PROPERTY GEOLOGY

The Logan property is underlain by granodiorite and pegmatite rocks of the Marker Lake Batholith. An irregular contact with Lower Cambrian and possibly older metasiliciclastic rocks is exposed in the southwestern claims area. Large xenoliths of quartz-biotite-muscovite schist occur throughout the property. Foliated granodiorite has been observed in core in close proximity to the Logan mineralized fault. Tertiary andesite dykes, quartz-feldspar monzonite-latite porphyry dykes, quartz veins and breccia bodies are also associated with the 8.0 kilometre long mineralized system. A major zinc-silver deposit containing an estimated geological mineral inventory of 12.3 million tonnes of 6.17% Zn and 0.77 oz/ton Ag is centrally located on the Logan property. Numerous other mineral occurrences and geochemical/geophysical prospects were explored with diamond drilling. No new discoveries were made. Glacial deposits of Recent age include widespread boulder till deposits, a prominent northeast trending esker centred in the main Logan Creek valley and a large fan-like deposit of sand and gravel in the vicinity of the Logan airstrip.

Faults on the property are marked by topographic depressions and are dominated by northeast trending features with minor northwest trending secondary lineaments.

Bedrock exposure on the property is poor (<5%) except in areas of steep relief where it may rise to 10%. Overburden thickness in the area of diamond drilling varied from less than 1.0 metre to a maximum of 18.3 metres.

Descriptions of lithological units follow:

Lower Cambrian - Siliciclastic Metasedimentary Rocks

This unit outcrops in the southwest claims area and was intersected in several of the West Zone drill holes. It is composed of quartzo-feldspathic-biotite-muscovite schist, banded metasiltstone and minor interbedded quartzite. Narrow lenses of pyroxene-garnet skarn have been reported at two localities on the property within the schist unit. Granodiorite sills and dykes locally intrude the siliciclastic metasedimentary rocks. Elsewhere on the property, in outcrop and drill core, xenoliths of this unit occur in all sizes, shapes and orientations.

Cretaceous - Granodiorite

This is the most common rock type occurring on the property and as a regional unit is part of the Marker Lake Batholith. The granodiorite is characteristically light grey weathering, medium to coarse-grained, quartz-plagioclase-muscovite bearing and includes both equigranular and pegmatitic phases, commonly occurring within one outcrop area. The unit locally exhibits spectacular quartz-feldspar intergrowths typical of graphic textures. Another notable feature, found particularly near the mineralized structure, is a weakly metamorphosed foliated granodiorite. This unit may have been mapped or logged previously as biotite-muscovite schist.

GEOLOGY Continued

Granodiorite seen in core has been divided into three subunits according to intensity of alteration. Fresh granodiorite, unit GD, occurs mainly outside the Logan mineral zone, above the hangingwall and below the footwall faults. Unit AGD comprises pervasively altered granodiorite with feldspar crystals totally replaced by sericite and/or minor clay minerals. This unit is the common lithology within the Logan mineral zone. Other alteration minerals present include chlorite, sausserite and rare epidote. Severely altered granodiorite, unit SAGD, is prevalent within the hangingwall and footwall fault zones. All constituent minerals except quartz have been replaced by crumbly sericite and clay minerals. Protracted meteoric water movement is the postulated cause for this intense alteration mineral assemblage.

In the mineral zone, altered granodiorite is crosscut by stockworks of mineralized quartz veins and veinlets. Sulphide mineralization of sphalerite and lesser pyrite constitutes between 1% and 20% of stockwork mineralized granodiorite. In addition, sphalerite occurs as fine disseminated grains with little or no associated quartz veining and commonly grades between 1% and 5% zinc over significant drill intercepts.

Tertiary(?) Quartz-Feldspar Monzonite/Latite Porphyry Dykes

This unit, QFP, has been recognized in drill core near the western end of the Main Zone deposit and at depth in hole 87-54. Previously described in drill logs as a quartz-feldspar porphyry, it has subsequently been determined through thin section analysis that the aphanitic variety is a latite porphyry and the fine-grained specimens are monzonite porphyry. These rocks weather dark green, are aphanitic to fine-grained and contain between 10% and 25%, two to three mm long, feldspar and quartz phenocrysts. In thin section, one specimen from DDH 86-9 comprised 40% plagioclase, 32% K-feldspar, 17% horneblende, 5% biotite and 5% quartz. Alteration minerals present include sericite, chlorite and biotite. The porphyry dyke rocks are crosscut by late stage mineralized quartz veins and are locally brecciated.

Tertiary(?) Andesite Dykes (Felsite)

Andesite dyke rocks, unit FD, occur in outcrop and drill core within the Logan mineral zone. The term felsite was originally used because dyke outcrops are light to medium grey-green weathering aphanitic rock containing up to 5% subhedral quartz phenocrysts. Thin section study has identified the felsite rocks as andesitic in composition with 75% sericitized plagioclase, 18% altered mafics and 7% quartz. The dykes lie subparallel to the major fault structures and range in thickness from 1.0 to 15.0 metres. The unit is frequently well mineralized and is often brecciated.

Tertiary(?) - Quartz, Quartz Sulphide and other Late Stage Veining

Clear to milky-white to medium grey, occasionally chalcedonic quartz and quartz-sulphide veins and veinlets contain minor to high concentrations of sphalerite and other sulphides. These multiple phase veins crosscut granodiorite, quartz feldspar porphyry and andesite dyke rocks. Crosscutting relationships seen in drill core indicate that there were several phases of quartz and quartz-sulphide veining. Another late stage phase of veining comprises ankerite and quartz-ankerite-sulphide veins.

GEOLOGY Continued)

The thickness of veinlets and veins varies from hairline fracture fillings up to about 5.0 metres. The majority of quartz and quartz-sulphide veins are confined to the Logan mineral zone.

Tertiary(?) Diatreme and Tectonic Breccias

Two types of breccia have been recognized within the Logan mineral zone. The first, a tectonic or cataclastic breccia, is composed of angular to subangular clasts of granodiorite, andesite dyke, quartz vein, and sulphides set in a quartz, quartz-ankerite or quartz-sulphide matrix. The second type, classified as a diatreme breccia pipe, has been intersected in drill holes in the centre of the deposit. This light cream-coloured breccia consists of subangular to subrounded clasts of ankerite chert, sphalerite and silicified granodiorite set in a micritic ankerite and/or dolomite matrix. The fragments in this breccia typically "float" in the cryptocrystalline matrix and its textural appearance is consistent with an explosion breccia or diatreme.

It would appear that mineralization mainly preceded the brecciation and that sphalerite has been re-brecciated.

4.3 MINERALIZATION

The Logan zinc-silver deposit is a significant base metal discovery in Western Canada. The deposit can be classified as a complex vein, breccia and stockwork mineralized body occupying a large tabular-shaped zone bounded by distinctive footwall and hangingwall faults. The sulphides present in the deposit, with an estimated overall modal percentage, include: coarse-grained, brownish-grey, sphalerite (80%); pyrite and minor marcasite (12%), arsenopyrite (5%); chalcopyrite (2%); silver-bearing lead sulfo-salts (Pb-Ag-Sb-Bi-S) (<1%); cassiterite (<1%) and rare pyrrhotite, covellite, galena, chalcocite, tetrahedrite, stannite, jamesonite, kobellite and native copper. All mineralization is hosted within altered granodiorite, andesite dykes, quartz-feldspar monzonite/latite, porphyry dykes, quartz veins, ankerite veins and tectonic and diatreme breccia bodies. The Logan mineral zone is clearly fault-bounded and may represent a major northeast trending crustal dilatant zone. Repeated fracturing of host rocks has permitted a high degree of permeability for multiple phase injection of silica and carbonate-bearing mineralizing fluids.

The length of the Main Zone mineral deposit, as defined by diamond drilling, extends from 150W to 850E, a distance of 1100 metres. However, the area containing 92% of the presently defined geological mineral inventory extends from 250W to 350E, a distance of 600 metres. The average width of the Logan mineral zone is approximately 100 metres and it has been drill tested to vertical depths of up to 275 metres.

5.0 TRENCHING

5.1 OPERATIONS

An excavator trenching program comprising 15 trenches totalling 2412 linear metres (17,400 cubic metres) was completed on the Logan 2, 3, 5-8, 34, 36, 87 and 88 mineral claims during the period June 5 to August 17, 1988 (Table 2). The program included eleven sites in the Main Zone, three in the West Zone and one in the East Zone. Trenches were systematically mucked, sampled and mapped at 1:100 scale. Non-mineralized trenches were backfilled and reseeded. A total of 1368 rock samples and 113 soil samples were collected. Results for the rock samples are included in the trench summary logs appended to this report and soil analyses for zinc-silver are plotted directly on the accompanying maps (Plates 1, 2, 3).

To conduct the trenching program, a John Deere 490 excavator was leased from Yellowquip Rentals Ltd. of Kamloops, B.C. Arctic Diamond Drilling Ltd. of Whitehorse, Yukon supplyed a skilled operator-mechanic. The equipment was walked in to the property over a 52 kilometre trail in March and returned to the Alaska Highway over the same route in November. The best months for trenching in the Logan area are July through September. Trenching was severely curtailed in June 1988 due to adverse ground conditions caused by snow melt, rain and frost.

5.2 DISCUSSION

5.2.1. Main Zone Definition (Plate 2)

Eight trenches, spaced 100 metres apart, were completed over the Main Zone deposit from 200W to 300E and from 700E to 800E (Plate 2). Results ranged from encouraging in trenches 804 and 805 to generally discouraging in the six remaining trenches. Very low zinc values, with most values less than 0.10% Zn were returned from trench chip sampling. In underlying diamond drill holes background levels of low grade stockwork are rarely below one-half percent zinc, and are generally in the one to two percent zinc range. As a preliminary explanation, it is postulated that sphalerite and other sulphides have been, in part, leached from host rocks near surface. In contrast, silver values in all trench samples are higher than values

Table 2

1988 TRENCH SUMMARY RECORD

TRENCH #	GRID CO-ORDINATES (North End)		LENGTH (m)	AV. DEPTH (m)	AVERAGE WIDTH Bottom (m)	AVERAGE WIDTH Top (m)	VOLUME (m^3)	# SAMPLES ROCK	# SAMPLES SOIL	ZONE	CLAIM (s)
801	216.58N	188.95E	140	2.0	2	5	980	122 A	0	Main	Logan 3
802	226.43N	87.99E	120	2.0	2	5	840	107 A	0	Main	Logan 3
803	214.55N	2181.87E	71	3.0	2	6	852	24 G	0	East	Logan 87
804	228.37N	13.29W	132	2.0	2	5	924	107 A	0	Main	Logan 2
805	222.13N	72.91W	98	2.0	2	4	588	92 A	0	Main	Logan 2
806	333.14S	1857.88W	313	2.0	2.75	3	1800	108 G	18	West	Logan 34,15
807	759.69S	2411.93W	220	1.0	1	3	440	88 A	14	West	Logan 36,35
808	668.18S	1794.44W	255	1.0	2	3	637.5	71 G	23	West	Logan 34,33
809	42.81N	481.59E	338	2.0	3	5	2704	142 G	35	Main	Logan 6,5
810	105.65N	1085.18E	109	2.0	2	4	654	35 G	11	Main	Logan 7,8
811	277S*	1206E*	117	2.0	3	5	936	41 G	12	Main	Logan 8
812	214N*	681E*	111	3.0	3	7	1665	111 G	0	Main	Logan 2
813	193N*	177W*	78	3.0	3	7	1170	77 G	0	Main	Logan 5
814	248.5N*	314E*	206	2.0	3	5	1648	156 G	0	Main	Logan 3
815	208.5N*	811E*	104	3.0	3	7	1560	87 G	0	Main	Logan 5
TOTALS:			2412 m				17,398.5 m^3	516 A = Assay 852 G = Geochem Analysis			

*Not surveyed.

TRENCHING Continued

reported in drill holes. At present, no explanation can be provided to account for these highly anomalous results that include values of 2.01 oz/ton Ag over 96 metres and 5.10 oz/ton over 17 metres, both from trench 804. Table 3 lists selected assay results from Main Zone deposit trenches.

Table 3: SELECTED RESULTS FROM TRENCH SAMPLING - MAIN ZONE DEPOSIT

Trench No.	Interval (m)	Length (m)	% Zinc	oz/ton Ag
801	**28-54**	**26**	**0.04**	**1.97**
	includes 28-31	3	0.17	5.43
802	**19-93**	**74**	**0.18**	**2.00**
	includes 34-39	5	0.03	4.84
804	**94-99**	**5**	**7.07**	**1.10**
	12-108	**96**	**1.18**	**2.01**
	includes 14-31	17	0.10	5.10
	includes 23-28	5	0.12	10.13
805	**67-88**	**21**	**7.08**	**1.63**
	includes 77-88	10	10.75	1.27
	includes 81-88	7	15.26	1.51
	includes 18-31	13	0.43	5.04
812	**34-47**	**13**	-	**5.06**
	includes 34-42	8	-	7.03
	includes 34-39	5	-	10.35

5.2.2. **Main Zone - Exploratory** (Plate 1)

Trenches 809 through 811 were excavated over selected geochemical and geophysical targets located subparallel to the Main Zone deposit. Trench 809, approximately 330 metres long, with its starting point located near DDH 87-41, intersected 13 variably mineralized quartz veins ranging in thickness from 0.3 metres to 4.0 metres. The density of quartz veining steadily decreased from north to south.

Trench 810, located south of DDH 87-53, tested a high priority geophysical anomaly. The 100-metre long trench intersected a sequence of intercalated granodiorite and quartz-biotite schist. No veining or mineralization was encountered and the strong IP response could possibly be attributed to the metasedimentary rocks.

Trench 811, located over a strong combined soil and IP anomaly, intersected a narrow, irregular shaped quartz vein assaying 35.69 oz/ton silver over 1.0 metre. The remainder of the trench was unmineralized.

TRENCHING Continued

5.2.3. **West Zone** (Plate 3)
Three trenches totalling 794 linear metres were completed over widely spaced geochemical and geophysical targets. No significant zinc mineralization was discovered in trenches 806, 807 and 808. In general the highest reported zinc values were associated with metasedimentary rocks.

5.2.4 **East Zone** (Plate 4)
Trench 803, located on line 2210E in the East Zone was abandoned after excavating 70 metres of the proposed 140-metre length. Extremely dangerous ground conditions and immediate flooding prevented trench entry. Bedrock muck piles were mapped and sampled. No significant mineralization was intersected.

****

6.0 G E O P H Y S I C S

(Appendix "A")

Induced Polarization and Resistivity surveys involving 31.5 operating and 10.5 bad weather days were completed by Pacific Geophysical Ltd. of Vancouver,B.C., during the period June 28 to August 9, 1988. A total of 9.0 kilometres of 100-metre, 6.0 kilometres of 50-metre and 10.0 kilometres of 25-metre dipole-dipole separation work was completed in the West Zone, western claims area, and Main Zone.

In the West Zone, several moderate to strong IP anomalies were outlined. Diamond drill testing of the best responses were all negative, with the strong IP effects apparently caused by a low level concentration of pyrite in metasedimentary and granodiorite rocks.

In the Main Zone three 2.0 km lines (350N, 100S and 300S) all located parallel to but near the deposit, were surveyed utilizing 50-metre dipole separations. No anomalies were outlined, and as a result it can be concluded that no significant, northwest trending mineralized structures are to be found in the Main Zone deposit area.

Complete results and interpretation of data are presented in Appendix "A", a report prepared by Pacific Geophysical Ltd. of Vancouver, B.C.

Plate 4, the property compilation map, summarizes all of the IP anomalies found to date.

****

7.0 STATEMENT OF EXPENDITURES

The following costs were incurred pursuant to Exploration Incentives Program Grant E.I.P. 88-030:

Geophysics:			
Contractor	.....	$39,862.50	
Camp Support	132 man days x $91.54/man day	12,083.28	
Helicopter	5.5 hrs x $588.40/hour	3,236.20	$55,182
Trenching:			
Equipment Cost to Contractor	.....	44,061.46	
Fuel	.....	4,215.36	
Operator Salary	.....	23,550.00	
Helicopter - Mobilization & Demobilization	16 hrs x $588.40/hr	9,414.40	
Camp Support	55 man days x $91.54/man day	5,034.70	
		86,275.92	
Sampling Labour	101 man days, salaries	8,023.68	
Mapping Labour	28 man days, salaries	3,082.24	
Supervision	20 man days, salaries	8,000.00	
Camp Support	149 man days x $91.54/man day	13,639.46	
		32,745.38	
Analyses	Geochemical, 966 samples ...	6,692.75	
	Assay, 614 samples	11,409.00	
		18,101.75	137,123
		TOTAL EXPENDITURES	**$192,305**

Geophysics:	25 line km	@ $55,181.98 =	$2,207.28/km
Trenching	17,400 m^3	@ 86,275.92 =	4.96/m^3
	149 man days	@ 32,745.38 =	219.76/man day

	Grant Amount	Survey Cost	Amount Claimed
Geophysics:	$ 45,000	$ 55,182	$ 45,000
Trenching:	170,000	137,123	135,000
	$215,000	$192,305	$180,000

STATEMENT OF EXPENDITURES Continued

Camp Support Cost: (Mobilization, demobilization, operating)

		Project Total	Prorated to E.I.P.
Salaries	Cook & Bullcook	$ 22,274	$ 4,017
Food		28,685	5,174
Helicopter	21.3 hrs x $588.40/hr	12,533	2,260
Fixed Wing:	Borek Air	12,680	2,287
	WLFS	54,309	9,795
	Alkan Air	3,692	666
Rentals	Truck	7,763	1,400
	Camp Equipment	15,157	2,734
	Radios	2,273	410
Labour:	General	5,420	978
	Geologists	5,743	1,035
		$170,529	$30,756

Total camp man days = 1863; man days claimed for E.I.P. = 336
Cost/man day = $170,529/1863 = $91.53/man day.

****

8.0 BIBLIOGRAPHY

1. **ABBOTT, G., 1983:** Silver Bearing Veins and Replacement Deposits of the Rancheria District; Yukon Exploration and Geology 1983.

2. **AMUKUN, S. E.** and **LOWEY, G. C., 1987:** Geology of the Sab Lake (105/B-7) and Meister Lake (105/B-8) map areas, Rancheria District, Southern Yukon; For Indian and Northern Affairs, Open File 1987-1.

3. **CORDILLERAN ENGINEERING, 1980:** Preliminary Evaluation of the Logan Claim Group, for Regional Resources Ltd., January 1981.

4. **CORDILLERAN ENGINEERING, 1981:** Geochemical (Assessment) Report on the Logan Claim Group, for Regional Resources Ltd., January 1981.

5. **CORDILLERAN ENGINEERING, 1982:** Geochemical (Assessment) Report on the Logan Claim Group, for Regional Resources Ltd., November 1982.

6. **CORDILLERAN ENGINEERING, 1983:** Summary Report on the Logan Property, for Regional Resources Ltd., December 1983.

7. **CORDILLERAN ENGINEERING, 1985:** 1984 Summary Report of Exploration on the Logan Claim Group, for Regional Resources Ltd. and Getty Canadian Metals, Limited, February 1985.

8. **CORDILLERAN ENGINEERING, 1986:** 1985 Summary Report of Exploration on the Logan Claim Group, for Regional Resources Ltd. and Getty Canadian Metals, Limited, February 1986.

9. **CORDILLERAN ENGINEERING, 1987:** 1986 Summary Report of Exploration on the Logan 1-168 Claim Group, for Fairfield Minerals Ltd. and Getty Resources Limited, February 1987.

10. **CORDILLERAN ENGINEERING LTD. 1988:** 1987 Summary Report of Exploration on the Logan 1-200 Claim Group, for Fairfield Minerals Ltd. and Getty Resources Limited, February, 1988

11. **MURPHY, D.C., 1988:** Geology of Gravel Creek (105/B-10) and Irvine Lake (105/B-11) Map Areas, Southeastern Yukon, for the Canada/Yukon Subsidiary Agreement on Mineral Resources, Open File 1988-1.

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Staple								
Paper Clip								
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Plastic Protector								
Elastic Bands								
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OTHER_____								

Special Instructions:

p 2 - Appendix A - Geophysics

PACIFIC GEOPHYSICAL LIMITED

REPORT ON

THE CONTINUATION OF THE

INDUCED POLARIZATION AND RESISTIVITY SURVEY

ON THE

LOGAN PROPERTY

WATSON LAKE MINING DISTRICT, YUKON

FOR

CORDILLERAN ENGINEERING LTD.

LATITUDE 60° 30'N LONGITUDE 130° 29'W

NTS: 105B/7,8,9
CLAIMS: LOGAN 1-200

OWNER/OPERATOR: FAIRFIELD MINERALS LTD.

OPTION: TOTAL ENERGOLD CORPORATION

BY

PAUL A. CARTWRIGHT, P.Geoph.
Geophysicist

DATED: November 16, 1988

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1. Introduction 3
2. Description of Claims 4
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5. Discussion of Results 8
6. Summary and Recommendations 13
7. Assessment Details 15
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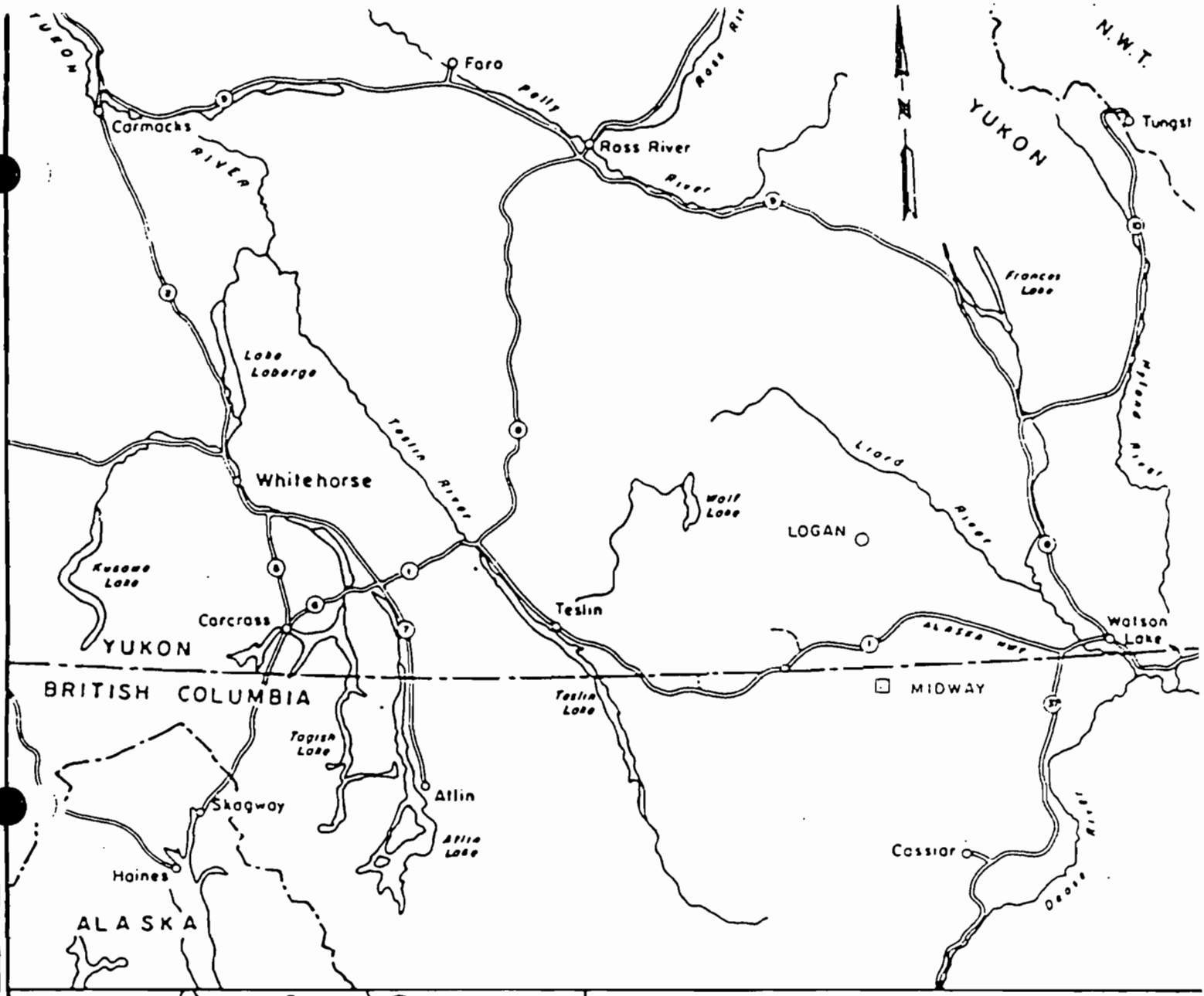
9. Certificate: Paul A. Cartwright, P. Geoph . . 17
10. Certificate: Martin M. Makulowich 18

PART B ILLUSTRATIONS

Location Map . . . . . Figure 1
Claim Map . . . . . Figure 2
Plan Map (in pocket) . . . . . Dwg. No. I.P.P. - 4159A
IP Data Plots (pseudosections) Dwg. No. I.P.-5894-1 to 22



Scale - 1" = 400 Miles

FAIRFIELD MINERALS LTD.

PROPERTY LOCATION MAP

SCALE 1" = 40 MILES

BY

CORDILLERAN ENGINEERING

JANUARY 1988

FIGURE 1

PART A REPORT

1. INTRODUCTION

An induced polarization and resistivity survey has been completed on the Logan property, Watson Lake Mining District, Yukon on behalf of Cordilleran Engineering Ltd., project managers for Fairfield Minerals Ltd. and Total Energold Corp.

The property is located approximately 108 kilometers northwest of Watson Lake, Yukon. Access to the Logan camp is by fixed wing aircraft from Watson Lake. Access to the grid from the Logan camp is by 4-wheel drive vehicle and by helicopter to the most westerly grid lines.

Previous work on the property was completed in 1979, 1980, 1982, 1984, 1985, 1986 and 1987, and included soil geochemistry, hand trenching, induced polarization and resistivity surveys, and magnetic surveys. A diamond drill program was completed in the central and eastern claims area in 1986 and 1987 and included 59 NQ wireline holes totalling 9767.34 meters.

The objective of the present IP and resistivity survey was to detect metallic mineralization thought to be associated with zinc, lead, silver, copper and tin deposits.

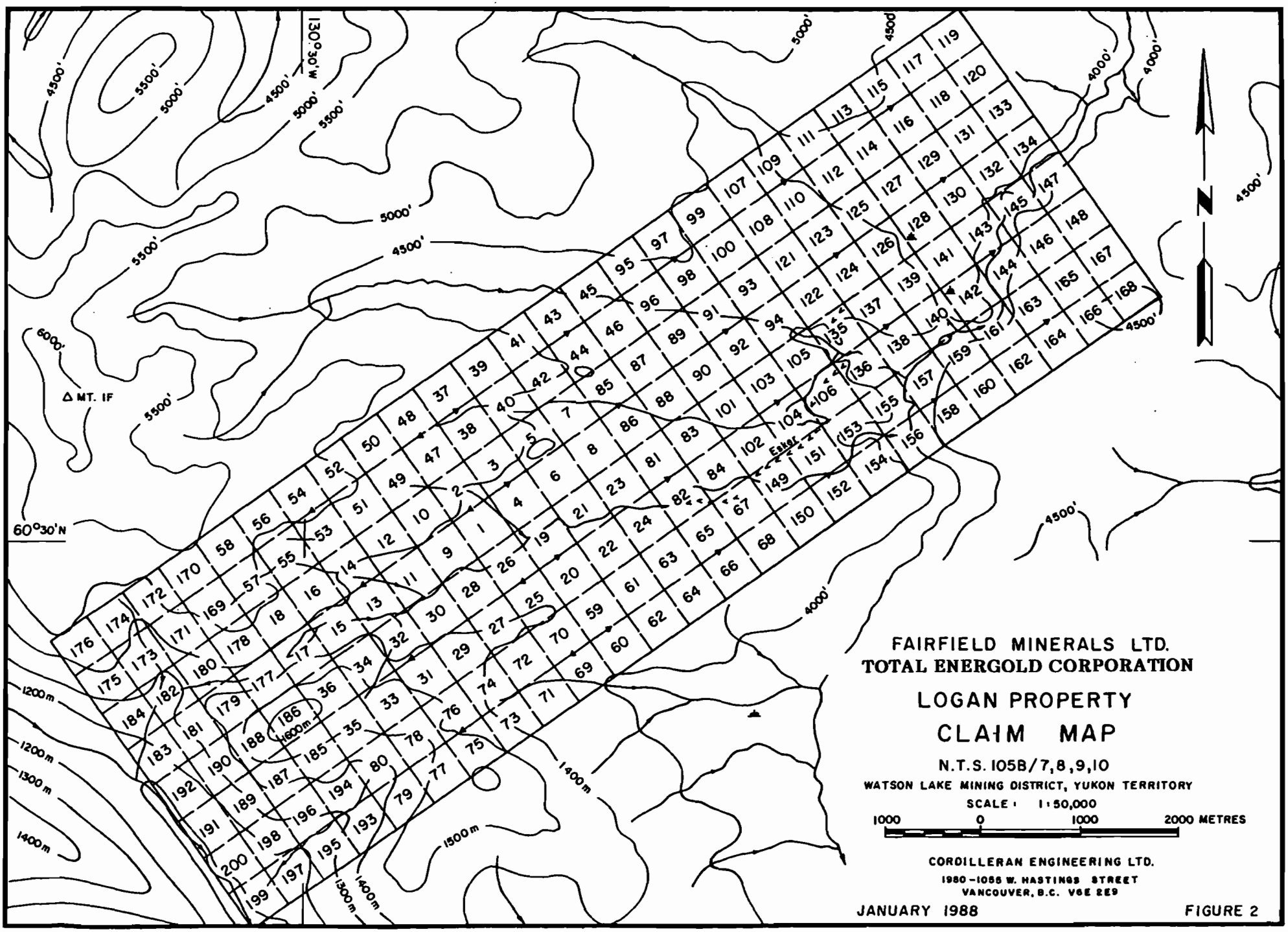
A Phoenix Model IPV-1 induced polarization and resistivity receiver unit was used, together with a Phoenix Model IPT-1 IP and resistivity transmitter powered by a 1 kw. motor-generator. IP effects were recorded as Percent Frequency Effect (P.F.E.) at operating frequencies of 4.0 HZ and 0.25 HZ, while apparent resistivity values were normalized in units of ohm-meters. Dipole-dipole array was utilized to make all of the measurements using interelectrode distances of 25 meters, 50 meters and 100 meters. Four separations were recorded in every case.

Fieldwork took place during the period June 28, 1987 to August 9, 1987, under the direction of Martin M. Makulowich, geophysical party leader. His certificate of qualification is included in this report.

2. DESCRIPTION OF CLAIMS

The Logan property consists of 200 contiguous claims located in the Watson Lake Mining District, Yukon.

Claim No.	Record No.	Expiry Dates
Logan 1-6	YA 45047 - YA 4052	December 31, 2003
Logan 7-36	YA 46754 - YA 46283	December 31, 2003
Logan 37-88	YA 71027 - YA 71365	December 31, 2005
Logan 89-94	YA 71360 - YA 71365	December 31, 2002
Logan 95-106	YA 91214 - YA 91275	December 31, 1999
Logan 107-168	YA 98615 - YA 98676	December 31, 1995
Logan 169-200	YB 10686 - YB 10717	December 31, 1992


FAIRFIELD MINERALS LTD.
TOTAL ENERGOLD CORPORATION
LOGAN PROPERTY
CLAIM MAP
N.T.S. 105B/7,8,9,10
WATSON LAKE MINING DISTRICT, YUKON TERRITORY
SCALE : 1:50,000
1000 0 1000 2000 METRES
CORDILLERAN ENGINEERING LTD.
1980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9
JANUARY 1988
FIGURE 2
130°30'W
60°30'N
MT. IF
Esker
N

The claims are owned and operated by Fairfield Minerals Ltd. of Vancouver, B.C., and are under option to Total Energold Corporation of Vancouver, B.C.

3. DESCRIPTION OF GEOLOGY

The following geological description of the property has been provided by the staff of Cordilleran Engineering Ltd.:

> "The Logan property is underlain by intrusive granodiorite rocks related to the Cassiar Batholith. A contact with Lower Cambrian metasedimentary rocks is exposed in the southwestern claims area. Elsewhere on the property, in outcrop and drill core, large xenoliths of quartz-biotite schist of all sizes, shapes and orientations occur within granodiorite. Tertiary-aged felsite dikes and mineralized quartz veins are associated with major fault structures, such as the one that hosts the Logan zinc-silver deposit. Exposure of these rock units on the property is poor (<5%), except in areas of steep relief where exposures increase to about 20%. Overburden thickness in the area of diamond drilling ranged from less than 1.0 meter to 7.5 meters. Fault structures on the property

are marked by topographic depressions and are dominated by northeast trending features with minor northwest trending secondary lineaments."

Mineralization on the Logan property extends over a postulated 8.0 kilometer long fault structure encompassing the Main, East and West Zones. The drill indicated Logan zinc-silver deposit, approximately 1100 meters long, by an average width of 100 meters and a tested depth to 275 meters, is located centrally within this 8.0 kilometer long structure in the Main Zone.

4. PRESENTATION OF DATA

The induced polarization and resistivity results are shown on the following data plots in a pseudosection format:

Line	Electrode Interval	Dwg. No.
4400W	100 M	I.P.-5894-1
4200W	100 M	I.P.-5894-2
4000W	100 M	I.P.-5894-3
3800W	100 M	I.P.-5894-4
3600W	100 M	I.P.-5894-5
3400W	100 M	I.P.-5894-6
3200W	100 M	I.P.-5894-7
3000W	25 M	I.P.-5894-8
2800W	25 M	I.P.-5894-9
2800W	25 M	I.P.-5894-10
2600W	25 M	I.P.-5894-11

2400W	25 M	I.P.-5894-12
2200W	25 M	I.P.-5894-13
2000W	25 M	I.P.-5894-14
1800W	25 M	I.P.-5894-15
1600W	25 M	I.P.-5894-16
1400W	25 M	I.P.-5894-17
1200W	25 M	I.P.-5894-18
1000W	25 M	I.P.-5894-19
350N	50 M	I.P.-5894-20
100S	50 M	I.P.-5894-21
300S	50 M	I.P.-5894-22

Also enclosed with this report is Dwg. No. I.P.P.-4159A, a 1:5000 scale compilation plan map of the Logan property 1979, 1984, 1985, 1987, and 1988 IP grids. The definite, probable and possible induced polarization anomalies are indicated by bars, in the manner shown on the legend, on this plan map as well as on the data plots. These bars represent the surface projection of the anomalous zones as interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the induced polarization measurement is essentially an averaging process, as are all the potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i.e. when using 25 meter electrode interval, the position of a narrow

sulphide body can only be determined to lie between two stations 25 meters apart. In order to definitely locate, and fully evaluate a narrow, shallow source, it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the center of the indicated anomaly corresponds fairly well with the source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous materials.

5. DISCUSSION OF RESULTS

Results of all of the IP and resistivity surveys carried out on the Logan grid since 1979 are illustrated on plan map Dwg. No.-4159A, a 1:5000 scale compilation map of the area.

Those anomalous zones outlined by the 100 meter dipole-dipole reconnaissance surveying are displayed as wide, lightly stippled areas on Dwg. No. I.P.P.-4159A, while the zones interpreted from the more detailed 25 meter dipole lengths are marked with darker stipple.

The following discussion covers IP and resistivity data recorded during 1988. Most of this work was carried out over the south-western end of the grid, with the exception of three north-easterly trending lines surveyed adjacent to the main zinc-silver zone. For additional information concerning

other IP and resistivity data measured on the north-eastern portion of the area, the reader is referred to previous reports by this author.

Subzone A4

This feature is interpreted to be at least 1000 meters in length, extending from the vicinity of Line 2800W to beyond Line 1000W. It is contained within the general confines of Zone A, outlined by 100 meter reconnaissance surveying.

Subzone A4 is marked by IP effects that range from highly anomalous to only marginally anomalous; however, in almost every case the IP effect anomalies are accompanied by higher than normal apparent resistivity values. A narrow zone of disseminated metallic sulphides could be the cause of such a signature. One exception to the above is seen in the data measured over Line 1400W, in the vicinity of Station 560S, where distinctly lower than background resistivity values are noted.

It is the author's understanding that the source of IP Subzone A4, which is indicated to be less than 25 meters beneath the surface, may already have been tested by D.D.H. No. 93 on Line 1000W, and by trenches No. 807 and No. 808, located on Line 2400W and Line 1800W respectively.

Subzone A5

This feature is outlined on Line 2000W and Line 1800W by weakly anomalous IP effects. Depth to the source is probably less than 25 meters subsurface.

Subzone D1

Data recorded on Line 1800W in the area of Station 450S best outline the source of Subzone D1. The source appears to be moderately polarizable and is definitely more resistive than the surrounding rocks. Disseminated metallic sulphides contained within a relatively narrow body of resistive rock could be the cause of the zone. Depth to the source is less than 25 meters.

Drill hole D.D.H. No. 85 and trench No. 806 may already have tested IP Subzone D1.

Subzone D2

Subzone D2 lies parallel to, and immediately northwest of the south-western end of Subzone D1. Low magnitude IP effects generally characterize the response except in the case of data recorded on Line 2600W, where moderately anomalous IP readings are noted, together with somewhat lower than background resistivities.

Depth to the top of the source is less than 25 meters subsurface.

Drill hole D.D.H. No. 92 may have already tested the extreme south-western end of Subzone D2.

Zone E

This zone is outlined by 100 meter dipole interval measurements made on Line 4400W through to Line 3200W. In general, the feature is composed of IP effects which rise above a high background level, and lie along the south-eastern flank of a more extensive region of high resistivity.

Zone E1, Zone F1

Either of these trends could represent the north-eastern extension of IP Zone E. Both zones are detected primarily by 25 meter dipole measurements, which points to relatively narrow sources being present.

Zone E1 is best outlined by the data recorded on Line 2600W, in the vicinity of Station 760S, where moderately higher than background IP effects are seen, coincident with higher than background apparent resistivity values. Depth to the top of the source is indicated to be less than 25 meters subsurface.

Data measured on Line 3000W, near Station 725S show the highest intensity results from Zone F1. The source appears to be resistive and to be buried less than 25 meters below the surface.

Zone G

Reconnaissance surveying using 100 meter dipole lengths has detected this zone, which is interpreted to strike across the north-western end of Line 4400W through to Line 3400W, at which point the source of the trend either strikes off the grid, or plunges to beyond the detection depth of the array being used.

Magnitudes of the IP values and apparent resistivity values that constitute Zone G are quite similar to Zone E, and it is quite possible that a near horizontal, or gently folded, polarizable layer is the cause of both geophysical zones.

Line 350N, Line 100S, Line 300S

These north-easterly striking lines were positioned so as to test for any mineralized zones striking across the trend of the main Logan zinc-silver deposit. Fifty meter dipole intervals were used; however, no targets similar to those measured over the main zone were detected.

6. SUMMARY AND RECOMMENDATIONS

The 1988 induced polarization and resistivity survey on the Logan Property, Watson Lake Mining District, Yukon, has detected a number of anomalous zones, and subzones, which are illustrated on plan map Dwg. No. I.P.P. - 4159A.

Subzone A4 has apparently already been tested by drilling and trenching. Therefore, no further work is recommended on this feature.

Subzone A5 is only weakly anomalous, and of limited strike length. Further work should only be considered on a low priority basis.

The north-eastern end of Subzone D1 also appears to have been tested by both drilling and trenching. No further work is recommended unless other information becomes available that puts the south-western end of the zone in a more favourable light.

Subzone D2 may have been drilled in the vicinity of the south-western end of the trend. However, because the most anomalous IP effects recorded within the subzone are noted at the north-eastern end, drilling could be considered to test this area. Priority could be established after correlating the IP results with other available information.

Zone E1 is probably caused by a very narrow, moderately to weakly polarizable, and resistive source. A drill hole, located so as to pass approximately 25 meters beneath Line 2600W, Station 760S is recommended on a low priority basis. If other favourable information becomes available the above drilling priority could be altered.

Zone F1 is also caused by moderately to weakly polarizable material; however, additional work should first take the form of additional detailed IP and resistivity surveying on Line 2800W and Line 3200W, in the projected area of the zone.

Zone E and Zone G are seen in the 100 meter reconnaissance data, and may be caused by the same source. Detailed IP surveying is required to better evaluate the cause(s) of these two zones before drilling is considered.

Three north-easterly trending lines were also surveyed parallel and adjacent to the main zinc-silver zone. No significant anomalies were detected.

PACIFIC GEOPHYSICAL LTD.

Paul A. Cartwright

Paul A. Cartwright, P.Geoph.
Geophysicist

PAC:jl

Dated: November 16, 1988

7. ASSESSMENT DETAILS

Property: Logan

Mining District: Watson Lake, Yukon

Sponsor: Cordilleran Engineering Ltd.

Location: 108 km. N.W. of Watson Lake, Yukon.

Type of Survey: Induced Polarization and Resistivity

Operating Man Days: 94.5

Consulting Man Days: 6

Drafting Man Days: 6

Total Man Days: 106.5

Date Started: June 28, 1988

Date Finished: August 9, 1988

Number of Stations: 624

Km. of Line Surveyed: 25.95

Number of Readings: 4168

Consultants:

P.A. Cartwright, 4238 West 11th Avenue, Vancouver, B.C.

Field Technicians:

M. Makulowich, #15, 7559 Humphries Court, Burnaby, B.C.
M. Hylands, 1430 Inglewood Ave., West Vancouver, B.C.
M. Cosens, 1706 Christmas Ave., Victoria, B.C.

Draughtsman:

M. Makulowich, #15, 7559 Humphries Court, Burnaby, B.C.

PACIFIC GEOPHYSICAL LIMITED

Paul A. Cartwright

Paul A. Cartwright, P.Geoph.
Geophysicist

Dated: November 16, 1988

8. STATEMENT OF COSTS

Cordilleran Engineering Ltd.

Induced Polarization and Resistivity Survey - Logan Property, Watson Lake Mining Division, Yukon Territory

Period: June 28, 1988 to August 9, 1988

Crew: M. Makulowich, M. Hylands, M. Cosens

Operating Days:	31.5 @ 925.00	$29,137.50
Bad Weather Days:	10.5 @ 575.00	6,037.50
Travel/Standby Days:	0.5 @ 575.00	287.50
1.0 day @ N.C.		N.C.
Mobilization/demobilization		4,400.00
	TOTAL	$39,862.50

PACIFIC GEOPHYSICAL LTD.

Paul A. Cartwright

Paul A. Cartwright, P.Geoph.
Geophysicist

Dated: November 16, 1988

9. CERTIFICATE

I, Paul A. Cartwright, of the City of Vancouver, Province of British Columbia, do hereby certify:

1. I am a geophysicist residing at 4238 W. 11th Avenue, Vancouver, B.C.

2. I am a graduate of the University of British Columbia, with a B.Sc. Degree (1970).

3. I am a member of the Society of Exploration Geophysicists, the European Association of Exploration Geophysicists and the Canadian Society of Exploration Geophysicists.

4. I have been practising my profession for 18 years.

5. I am a Professional Geophysicist licensed in the Province of Alberta.

6. I have no direct or indirect interest, nor do I expect to receive any interest, directly or indirectly, in the property or securities of Cordilleran Engineering Ltd., Fairfield Minerals Ltd., Total Energold Corp., or any affiliates.

7. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

DATED AT VANCOUVER, BRITISH COLUMBIA this 16th day of November, 1988.

Paul A. Cartwright

Paul A. Cartwright, P.Geoph.

10. CERTIFICATE

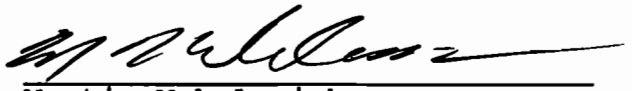
I, Martin Makulowich, of the City of Kamloops, Province of British Columbia, do hereby certify:

1. I am a geophysical crew leader residing at #15, 7559 Humphries Court, Burnaby, British Columbia.

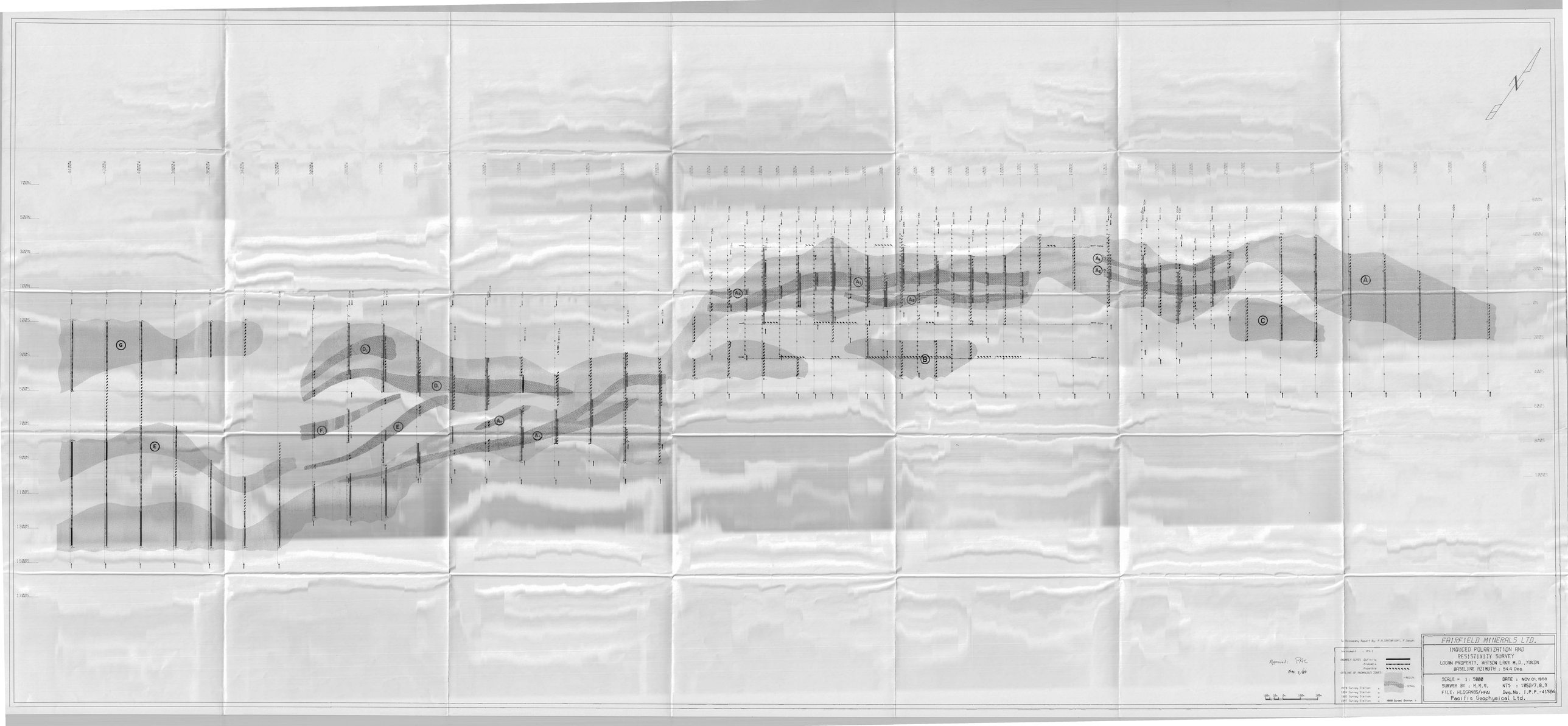
2. I am presently employed by Pacific Geophysical Ltd., of 224 - 744 West Hastings Street, Vancouver, British Columbia.

3. I have been practising my vocation about five years.

DATED AT VANCOUVER, BRITISH COLUMBIA this 16th day of November, 1988.



Martin Makulowich


700N
500N
300N
100N
100S
300S
500S
700S
900S
1100S
1300S
1500S
1700S
4400W
4200W
4000W
3800W
3600W
3400W
3200W
3000W
2800W
2600W
2400W
2200W
2000W
1800W
1600W
1400W
1200W
1000W
800W
600W
400W
200W
0
200E
400E
600E
800E
1000E
1200E
1400E
1600E
1800E
2000E
2200E
2400E
2600E
2800E
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3200E
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7600E
7800E
8000E
8200E
8400E
8600E
8800E
9000E
9200E
9400E
9600E
9800E
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A3
A4
A5
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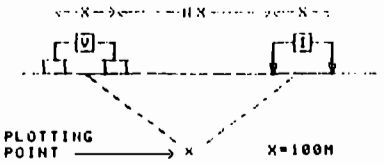
D1
E
F
G
N
Approved: PGC
Mar. 2/99
100m 50m 0 100m 200m
Instrument : IPV-1
Pseudo Section
Plan
1979 Survey Station
1984 Survey Station
1985 Survey Station
1987 Survey Station
1988 Survey Station
FAIRFIELD MINERALS LTD.
INDUCED POLARIZATION AND
RESISTIVITY SURVEY
LOGAN PROPERTY, WATSON LAKE M.D., YUKON
BASELINE AZIMUTH : 544 Deg.
SCALE = 1 : 5000
DATE : NOV.01,1998
SURVEY BY : M.M.M.
NTS : 105B/7,8,9
FILE: HLOGANIS/HFAL
Dwg.No. I.P.P.-4150A
Pacific Geophysical Ltd.

CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D./YUKON

LINE NO.-44+00N



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO. I.P. 5824-1

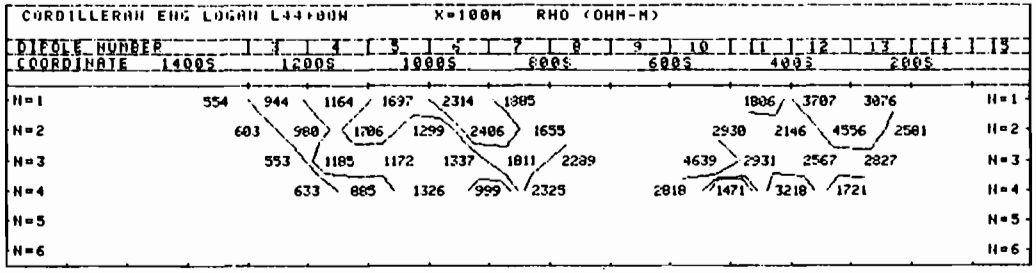
DATE SURVEYED: JULY 1988

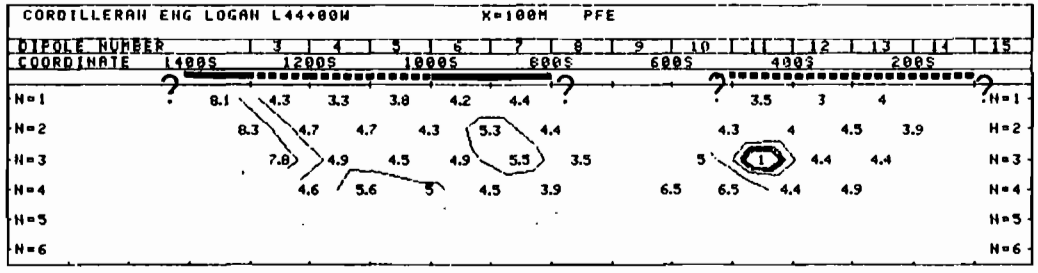
APPROVED: Pac

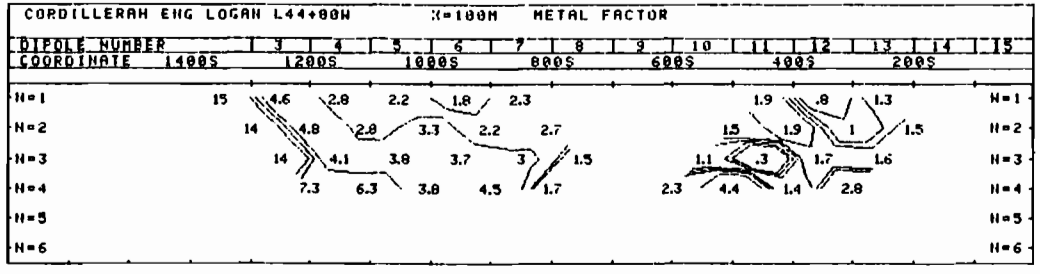
DATE: Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





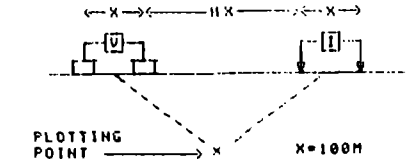


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-42+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0 0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-2

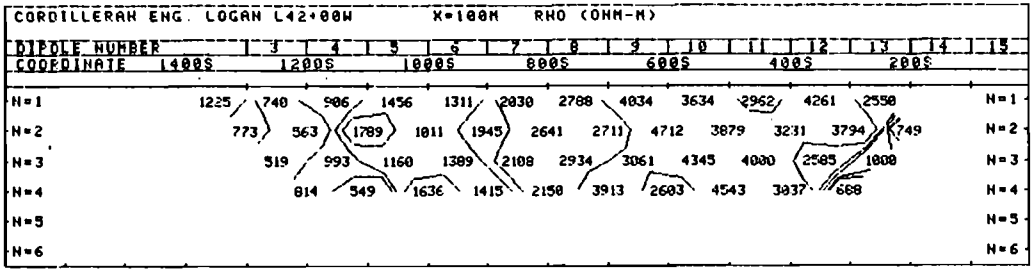
DATE SURVEYED: JULY 1988

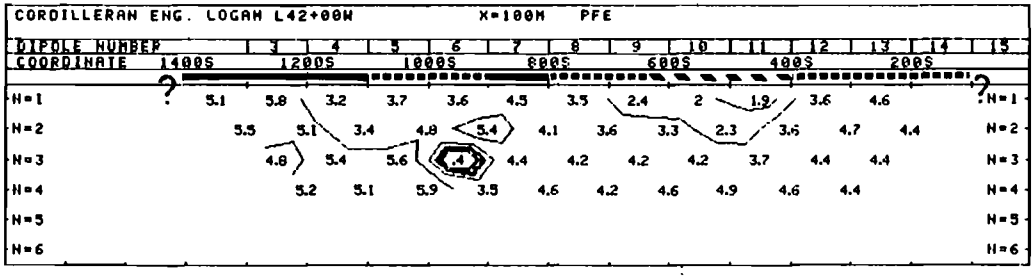
APPROVED PAC

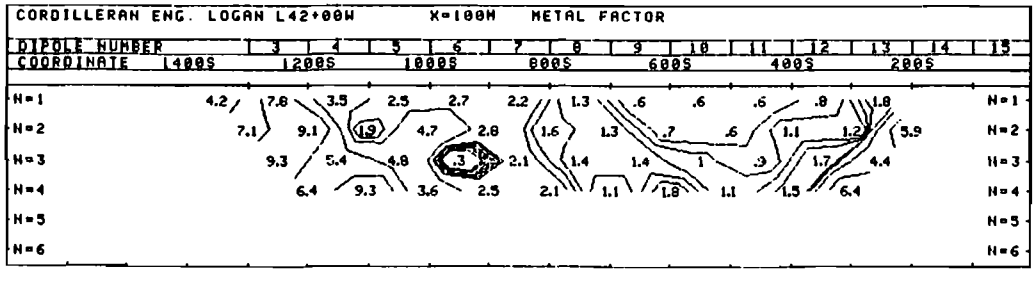
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





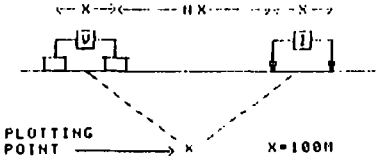


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D. / YUKON

LINE NO.-40+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4 8 16 25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -1 P.-5894-3

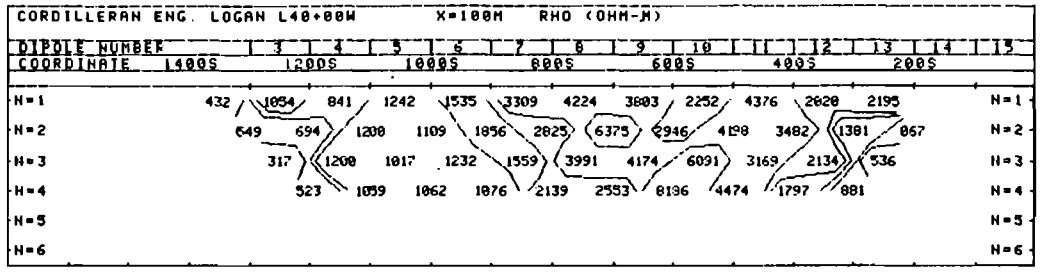
DATE SURVEYED JULY 1988

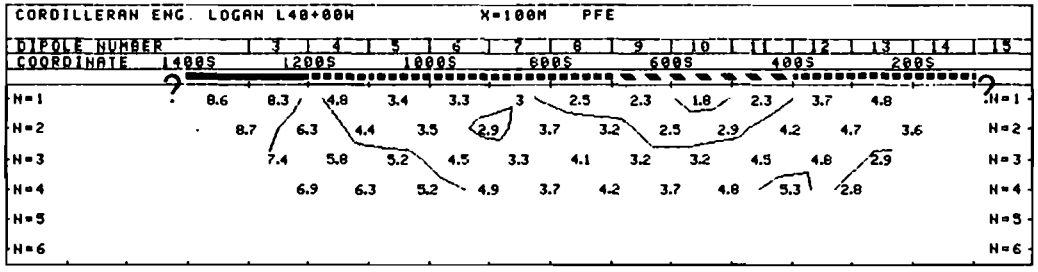
APPROVED DAK

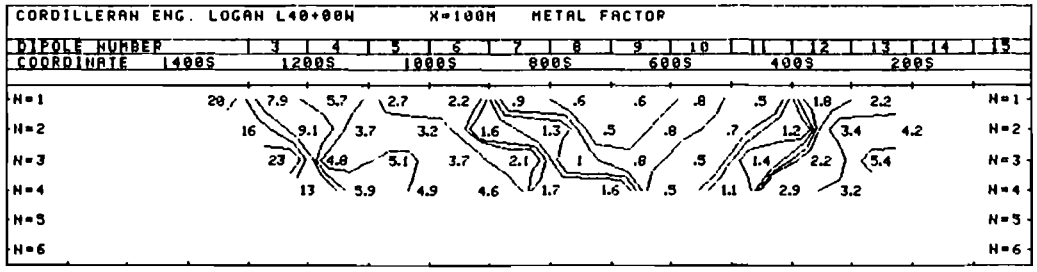
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





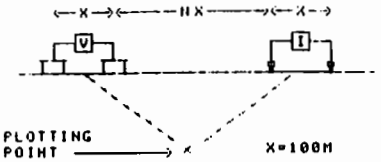


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D./YUKON

LINE NO.-38+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-4

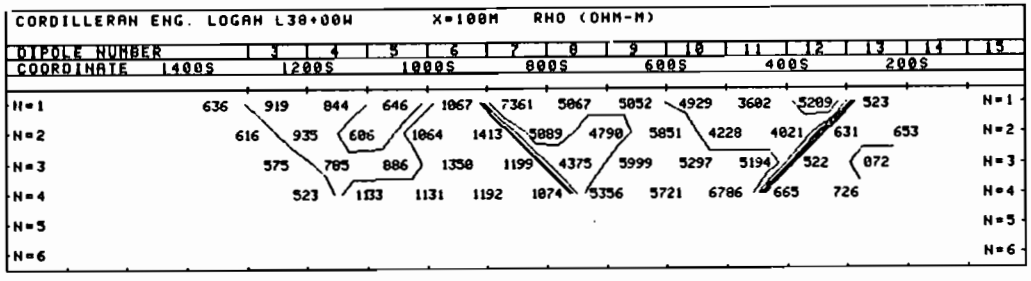
DATE SURVEYED JULY 1988

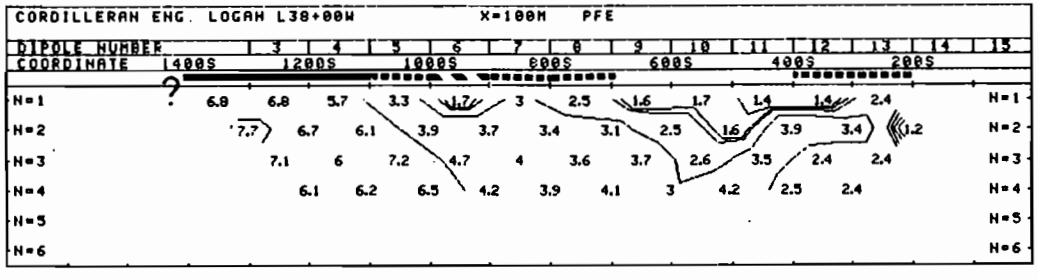
APPROVED PAC

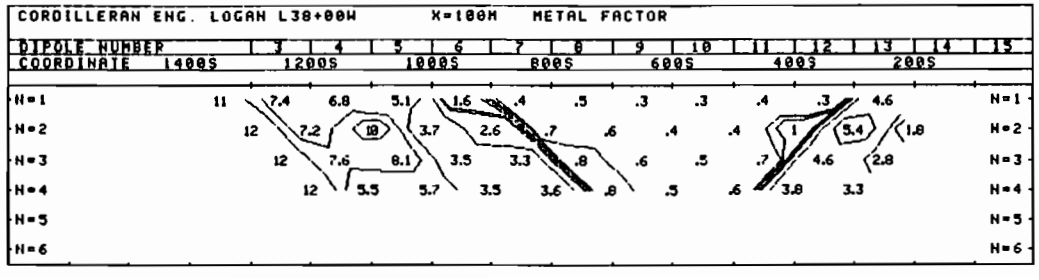
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





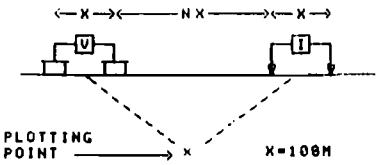


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-36+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO.-I.P -5894-5

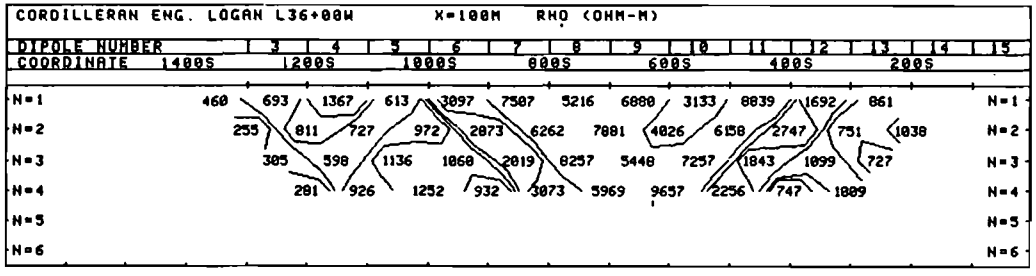
DATE SURVEYED JULY 1988

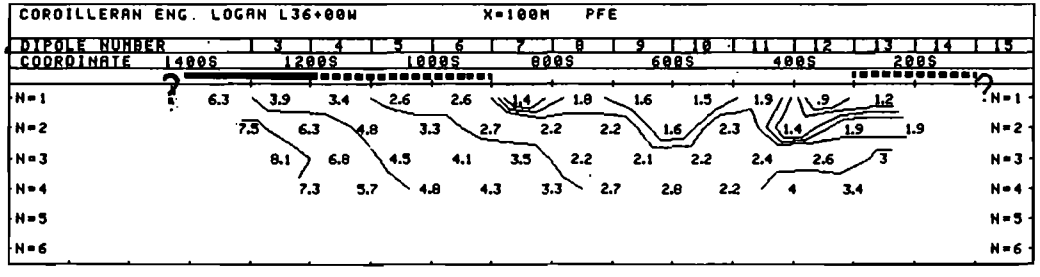
APPROVED PAC

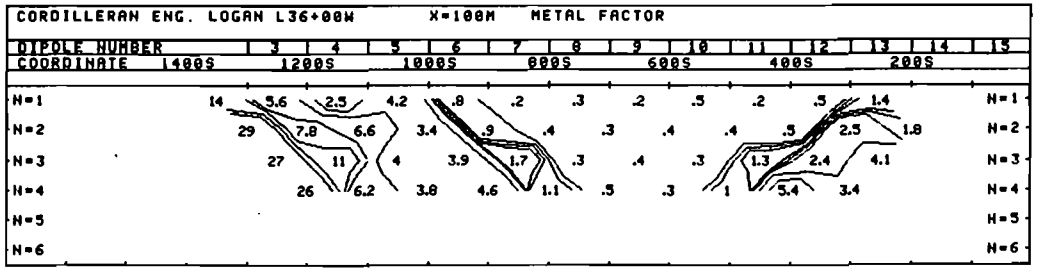
DATE Nov 15/96

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





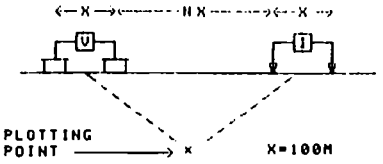


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D./YUKON

LINE NO.-34+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG. NO -I.P.-5094-6

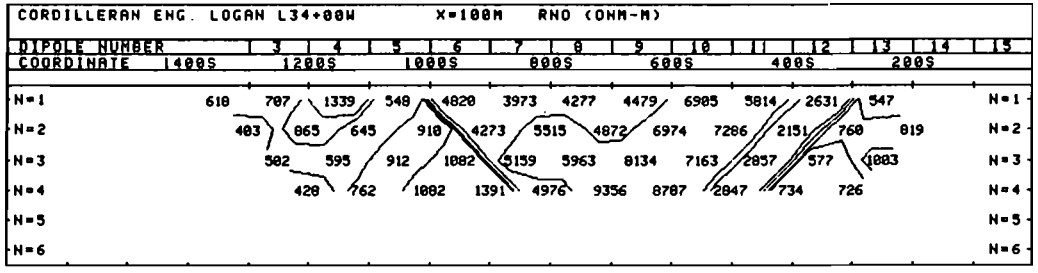
DATE SURVEYED: JULY 1988

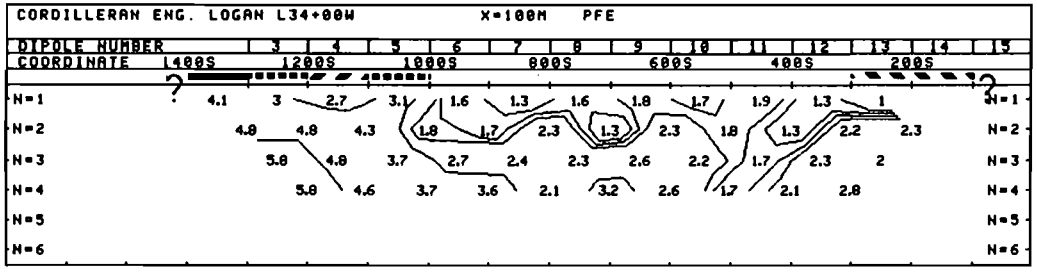
APPROVED Pac

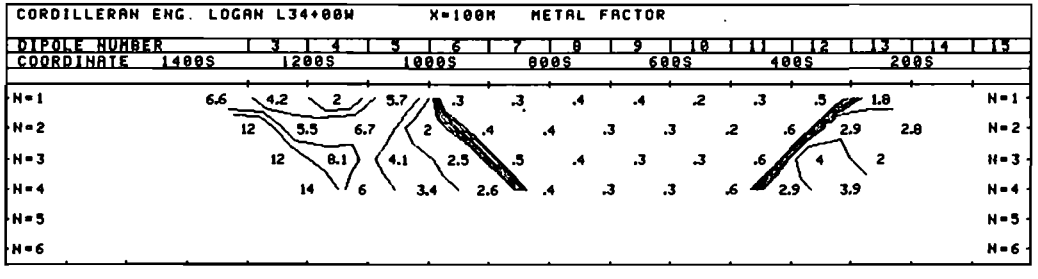
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





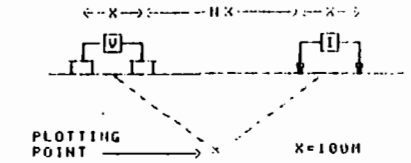


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D./YUKON

LINE NO.-32+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4 0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5094-7

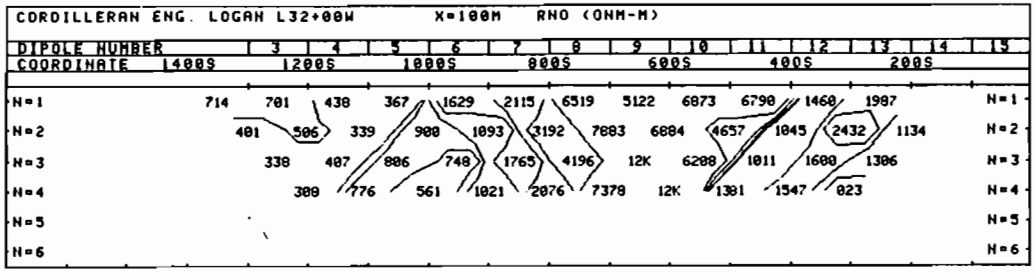
DATE SURVEYED JULY 1988

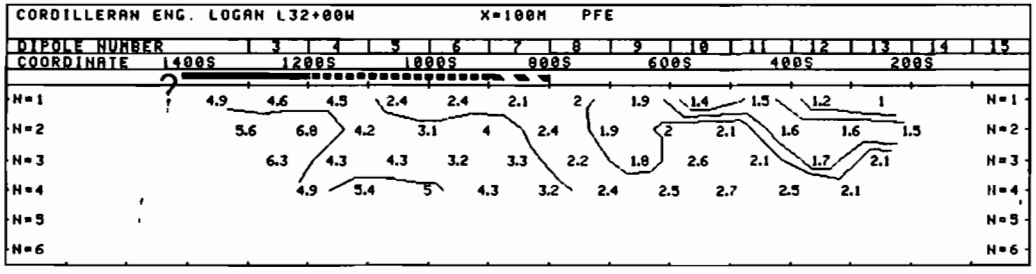
APPROVED PAC

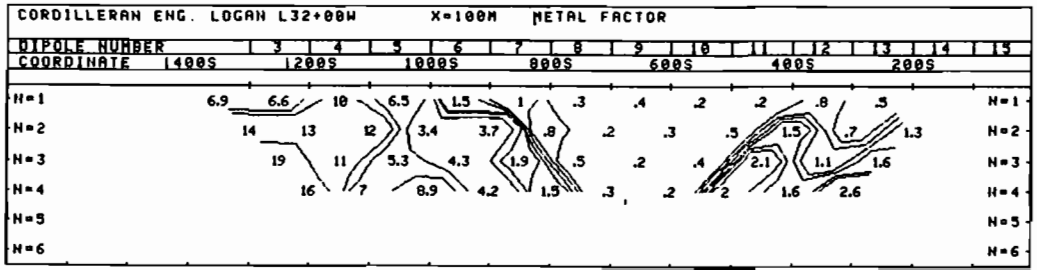
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





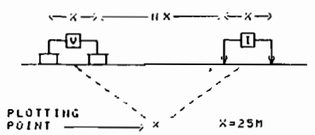


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-30+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG. NO -1 P.-5894-8

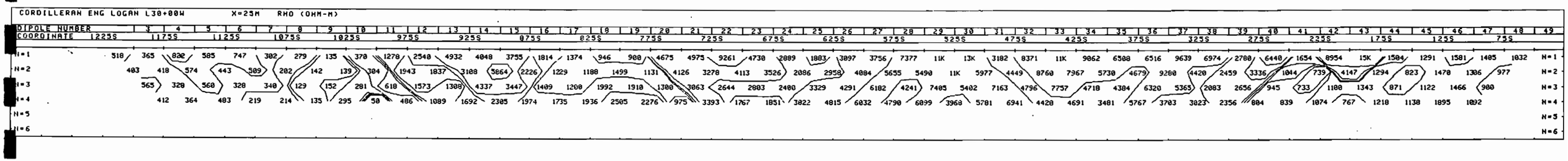
DATE SURVEYED JULY 1988

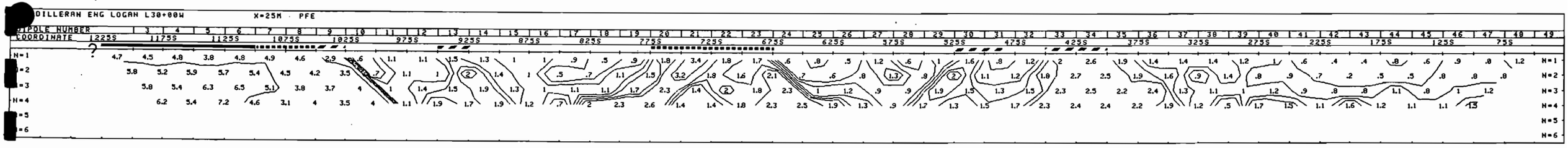
APPROVED PAC

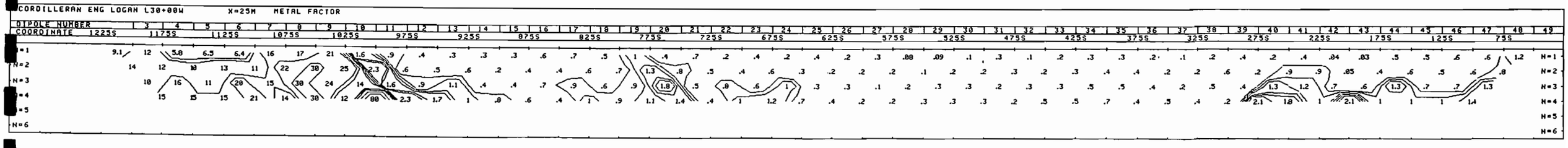
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





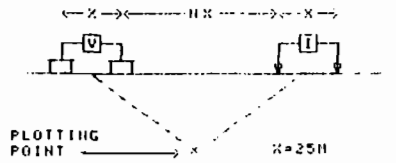


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D./YUKON

LINE NO -28+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4 0/0 25

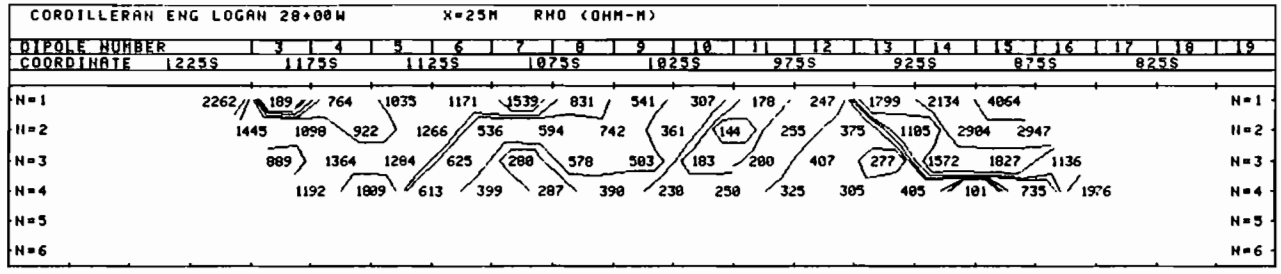
NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

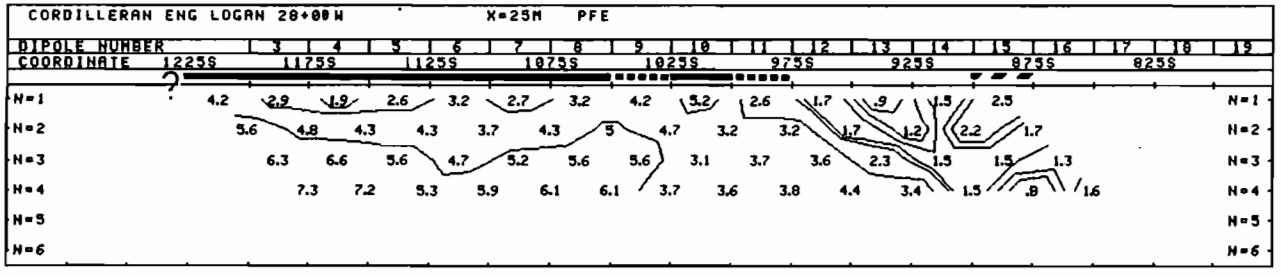
DWG NO -I P -5894-9

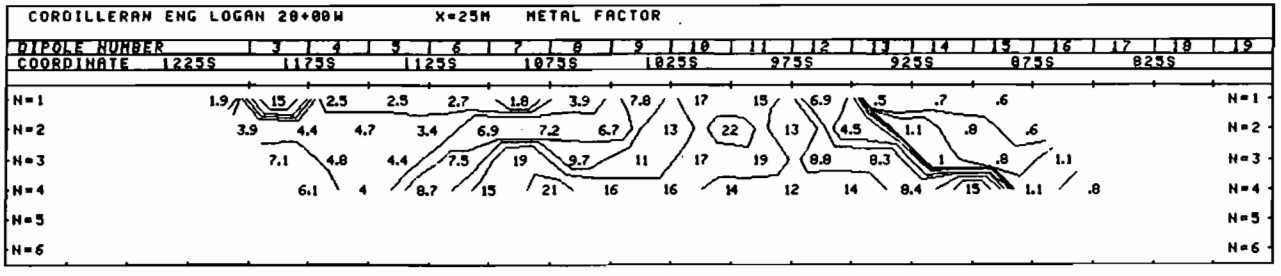
DATE SURVEYED: JULY 1988
APPROVED PAC
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





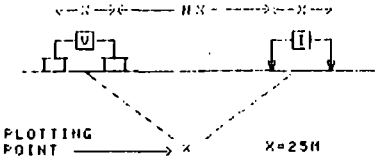


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D.,YUKON

LINE NO -20+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0,0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-10

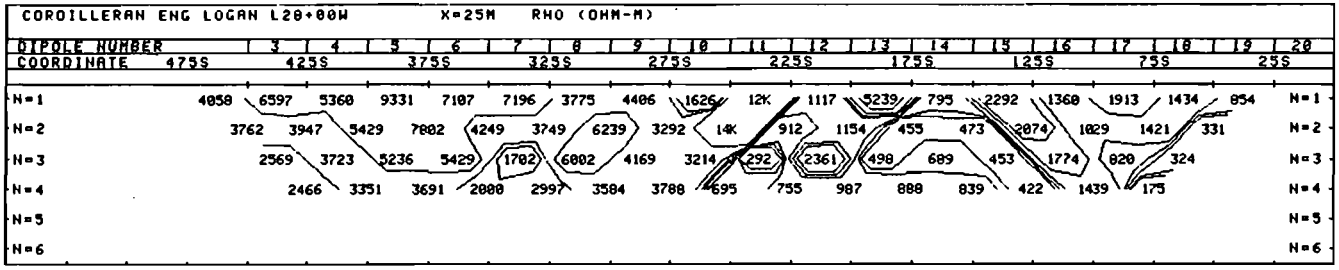
DATE SURVEYED JULY 1988

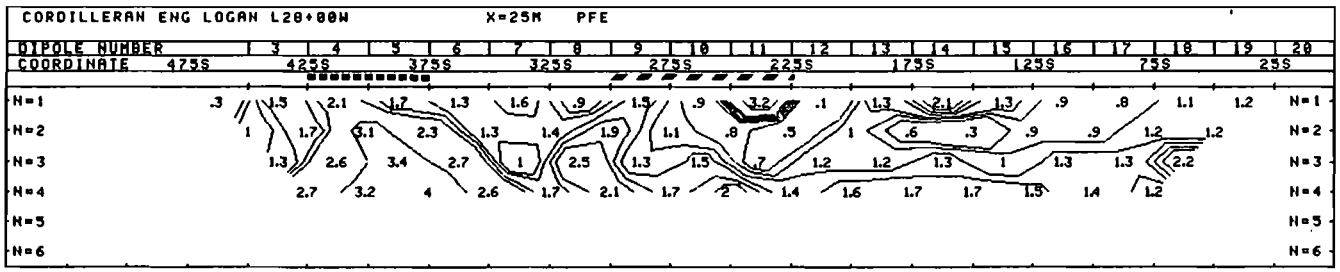
APPROVED PAE

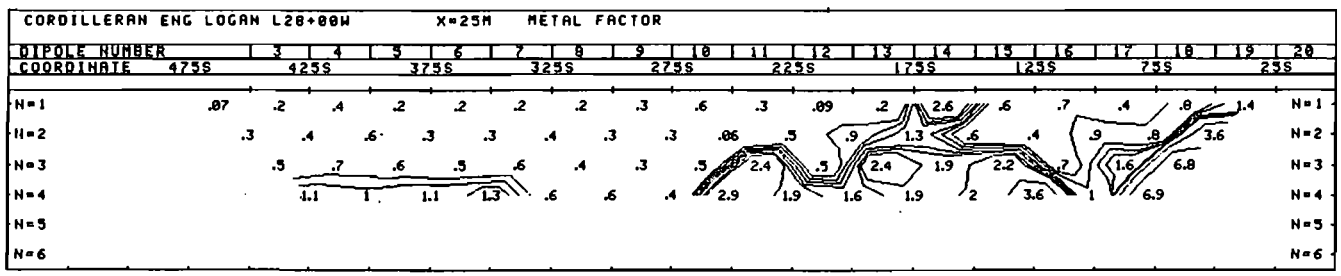
DATE NOV 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





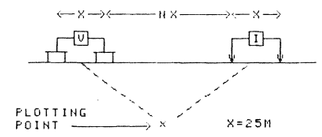


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO. -26+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-11

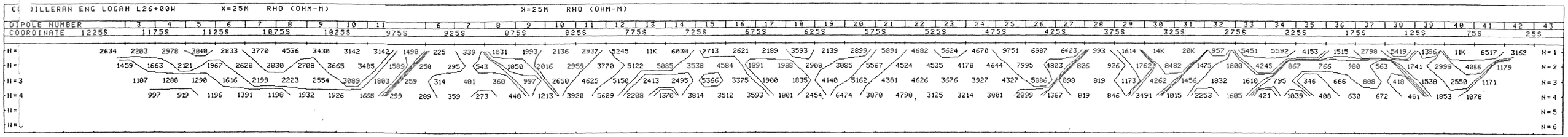
DATE SURVEYED: JULY 1988

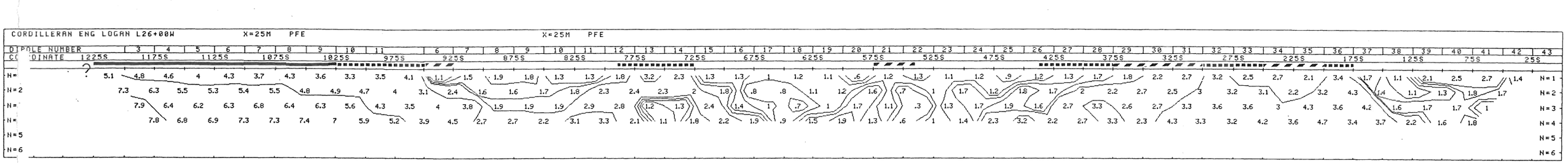
APPROVED DAE

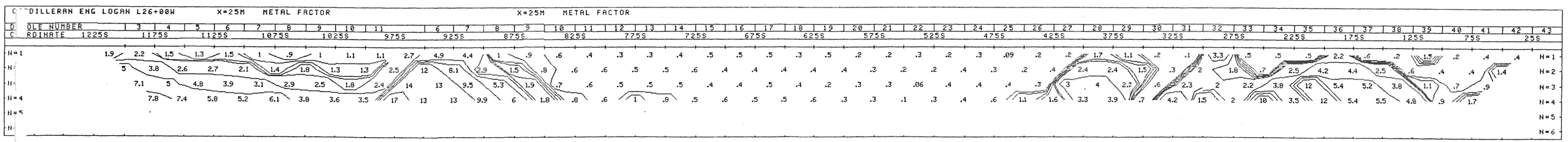
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





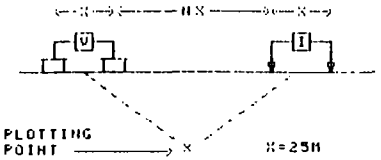


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D. YUKON

LINE NO. -24+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4 0/0 25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS, 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-12

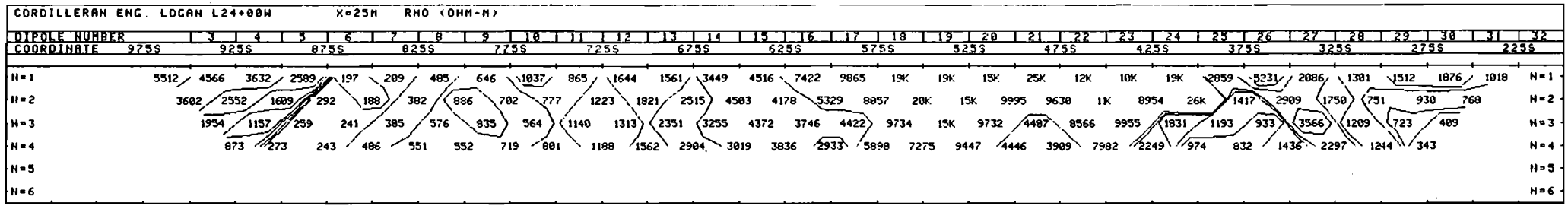
DATE SURVEYED JULY 1988

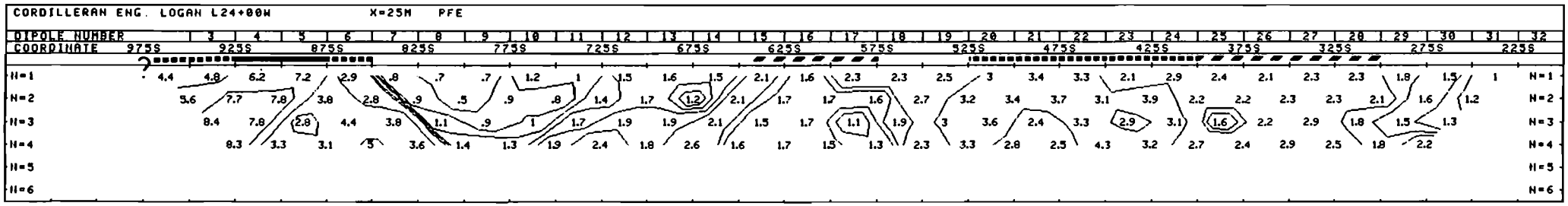
APPROVED PAE

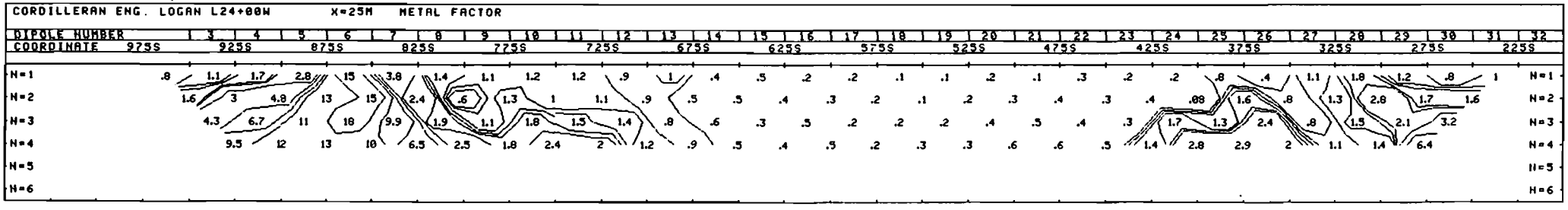
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





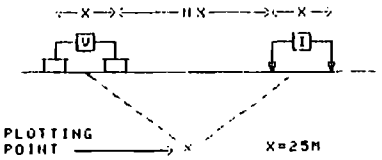


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-22+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4 0/0 25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG. NO -I P -5894-13

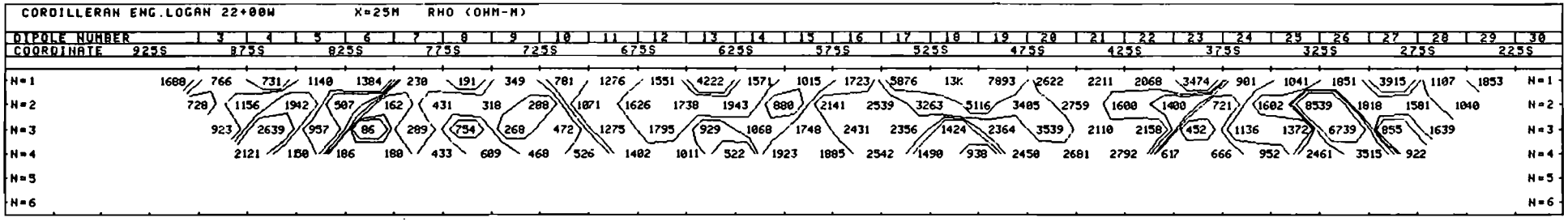
DATE SURVEYED: JULY 1988

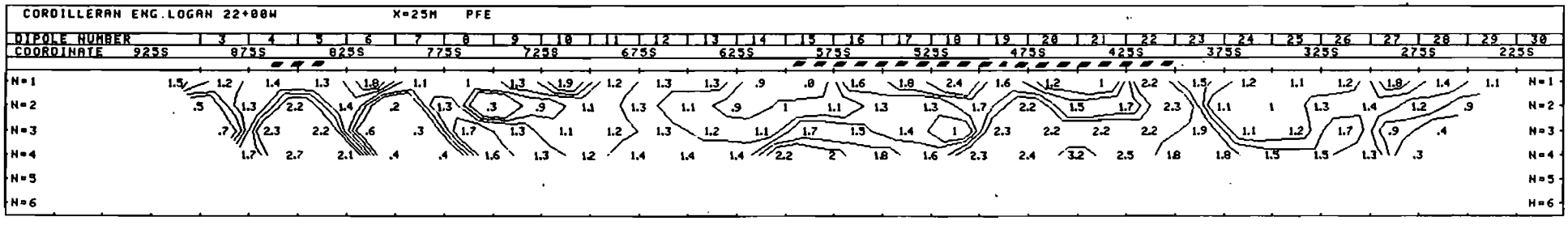
APPROVED PAC

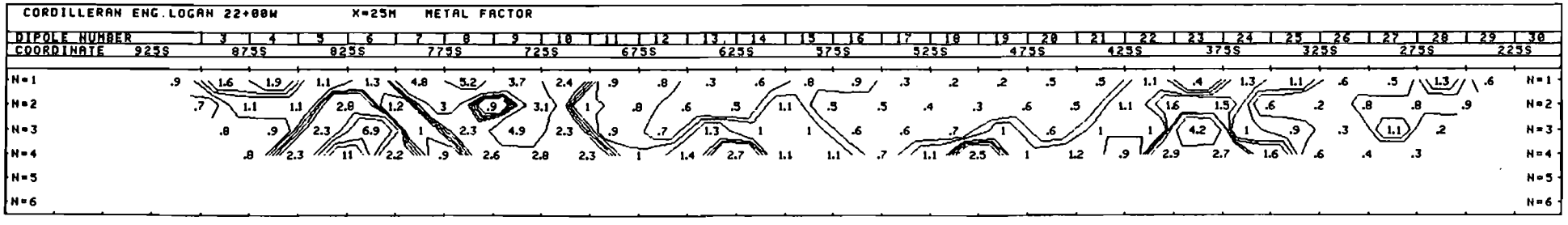
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





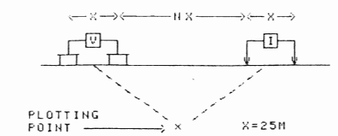


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D. YUKON

LINE NO. -20+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0,0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG. NO -I P.-5894-14

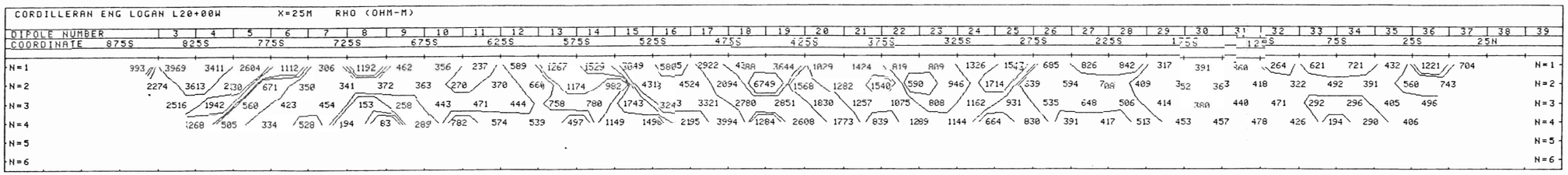
DATE SURVEYED: JULY 1988

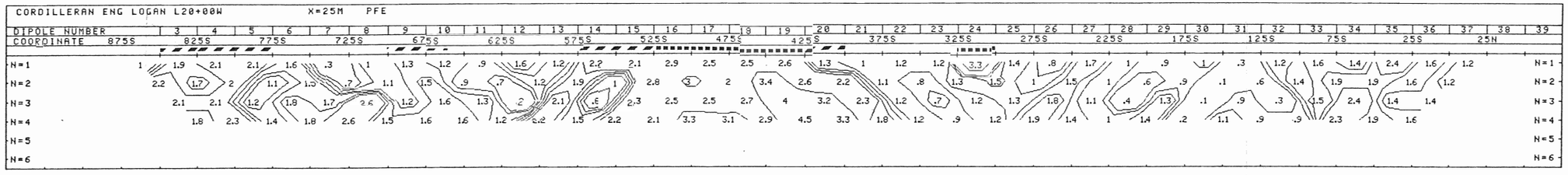
APPROVED: DMC

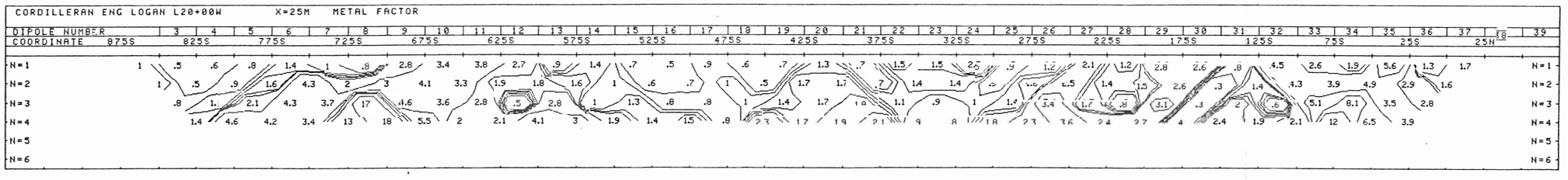
DATE: Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





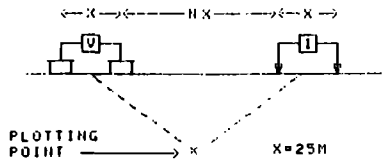


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-18+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0,0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG. NO -I P -5894-15

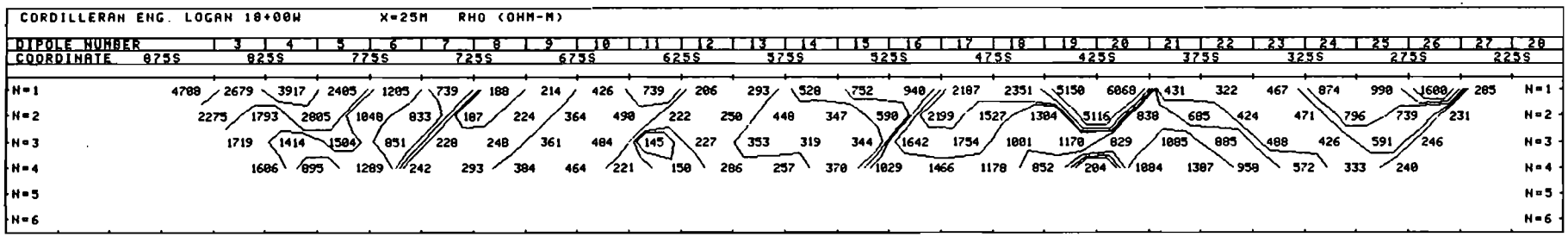
DATE SURVEYED: JULY 1988

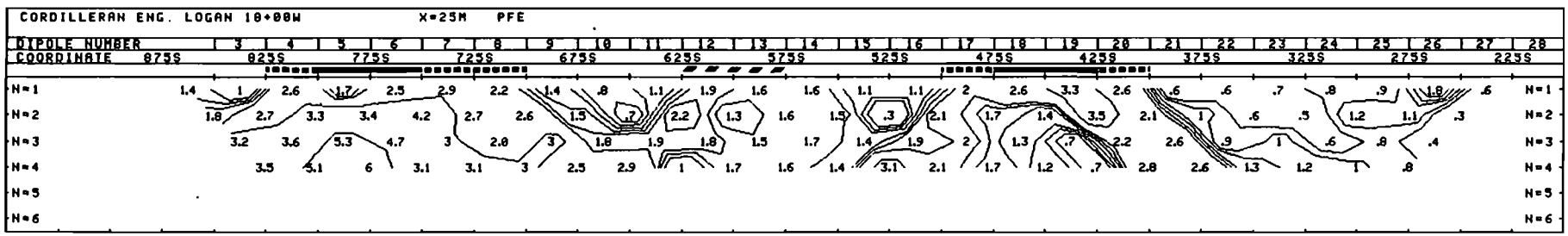
APPROVED

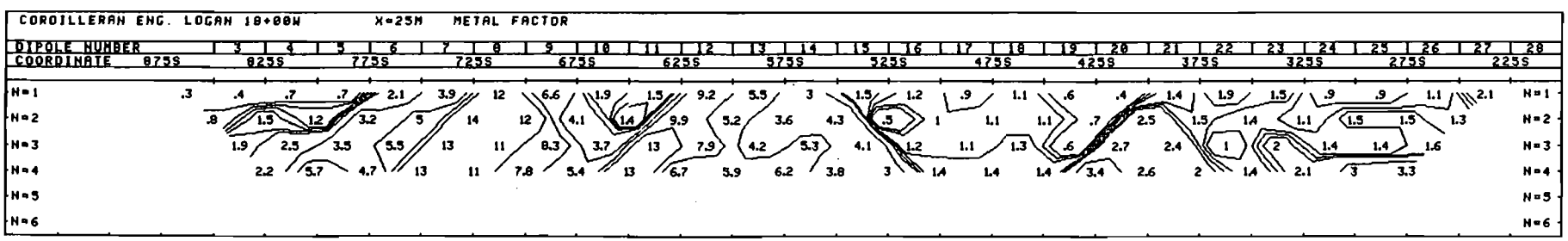
DATE Nov/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





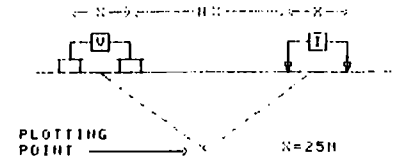


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-16+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4 & 0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO. I.P.-5894-16

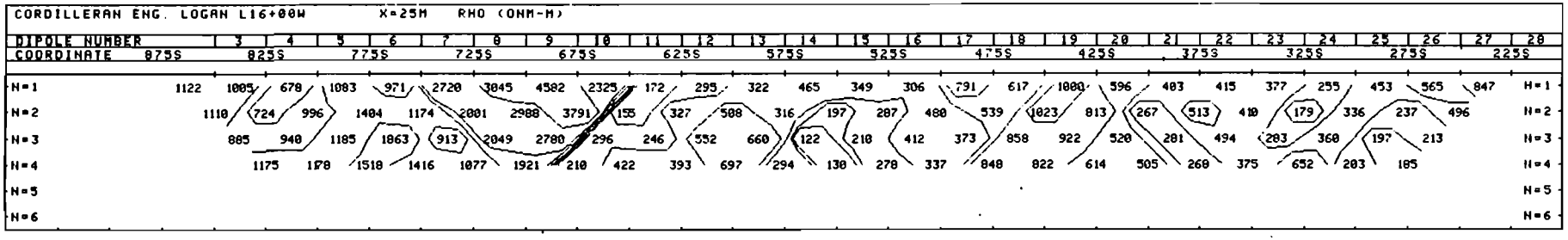
DATE SURVEYED JULY 1988

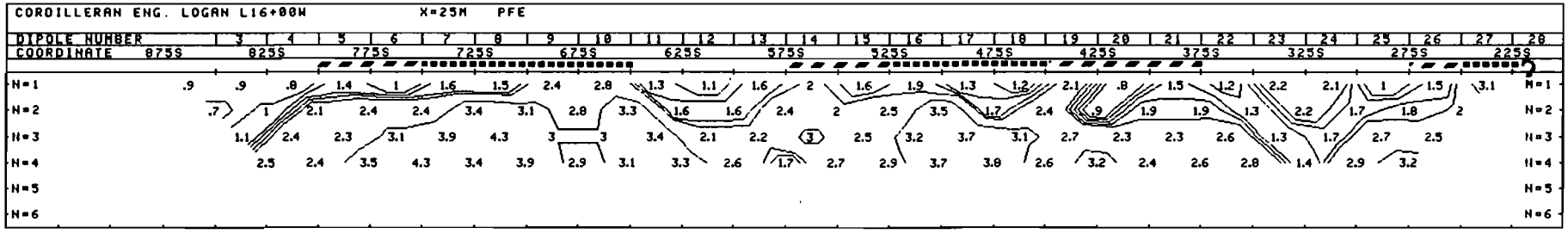
APPROVED

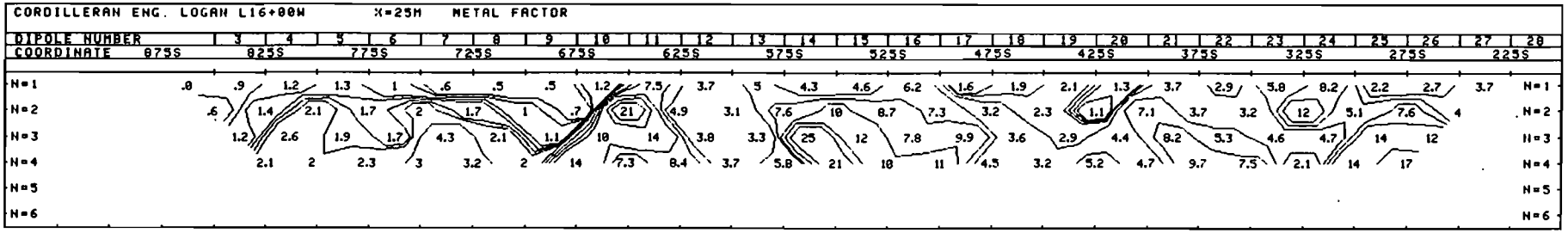
DATE Nov 1/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





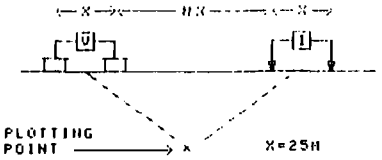


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D./YUKON

LINE NO.-14+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0:0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-17

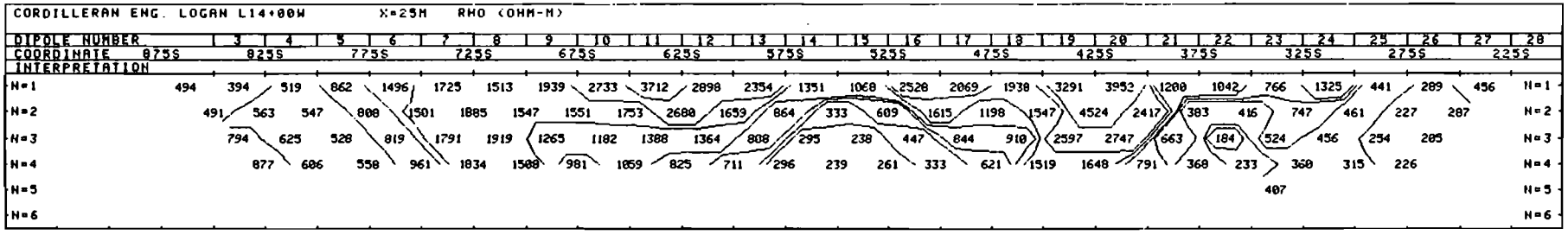
DATE SURVEYED: JULY 1988

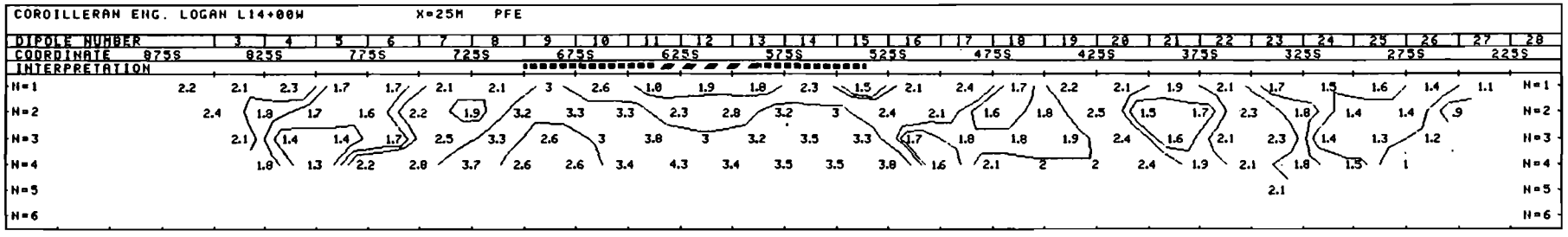
APPROVED

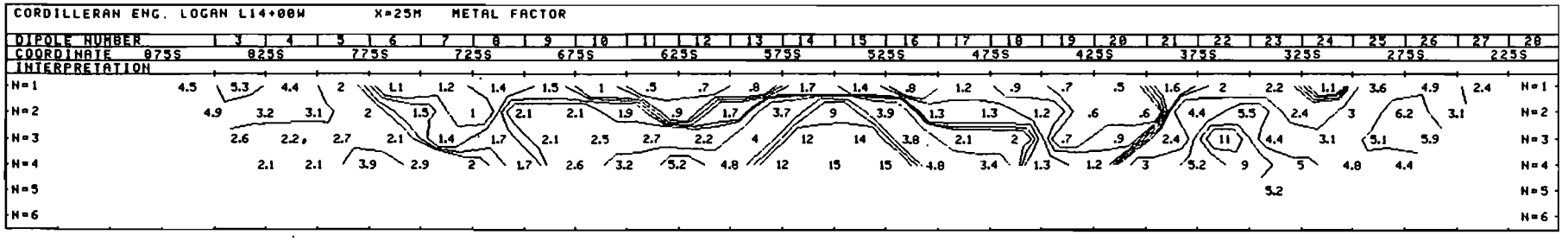
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





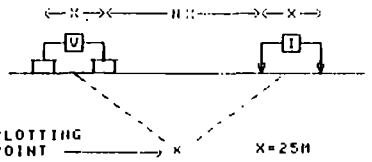


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D. (YUKON

LINE NO -12+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-18

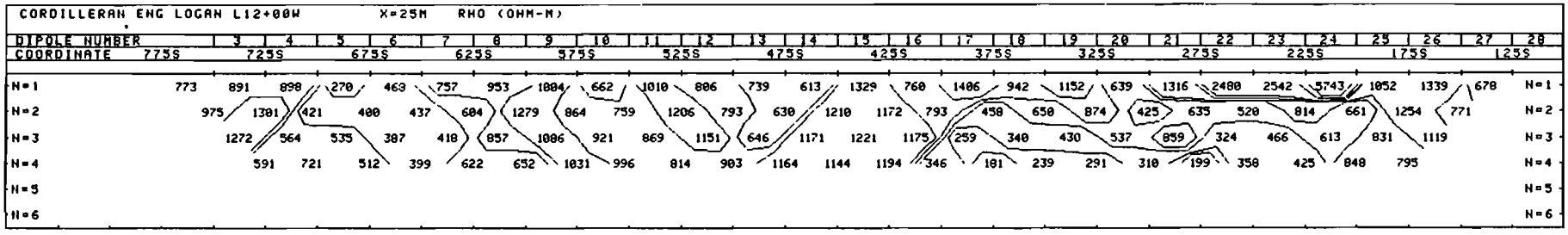
DATE SURVEYED: JULY 1988

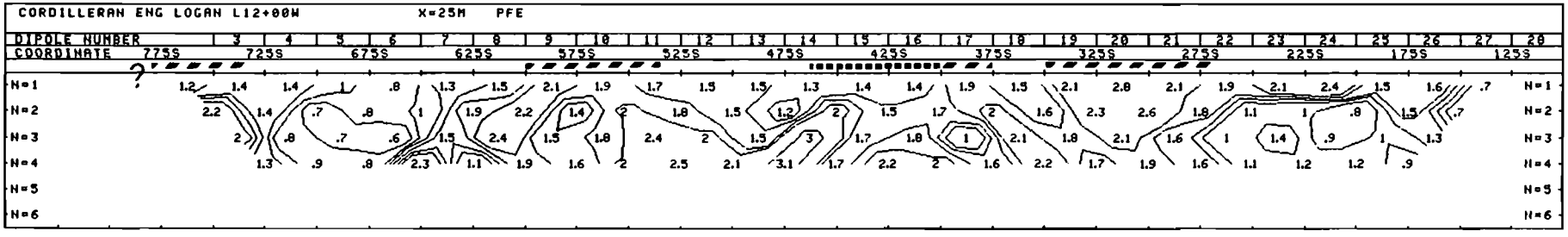
APPROVED

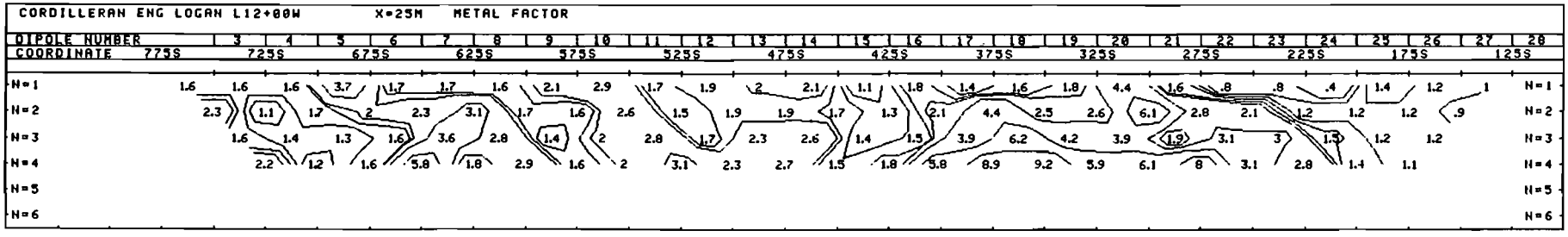
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





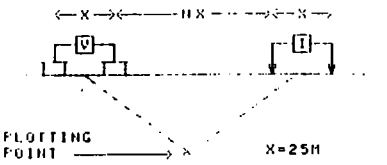


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M D YUKON

LINE NO.-10+00W



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ) 4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO -I P -5894-19

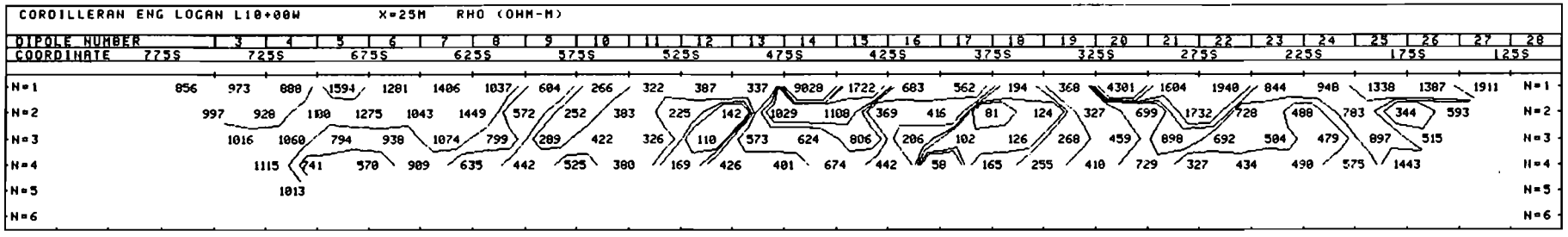
DATE SURVEYED JULY 1988

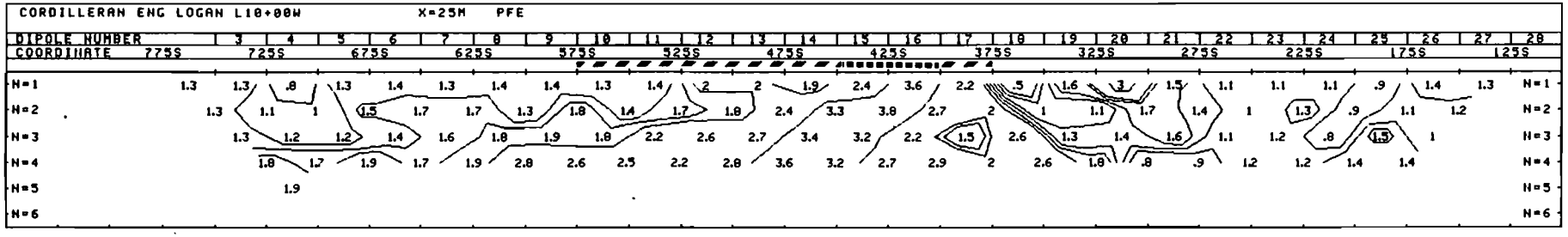
APPROVED

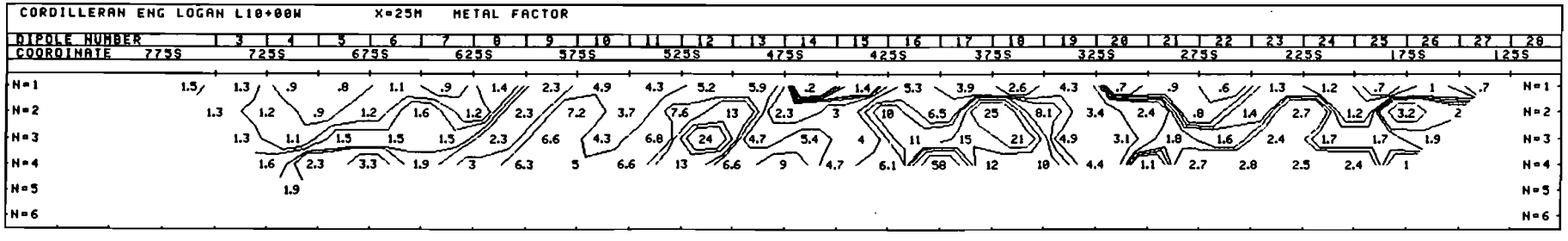
DATE NOV 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





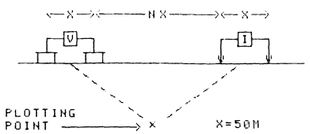


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-3+50N



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG NO.-I.P.-5894-2Ø

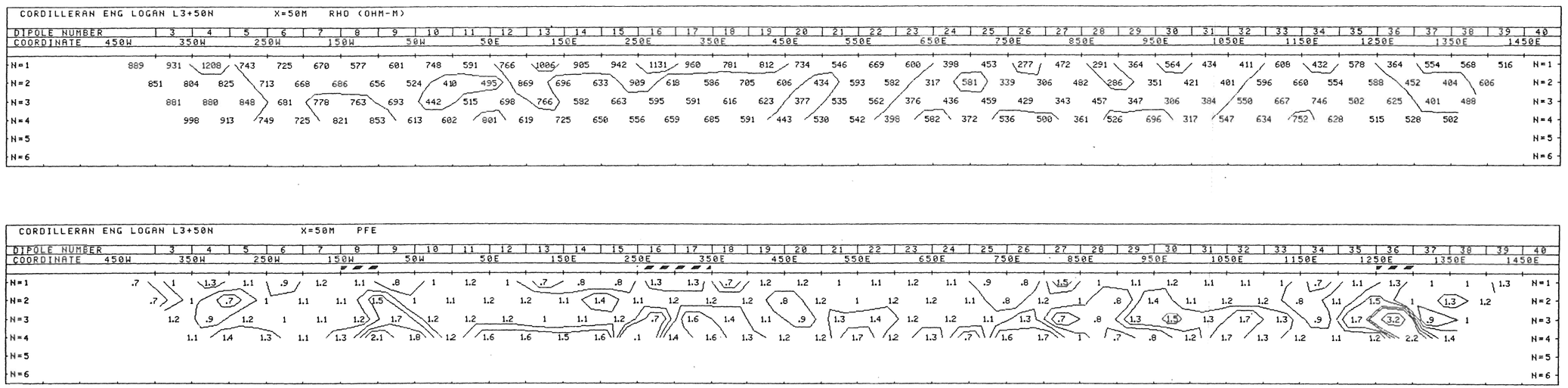
DATE SURVEYED: AUGUST 1988

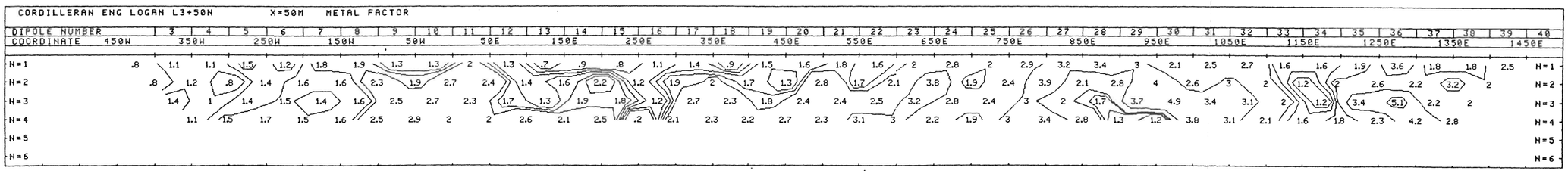
APPROVED PAC

DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY



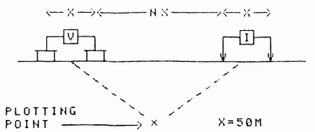


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO.-1+00S



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0/0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG. NO.-1 P-5894-21

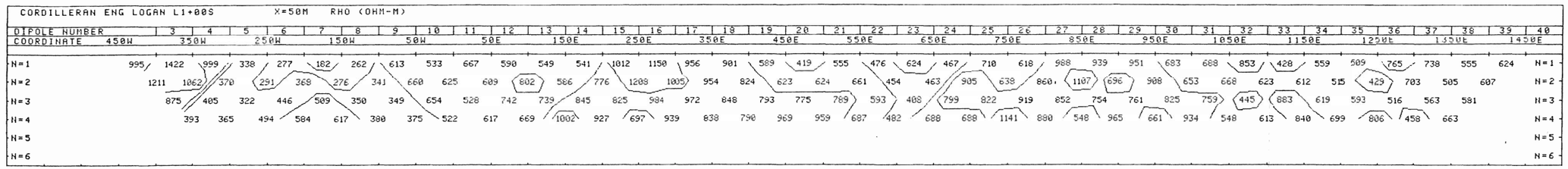
DATE SURVEYED AUGUST 1988

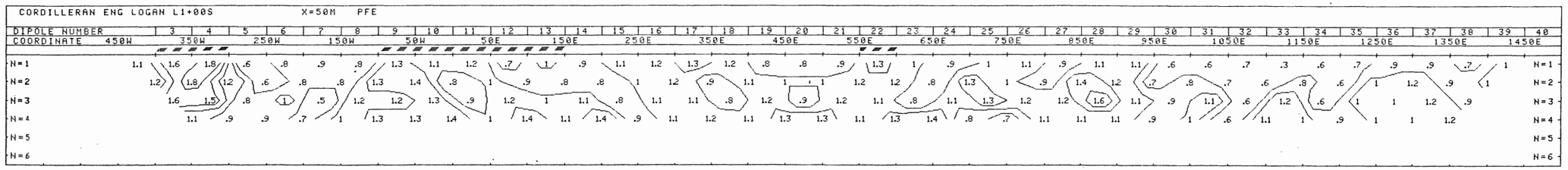
APPROVED PAC

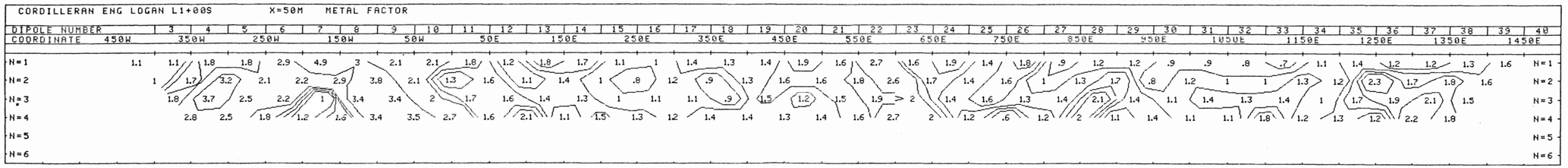
DATE NOV 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY





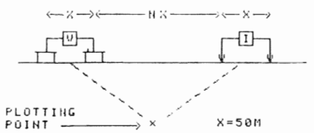


CORDILLERAN ENG.

LOGAN PROJECT

WATSON LAKE M.D., YUKON

LINE NO. -3+00S



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY (HERTZ)
4.0,0.25

NOTE- CONTOURS AT LOGARITHMIC INTERVALS. 1,-1.5 -2,-3,-5,-7.5,-10 PLUS EACH 0.25 FROM 0.5 TO 2.0

DWG. NO. -I P.-5894-2

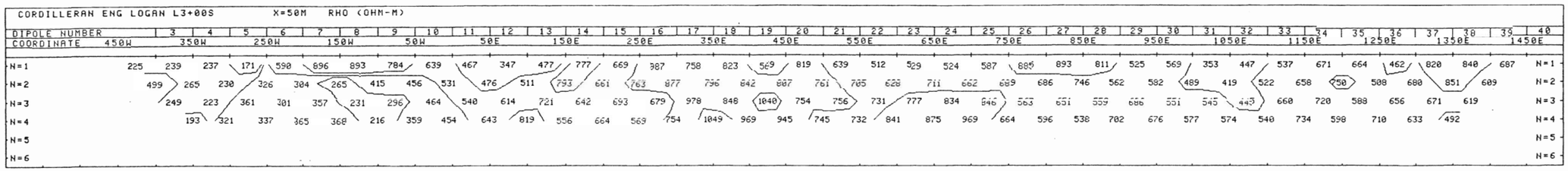
DATE SURVEYED: AUGUST 1988

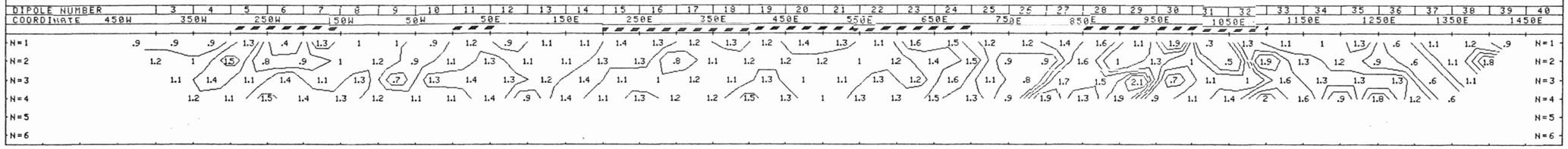
APPROVED PGe

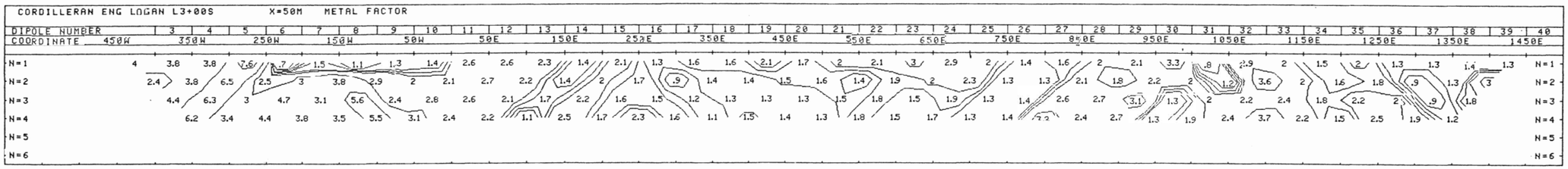
DATE Nov 15/88

PACIFIC GEOPHYSICAL LTD.

INDUCED POLARIZATION AND RESISTIVITY SURVEY







KEY TO LOGAN PROPERTY 1988 SUMMARY TRENCH AND DIAMOND DRILL HOLE LOGS

GEOLOGY ABBREVIATIONS

NR	No core recovered
OB	Overburden
GOSSN	Gossan
QV	Quartz vein
AV	Ankerite vein
MQV	Mineralized quartz vein
MAV	Mineralized ankerite vein
MS	Massive sulphide vein
OXBX	Oxidized breccia
QBX	Quartz cemented breccia
ABX	Ankerite cemented breccia
MBX	Mineralized breccia
MQBX	Mineralized quartz cemented breccia
MABX	Mineralized ankerite cemented breccia
DIBX	Diatreme (?) breccia
FDBX	Andesite dyke breccia
FQPBX	Feldspar quartz porphyry breccia
GM	Gouge and mud
LON	Mylonite
SCH	Schist
METS	Undivided metasedimentary rocks
AFD	Altered andesite dyke
FD	Andesite dyke
FQP	Fèldspar quartz monzonite/latite porphyry
SAGD	Strongly altered granodiorite
AGD	Altered granodiorite
GD	Granodiorite

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 801 — PAGE: 1 OF 6

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 140.00m

CLAIM: LOGAN 3 — NORTHING: 216.58 — DATE STARTED: JUNE 5D 1988

SECTION: 195 E — EASTING: 188.95 — DATE FINISHED: JUNE 9D 1988

CORE SIZE: 2.0m AT BASE — ELEVATION: 1381.94 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: HARRIS/CONROY

COMMENTS: TRENCH L-801 WAS CUT ALONG THE SECTION ABOVE DDH 87-L-31 & 87-L-33 TO DETERMINE THE GRADE AND CONTINUITY OF MINERALIZATION AT SURFACE IN THE MAIN ZONE DEPOSIT. AVERAGE DEPTH IS 3.0m. MINERALIZATION INCLUDES LOW-GRADE PYRITE-ARSENOPYRITE-SPHALERITE IN QUARTZ VEIN STOCKWORKS. TRENCHING WAS MADE DIFFICULT BY EXCESSIVE OVERBURDEN, PERMAFROST, AND FLOODING FROM RUNOFF. UTM COORDINATES: NORTH END N 6708407.82 E 419576.24, SOUTH END N 6708286.84 E 419659.57

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	4.00	4.00		GM										
			4.00	7.00	3.00		SAGD										
			7.00	10.50	3.50		AFD										
			10.50	15.00	4.50		SAGD										
			15.00	17.50	2.50		GM										
			17.50	20.80	3.30		AFD										
			20.80	24.00	3.20		GM										
			24.00	51.20	27.20		SAGD										
			51.20	52.00	0.80		GM										
			52.00	53.60	1.60		SAGD										
			53.60	87.00	33.40		AGD										
			87.00	90.00	3.00		MQV										
			90.00	94.00	4.00		SAGD										
			94.00	100.30	6.30		AGD										
			100.30	101.00	0.70		MQV										
			101.00	102.20	1.20		AFD										
			102.20	107.60	5.40		AGD										
			107.60	109.50	1.90		FD										
			109.50	110.20	0.70		SAGD										
			110.20	111.70	1.50		MQV										
			111.70	116.00	4.30		SAGD										
			116.00	118.20	2.20		GM										
			118.20	122.80	4.60		SAGD										
			122.80	131.60	8.80		AGD										
			131.60	140.00	8.40		POND										
								ASSAYS AND ANALYSES									
			0.00	2.00	2.00		GM	50647			0.08	0.02					
								CONTINUED									

DDR-85-II

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 801 — PAGE: 2 OF: 6

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED						
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			2.00	4.00	2.00		GM	50646			0.08	0.03					
			4.00	5.00	1.00		SAGD	50645			0.02	0.29					
			5.00	6.00	1.00		SAGD	50644			0.03	0.17					
			6.00	7.00	1.00		SAGD	50643			0.02	0.34					
			7.00	8.00	1.00		AFD	50642			0.03	0.71					
			8.00	9.00	1.00		AFD	50641			0.07	0.73					
			9.00	10.00	1.00		AFD	50640			0.06	2.25					
			10.00	11.00	1.00		AFD	50639			0.01	0.30					
			11.00	12.00	1.00		SAGD	50638			0.01	0.11					
			12.00	13.00	1.00		SAGD	50637			0.02	0.75					
			13.00	14.00	1.00		SAGD	50636			0.02	0.17					
			14.00	15.00	1.00		SAGD	50635			0.02	0.20					
			15.00	16.00	1.00		GM	50634			0.01	0.21					
			16.00	17.00	1.00		GM	50633			0.02	0.38					
			17.00	18.00	1.00		AFD	50632			< 0.01	0.19					
			18.00	19.00	1.00		AFD	50631			< 0.01	0.39					
			19.00	20.00	1.00		AFD	50630			0.01	0.63					
			20.00	21.00	1.00		AFD	50629			0.02	3.34					
			21.00	22.00	1.00		GM	50628			0.04	4.67					
			22.00	23.00	1.00		GM	50627			0.02	0.27					
			23.00	24.00	1.00		GM	50626			0.02	0.83					
			24.00	25.00	1.00		SAGD	50625			0.01	0.86					
			25.00	26.00	1.00		SAGD	50624			0.01	0.26					
			26.00	27.00	1.00		SAGD	50623			0.05	0.64					
			27.00	28.00	1.00		SAGD	50622			0.02	0.94					
			28.00	29.00	1.00		SAGD	50621			0.33	12.03					
			29.00	30.00	1.00		SAGD	50620			0.08	0.95					
			30.00	31.00	1.00		SAGD	50619			0.10	3.30					
			31.00	32.00	1.00		SAGD	50618			0.04	0.81					
			32.00	33.00	1.00		SAGD	50617			0.02	0.73					
			33.00	34.00	1.00		SAGD	50616			0.02	0.86					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 801 — PAGE: 3 OF 6

AREA: — DIP: — AZIMUTH (I): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;													
Depth	Dip	Az (I)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			34.00	35.00	1.00		SAGD	50615			0.01	0.90					
			35.00	36.00	1.00		SAGD	50614			0.01	0.26					
			36.00	37.00	1.00		SAGD	50613			0.01	0.51					
			37.00	38.00	1.00		SAGD	50612			0.02	0.59					
			38.00	39.00	1.00		SAGD	50611			0.02	1.31					
			39.00	40.00	1.00		SAGD	50610			0.04	3.59					
			40.00	41.00	1.00		SAGD	50609			0.02	3.60					
			41.00	42.00	1.00		SAGD	50608			0.03	2.01					
			42.00	43.00	1.00		SAGD	50607			0.02	1.72					
			43.00	44.00	1.00		SAGD	50606			0.02	0.41					
			44.00	45.00	1.00		SAGD	50605			0.02	0.59					
			45.00	46.00	1.00		SAGD	50604			0.08	6.27					
			46.00	47.00	1.00		SAGD	50603			0.01	0.39					
			47.00	48.00	1.00		SAGD	50602			0.01	1.22					
			48.00	49.00	1.00		SAGD	50601			0.01	1.57					
			49.00	50.00	1.00		SAGD	50600			< 0.01	0.47					
			50.00	51.00	1.00		SAGD	50599			0.04	2.73					
			51.00	52.00	1.00		GM	50598			0.01	1.16					
			52.00	53.00	1.00		SAGD	50597			0.03	1.10					
			53.00	54.00	1.00		SAGD	50596			0.03	2.26					
			54.00	55.00	1.00		AGD	50595			0.01	0.44					
			55.00	56.00	1.00		AGD	50594			0.01	0.86					
			56.00	57.00	1.00		AGD	50593			0.01	0.25					
			57.00	58.00	1.00		AGD	50592			0.02	0.38					
			58.00	59.00	1.00		AGD	50591			0.01	0.18					
			59.00	60.00	1.00		AGD	50590			0.01	0.11					
			60.00	61.00	1.00		AGD	50589			0.40	1.86					
			61.00	62.00	1.00		AGD	50588			0.01	0.25					
			62.00	63.00	1.00		AGD	50587			0.02	0.22					
			63.00	64.00	1.00		AGD	50586			0.04	0.31					
			64.00	65.00	1.00		AGD	50585			0.02	0.27					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 801 PAGE: 4 OF: 6

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			65.00	66.00	1.00		AGD	50584			< 0.01	0.13					
			66.00	67.00	1.00		AGD	50583			0.03	1.15					
			67.00	68.00	1.00		AGD	50582			0.01	0.29					
			68.00	69.00	1.00		AGD	50581			0.01	0.48					
			69.00	70.00	1.00		AGD	50580			0.02	0.50					
			70.00	71.00	1.00		AGD	50579			0.02	0.61					
			71.00	72.00	1.00		AGD	50578			0.01	0.44					
			72.00	73.00	1.00		AGD	50577			0.01	0.21					
			73.00	74.00	1.00		AGD	50576			0.01	0.39					
			74.00	75.00	1.00		AGD	50575			0.01	1.66					
			75.00	76.00	1.00		AGD	50574			< 0.01	0.20					
			76.00	77.00	1.00		AGD	50573			0.01	0.26					
			77.00	78.00	1.00		AGD	50572			< 0.01	0.23					
			78.00	79.00	1.00		AGD	50571			0.02	0.38					
			79.00	80.00	1.00		AGD	50570			0.02	0.94					
			80.00	81.00	1.00		AGD	50569			0.03	0.70					
			81.00	82.00	1.00		AGD	50568			0.01	0.42					
			82.00	83.00	1.00		AGD	50567			0.01	0.54					
			83.00	84.00	1.00		AGD	50566			0.04	2.33					
			84.00	85.00	1.00		AGD	50565			0.04	1.59					
			85.00	86.00	1.00		AGD	50564			0.02	1.67					
			86.00	87.00	1.00		AGD	50563			0.04	3.69					
			87.00	88.00	1.00		MQV	50562			0.07	1.92					
			88.00	89.00	1.00		MQV	50561			0.03	0.57					
			89.00	90.00	1.00		MQV	50560			0.03	0.51					
			90.00	91.00	1.00		SAGD	50559			0.03	0.71					
			91.00	92.00	1.00		SAGD	50558			0.05	1.38					
			92.00	93.00	1.00		SAGD	50557			0.20	0.62					
			93.00	94.00	1.00		SAGD	50556			0.09	2.69					
			94.00	95.00	1.00		AGD	50555			< 0.01	0.12					
			95.00	96.00	1.00		AGD	50554			< 0.01	0.13					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 801 — PAGE: 5 OF 6

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			96.00	97.00	1.00		AGD	50553			< 0.01	0.15					
			97.00	98.00	1.00		AGD	50552			< 0.01	0.22					
			98.00	99.00	1.00		AGD	50551			< 0.01	0.20					
			99.00	100.00	1.00		AGD	50550			< 0.01	0.15					
			100.00	101.00	1.00		MQV	50549			< 0.01	0.66					
			101.00	102.00	1.00		AFD	50548			< 0.01	0.29					
			102.00	103.00	1.00		AGD	50547			< 0.01	0.22					
			103.00	104.00	1.00		AGD	50546			0.01	0.25					
			104.00	105.00	1.00		AGD	50545			0.02	0.05					
			105.00	106.00	1.00		AGD	50544			0.01	0.06					
			106.00	107.00	1.00		AGD	50543			0.01	0.11					
			107.00	108.00	1.00		FD	50542			< 0.01	0.13					
			108.00	109.00	1.00		FD	50541			0.01	0.06					
			109.00	110.00	1.00		SAGD	50540			< 0.01	0.12					
			110.00	111.00	1.00		MQV	50539			< 0.01	0.07					
			111.00	112.00	1.00		MQV	5053B			< 0.01	0.07					
			112.00	113.00	1.00		SAGD	50537			< 0.01	0.10					
			113.00	114.00	1.00		SAGD	50536			0.01	0.20					
			114.00	115.00	1.00		SAGD	50535			< 0.01	0.05					
			115.00	116.00	1.00		SAGD	50534			0.02	0.09					
			116.00	117.00	1.00		GM	50533			0.02	0.02					
			117.00	119.00	2.00		GM	50532			0.37	< 0.02					
			119.00	121.00	2.00		SAGD	50531			0.07	0.06					
			121.00	123.00	2.00		SAGD	50530			0.01	0.03					
			123.00	125.00	2.00		AGD	50529			0.06	0.12					
			125.00	127.00	2.00		AGD	5052B			0.03	0.44					
			127.00	129.00	2.00		AGD	50527			0.01	0.02					
			129.00	131.00	2.00		AGD	50526			0.02	0.02					
								AVERAGES									
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 801 — PAGE: 6 OF 6

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;														
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			7.00	113.00	106.00						0.03	1.00					
			20.00	25.00	5.00						0.02	1.99					
			28.00	54.00	26.00						0.04	1.97					
			83.00	89.00	6.00						0.04	1.96					
			28.00	31.00	3.00						0.17	5.43					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 802 — PAGE: 1 OF: 5

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 120.00m

CLAIM: LOGAN 3 — NORTHING: 226.43 — DATE STARTED: JUNE 21D 1988

SECTION: 95 E — EASTING: 87.99 — DATE FINISHED: JUNE 23D 1988

CORE SIZE: 2.0m at base — ELEVATION: 1380.06 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH L-2 WAS CUT ALONG THE SECTION ABOVE DDH 86-L-14; 87-L-25,-26, AND -34 TO DETERMINE THE GRADE AND CONTINUITY OF MINERALIZATION AT SURFACE IN THE MAIN ZONE DEPOSIT. MINERALIZATION INCLUDES LOW TO MEDIUM GRADE PYRITE-SPHALERITE-ARSENOPYRITE IN MASSIVE QUARTZ VEINS AND STOCKWORKS.

UTM COORDINATES: NORTH END N 6708359.29 E 419487.22, SOUTH END N 6708261.41 E 419555.74

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA | GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;

Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	2.30	2.30		SAGD										
			2.30	9.00	6.70		AGD										
			9.00	11.10	2.10		GM										
			11.10	12.00	0.90		SAGD										
			0.00	13.50	13.50		GM										
			13.50	14.80	1.30		SAGD										
			14.80	18.00	3.20		GM										
			18.00	23.40	5.40		AFD										
			23.40	24.90	1.50		QV										
			24.90	28.30	3.40		AFD										
			28.30	31.10	2.80		AGD										
			31.10	33.50	2.40		FGD										
			33.50	43.10	9.60		AGD										
			43.10	47.50	4.40		SAGD										
			47.50	52.70	5.20		AGD										
			52.70	53.30	0.60		MQV										
			53.30	54.20	0.90		GM										
			54.20	73.50	19.30		AGD										
			73.50	75.70	2.20		MQV										
			75.70	80.00	4.30		AFD										
			80.00	80.50	0.50		AGD										
			80.50	84.60	4.10		MQV										
			0.00	86.20	86.20		AFD										
			86.20	96.00	9.80		AGD										
			96.00	106.00	10.00		SAGD										
			106.00	111.00	5.00		GM										
			111.00	120.00	9.00		SAGD										
								ASSAYS AND ANALYSES									
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 802 PAGE: 2 OF: 5

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									! VALUES BELOW IN PPM UNLESS NOTED !						
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			1.00	2.00	1.00		SAGD	50741			0.04	0.04					
			2.00	3.00	1.00		AGD	50740			0.08	0.08					
			3.00	4.00	1.00		AGD	50739			0.16	0.09					
			4.00	5.00	1.00		AGD	50738			0.05	0.07					
			5.00	6.00	1.00		AGD	50737			0.04	0.05					
			6.00	7.00	1.00		AGD	50736			0.06	0.90					
			7.00	8.00	1.00		AGD	50735			0.04	0.24					
			8.00	9.00	1.00		AGD	50734			0.02	0.10					
			9.00	10.00	1.00		GM	50733			0.03	0.21					
			10.00	11.00	1.00		GM	50732			0.02	0.31					
			11.00	12.00	1.00		SAGD	50731			0.02	0.61					
			12.00	13.00	1.00		GM	50730			0.02	0.45					
			13.00	14.00	1.00		GM	50729			0.02	0.35					
			14.00	15.00	1.00		SAGD	50728			0.02	0.73					
			15.00	16.00	1.00		GM	50727			0.03	1.97					
			16.00	17.00	1.00		GM	50726			0.03	0.31					
			17.00	18.00	1.00		GM	50725			0.05	1.11					
			18.00	19.00	1.00		AFD	50724			0.11	0.24					
			19.00	20.00	1.00		AFD	50723			0.08	0.32					
			20.00	21.00	1.00		AFD	50722			0.08	0.53					
			21.00	22.00	1.00		AFD	50721			0.12	0.60					
			22.00	23.00	1.00		AFD	50720			0.04	1.24					
			23.00	24.00	1.00		QV	50719			0.14	1.35					
			24.00	25.00	1.00		QV	50718			0.54	2.60					
			25.00	26.00	1.00		AFD	50717			0.07	3.77					
			26.00	27.00	1.00		AFD	50716			0.35	1.04					
			27.00	28.00	1.00		AFD	50715			0.17	0.98					
			28.00	29.00	1.00		AGD	50714			0.04	0.76					
			29.00	30.00	1.00		AGD	50713			0.03	0.40					
			30.00	31.00	1.00		AGD	50712			0.02	1.06					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 802 PAGE: 3 OF: 5

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			31.00	32.00	1.00		FGD	50711			0.02	0.55					
			32.00	33.00	1.00		FGD	50710			0.02	0.63					
			33.00	34.00	1.00		AGD	50709			0.02	0.64					
			34.00	35.00	1.00		AGD	50708			0.02	10.60					
			35.00	36.00	1.00		AGD	50707			0.04	4.39					
			36.00	37.00	1.00		AGD	50706			0.03	3.69					
			37.00	38.00	1.00		AGD	50705			0.02	4.08					
			38.00	39.00	1.00		AGD	50704			0.04	1.43					
			39.00	40.00	1.00		AGD	50703			0.02	1.48					
			40.00	41.00	1.00		AGD	50702			0.05	5.96					
			41.00	42.00	1.00		AGD	50701			0.03	2.49					
			42.00	43.00	1.00		AGD	50700			0.02	0.71					
			43.00	44.00	1.00		SAGD	50699			0.02	0.87					
			44.00	45.00	1.00		SAGD	50698			0.02	0.69					
			45.00	46.00	1.00		SAGD	50697			0.03	3.43					
			46.00	47.00	1.00		SAGD	50696			0.02	1.89					
			47.00	48.00	1.00		SAGD	50695			0.04	1.50					
			48.00	49.00	1.00		AGD	50694			0.02	0.91					
			49.00	50.00	1.00		AGD	50693			0.02	1.15					
			50.00	51.00	1.00		AGD	50692			0.05	4.38					
			51.00	52.00	1.00		AGD	50691			0.01	1.39					
			52.00	53.00	1.00		AGD	50690			0.01	1.00					
			53.00	54.00	1.00		MQV	50689			0.01	0.86					
			54.00	55.00	1.00		AGD	50688			0.01	1.46					
			55.00	56.00	1.00		AGD	50687			0.01	1.32					
			56.00	57.00	1.00		AGD	50686			0.02	2.55					
			57.00	58.00	1.00		AGD	50685			0.02	2.26					
			58.00	59.00	1.00		AGD	50684			0.01	1.26					
			59.00	60.00	1.00		AGD	50683			0.01	0.71					
			60.00	61.00	1.00		AGD	50682			0.03	2.76					
			61.00	62.00	1.00		AGD	50681			0.03	0.94					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 802 — PAGE: 4 OF: 5

AREA: — DIP: — AZIMUTH (I): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD										VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (I)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			62.00	63.00	1.00		AGD	50680			0.03	1.20					
			63.00	64.00	1.00		AGD	50679			0.02	1.02					
			64.00	65.00	1.00		AGD	50678			0.03	0.88					
			65.00	66.00	1.00		AGD	50677			0.03	1.14					
			66.00	67.00	1.00		AGD	50676			0.05	0.51					
			67.00	68.00	1.00		AGD	50675			0.07	1.28					
			68.00	69.00	1.00		AGD	50674			0.07	2.12					
			69.00	70.00	1.00		AGD	50673			0.12	1.32					
			70.00	71.00	1.00		AGD	50672			0.04	0.66					
			71.00	72.00	1.00		AGD	50671			0.10	2.68					
			72.00	73.00	1.00		AGD	50670			0.14	3.80					
			73.00	74.00	1.00		AGD	50669			0.19	5.48					
			74.00	75.00	1.00		MQV	50668			0.16	3.78					
			75.00	76.00	1.00		MQV	50667			0.18	3.90					
			76.00	77.00	1.00		AFD	50666			0.08	2.08					
			77.00	78.00	1.00		AFD	50665			0.08	1.01					
			78.00	79.00	1.00		AFD	50664			0.12	2.58					
			79.00	80.00	1.00		AFD	50663			0.13	0.92					
			80.00	81.00	1.00		AGD	50662			1.94	2.32					
			81.00	82.00	1.00		MQV	50661			3.07	2.47					
			82.00	83.00	1.00		MQV	50660			1.13	2.71					
			83.00	84.00	1.00		MQV	50659			1.75	2.08					
			84.00	85.00	1.00		MQV	50658			0.10	1.40					
			85.00	86.00	1.00		AFD	50657			0.08	1.47					
			86.00	87.00	1.00		AGD	50656			0.04	2.81					
			87.00	88.00	1.00		AGD	50655			0.13	6.54					
			88.00	89.00	1.00		AGD	50654			0.07	2.39					
			89.00	90.00	1.00		AGD	50653			0.09	0.92					
			90.00	91.00	1.00		AGD	50652			0.20	1.47					
			91.00	92.00	1.00		AGD	50651			0.36	2.39					
			92.00	93.00	1.00		AGD	50650			0.05	0.18					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 802 — PAGE 5 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									; VALUES BELOW IN PPM UNLESS NOTED ;				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			93.00	94.00	1.00		AGD	50649			0.21	0.13					
			94.00	95.00	1.00		AGD	50648			0.36	0.23					
			95.00	96.00	1.00		AGD	50755			0.14	0.03					
			96.00	97.00	1.00		SAGD	50754			0.11	0.02					
			97.00	98.00	1.00		SAGD	50753			0.17	0.02					
			98.00	100.00	2.00		SAGD	50752			1.11	0.07					
			100.00	102.00	2.00		SAGD	50751			0.24	0.03					
			102.00	104.00	2.00		SAGD	50750			0.18	0.02					
			104.00	106.00	2.00		SAGD	50749			0.15	< 0.02					
			106.00	108.00	2.00		GM	50748			0.10	< 0.02					
			108.00	110.00	2.00		GM	50747			0.19	< 0.02					
			110.00	112.00	2.00		GM	50746			0.47	< 0.02					
			112.00	114.00	2.00		SAGD	50745			0.96	0.09					
			114.00	116.00	2.00		SAGD	50744			0.87	0.16					
			116.00	118.00	2.00		SAGD	50743			0.30	0.17					
			118.00	120.00	2.00		SAGD	50742			0.27	0.21					
								AVERAGES									
			1.00	120.00	119.00						0.21	1.33					
			19.00	93.00	74.00						0.18	2.00					
			34.00	39.00	5.00						0.03	4.84					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 803 — PAGE 1 OF 2

AREA: EAST ZONE — DIP: 0 ° — AZIMUTH (t): 174 ° — DEPTH: 71.00m

CLAIM: LOGAN 87 LOGAN 88 — NORTHING: 214.55 — DATE STARTED: JUNE 24D 1988

SECTION: 2180 E — EASTING: 2181.87 — DATE FINISHED: JUNE 27D 1988

CORE SIZE: 2.0m AT BASE — ELEVATION: 1303.4 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: STEWART HARRIS

COMMENTS: TRENCH 88-L-803 WAS CUT ALONG THE SECTION ABOVE DDH-86-L-13 TO DETERMINE THE GRADE AND CONTINUITY OF MINERALLIZATION AT THE SURFACE. THE TRENCH WAS ABANDONED DUE TO UNSAFE CONDITIONS AFTER APPROXIMATELY 71m. THE MUCK PILE WAS LOGGED AND SAMPLED WITH NO MINERALIZATION FOUND.

UTM COORDINATES: NORTH END NORTHING 6709524.98 EASTING 421225.40

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;														
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	174.00°	0.00	3.00	3.00		SAGD										
			3.00	6.00	3.00		SCH										
			6.00	9.00	3.00		SAGD										
			9.00	15.00	6.00		SCH										
			15.00	42.00	27.00		SAGD										
			42.00	45.00	3.00		SCH										
			45.00	49.00	4.00		SAGD										
			49.00	52.00	3.00		SCH										
			52.00	59.00	7.00		AGD										
			59.00	62.00	3.00		SCH										
			62.00	71.00	9.00		SAGD										
								ASSAYS AND ANALYSES									
			0.00	3.00	3.00		SAGD	50756			259ppm	0.3 ppm					
			3.00	6.00	3.00		SCH	50757			277ppm	0.2 ppm					
			6.00	9.00	3.00		SAGD	50758			220ppm	0.4 ppm					
			9.00	12.00	3.00		SCH	50759			240ppm	0.1 ppm					
			12.00	15.00	3.00		SCH	50760			294ppm	0.7 ppm					
			15.00	18.00	3.00		SAGD	50761			184ppm	0.1 ppm					
			18.00	21.00	3.00		SAGD	50762			210ppm	< 0.1 ppm					
			21.00	24.00	3.00		SAGD	50763			269ppm	0.1 ppm					
			24.00	27.00	3.00		SAGD	50764			439ppm	0.1 ppm					
			27.00	30.00	3.00		SAGD	50765			302ppm	0.1 ppm					
			30.00	33.00	3.00		SAGD	50766			444ppm	0.9 ppm					
			33.00	36.00	3.00		SAGD	50767			505ppm	0.9 ppm					
			36.00	39.00	3.00		SAGD	50768			754ppm	0.9 ppm					
			39.00	42.00	3.00		SAGD	50769			556ppm	2.0 ppm					
			42.00	45.00	3.00		SCH	50770			851ppm	1.5 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 803 PAGE: 2 OF: 2

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			45.00	48.00	3.00		SAGD	50771			367ppm	2.1 ppm					
			48.00	51.00	3.00		SCH	50772			898ppm	0.4 ppm					
			51.00	54.00	3.00		AGD	50773			379ppm	0.2 ppm					
			54.00	57.00	3.00		AGD	50774			264ppm	0.2 ppm					
			57.00	60.00	3.00		AGD	50775			336ppm	2.4 ppm					
			60.00	63.00	3.00		SCH	50776			327ppm	0.7 ppm					
			63.00	66.00	3.00		SAGD	50777			431ppm	0.6 ppm					
			66.00	69.00	3.00		SAGD	50778			725ppm	0.6 ppm					
			69.00	71.00	2.00		SAGD	50779			466ppm	0.7 ppm					

DDR - 85 - 10

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 804 — PAGE: 1 OF 5

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 132.00m

CLAIM: LOGAN 2 — NORTHING: 228.37 — DATE STARTED: JUNE 28D 1988

SECTION: 5 W — EASTING: -13.29 — DATE FINISHED: JULY 2D 1988

CORE SIZE: 2.5m — ELEVATION: 1374.14 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: STEWART HARRIS

COMMENTS: TRENCH L-4 WAS DUG TO TEST THE GRADE AND CONTINUITY OF MAIN ZONE MINERALIZATION AT SURFACE. APPROXIMATELY 70m OF WEAK TO HIGH GRADE SPHALERITE MINERALIZATION WAS INTERSECTED. THE TRENCH WAS TERMINATED AFTER ENCOUNTERING DEEP OVERBURDEN AND THE FOOTWALL FAULT.

UTM COORDINATES: NORTH END N 6708304.04 E 419402.38, INTERMEDIATE N 6708243.27 E 419442.20, SOUTH END N 6708215.43 E 419466.85

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	13.00	13.00		SAGD										
83.00	0.00°	162.00°	13.00	17.20	4.20		AGD										
106.50	0.00°	177.00°	17.20	18.60	1.40		DV										
			18.60	21.40	2.80		SAGD										
			21.40	34.50	13.10		AFD										
			34.50	43.40	8.90		AGD										
			43.40	48.40	5.00		MQV										
			48.40	62.00	13.60		AGD										
			62.00	74.00	12.00		MBX										
			74.00	100.60	26.60		AGD										
			100.60	106.50	5.90		AFD										
			106.50	116.20	9.70		SAGD										
			116.20	121.30	5.10		AGD										
			121.30	132.00	10.70		OB										
								ASSAYS AND ANALYSES									
			0.00	2.00	2.00		SAGD	50881			0.05	< 0.02					
			2.00	3.00	1.00		SAGD	50880			0.05	0.13					
			3.00	4.00	1.00		SAGD	50879			0.08	0.04					
			4.00	5.00	1.00		SAGD	50878			0.04	< 0.02					
			5.00	6.00	1.00		SAGD	50877			0.02	0.06					
			6.00	7.00	1.00		SAGD	50876			0.02	0.10					
			7.00	8.00	1.00		SAGD	50875			0.02	0.03					
			8.00	9.00	1.00		SAGD	50874			0.04	0.04					
			9.00	10.00	1.00		SAGD	50873			0.60	0.84					
			10.00	11.00	1.00		SAGD	50872			0.04	< 0.02					
			11.00	12.00	1.00		SAGD	50871			0.04	< 0.02					
			12.00	13.00	1.00		SAGD	50870			0.05	< 0.02					
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 804 — PAGE: 2 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			13.00	14.00	1.00		AGD	50869			0.08	0.03					
			14.00	15.00	1.00		AGD	50868			0.04	0.11					
			15.00	16.00	1.00		AGD	50867			0.02	0.65					
			16.00	17.00	1.00		AGD	50866			0.02	0.45					
			17.00	18.00	1.00		QV	50865			0.04	0.98					
			18.00	19.00	1.00		QV	50864			0.13	3.98					
			19.00	20.00	1.00		SAGD	50863			0.20	11.81					
			20.00	21.00	1.00		SAGD	50862			0.23	6.69					
			21.00	22.00	1.00		AFD	50861			0.05	1.97					
			22.00	23.00	1.00		AFD	50860			0.15	5.87					
			23.00	24.00	1.00		AFD	50859			0.17	5.37					
			24.00	25.00	1.00		AFD	50858			0.12	4.23					
			25.00	26.00	1.00		AFD	50857			0.07	19.33					
			26.00	27.00	1.00		AFD	50856			0.07	16.14					
			27.00	28.00	1.00		AFD	50855			0.16	5.58					
			28.00	29.00	1.00		AFD	50854			0.08	1.64					
			29.00	30.00	1.00		AFD	50853			0.07	0.80					
			30.00	31.00	1.00		AFD	50852			0.05	1.07					
			31.00	32.00	1.00		AFD	50851			0.02	1.40					
			32.00	33.00	1.00		AFD	50850			0.02	4.54					
			33.00	34.00	1.00		AFD	50849			0.01	0.98					
			34.00	35.00	1.00		AGD	50848			0.02	1.22					
			35.00	36.00	1.00		AGD	50847			0.04	0.99					
			36.00	37.00	1.00		AGD	50846			0.02	1.35					
			37.00	38.00	1.00		MQV	50845			0.05	1.51					
			38.00	39.00	1.00		AGD	50844			0.03	1.13					
			39.00	40.00	1.00		AGD	50843			0.02	0.75					
			40.00	41.00	1.00		AGD	50842			0.02	0.73					
			41.00	42.00	1.00		AGD	50841			0.06	0.88					
			42.00	43.00	1.00		AGD	50840			0.16	1.84					
			43.00	44.00	1.00		MQV	50839			0.23	2.02					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 804 PAGE: 3 OF: 5

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED						
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			44.00	45.00	1.00		MQV	50838			0.19	2.65					
			45.00	46.00	1.00		MQV	50837			0.45	2.10					
			46.00	47.00	1.00		MQV	50836			1.16	2.46					
			47.00	48.00	1.00		MQV	50835			0.30	8.63					
			48.00	49.00	1.00		AGD	50834			1.73	13.31					
			49.00	50.00	1.00		AGD	50833			0.05	5.96					
			50.00	51.00	1.00		AGD	50832			0.22	2.02					
			51.00	52.00	1.00		AGD	50831			0.08	6.41					
			52.00	53.00	1.00		AGD	50830			0.05	1.44					
			53.00	54.00	1.00		AGD	50829			0.08	1.12					
			54.00	55.00	1.00		AGD	50828			0.03	1.87					
			55.00	56.00	1.00		AGD	50827			0.07	1.15					
			56.00	57.00	1.00		AGD	50826			0.13	0.67					
			57.00	58.00	1.00		AGD	50825			0.10	0.79					
			58.00	59.00	1.00		AGD	50824			0.17	0.94					
			59.00	60.00	1.00		AGD	50823			0.07	0.59					
			60.00	61.00	1.00		AGD	50822			0.07	1.47					
			61.00	62.00	1.00		AGD	50821			0.07	0.73					
			62.00	63.00	1.00		AGD	50820			0.14	1.08					
			63.00	64.00	1.00		MBX	50819			0.06	0.87					
			64.00	65.00	1.00		MBX	50818			0.03	0.53					
			65.00	66.00	1.00		MBX	50817			0.09	0.96					
			66.00	67.00	1.00		MBX	50816			0.38	1.94					
			67.00	68.00	1.00		MBX	50815			1.05	1.50					
			68.00	69.00	1.00		MBX	50814			1.75	0.95					
			69.00	70.00	1.00		MBX	50813			1.54	1.19					
			70.00	71.00	1.00		MBX	50812			4.18	0.84					
			71.00	72.00	1.00		MBX	50811			1.70	0.83					
			72.00	73.00	1.00		MBX	50810			0.24	0.44					
			73.00	74.00	1.00		MBX	50809			0.22	0.71					
			74.00	75.00	1.00		AGD	50808			1.69	0.58					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 804 — PAGE: 4 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED					
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			75.00	76.00	1.00		AGD	50807			3.28	0.61					
			76.00	77.00	1.00		AGD	50806			1.40	0.36					
			77.00	78.00	1.00		AGD	50805			2.60	0.42					
			78.00	79.00	1.00		AGD	50804			1.70	0.33					
			79.00	80.00	1.00		AGD	50803			1.07	0.47					
			80.00	81.00	1.00		AGD	50802			2.30	1.40					
			81.00	82.00	1.00		AGD	50801			3.16	1.37					
			82.00	83.00	1.00		AGD	50800			5.15	2.96					
			83.00	84.00	1.00		AGD	50799			1.24	0.24					
			84.00	85.00	1.00		AGD	50798			1.70	0.38					
			85.00	86.00	1.00		AGD	50797			2.09	0.17					
			86.00	87.00	1.00		AGD	50796			2.60	0.19					
			87.00	88.00	1.00		AGD	50795			5.08	0.93					
			88.00	89.00	1.00		AGD	50794			5.08	3.20					
			89.00	90.00	1.00		AGD	50793			0.78	0.08					
			90.00	91.00	1.00		AGD	50792			0.61	0.04					
			91.00	92.00	1.00		AGD	50791			6.60	0.63					
			92.00	93.00	1.00		AGD	50790			5.43	0.52					
			93.00	94.00	1.00		AGD	50789			6.10	0.55					
			94.00	95.00	1.00		AGD	50788			4.60	0.22					
			95.00	96.00	1.00		AGD	50787			8.55	0.44					
			96.00	97.00	1.00		AGD	50786			4.90	0.14					
			97.00	98.00	1.00		AFD	50785			10.21	3.60					
			98.00	99.00	1.00		AFD	50784			0.92	0.07					
			99.00	100.00	1.00		AFD	50783			1.22	0.05					
			100.00	101.00	1.00		AFD	50782			1.69	0.32					
			101.00	102.00	1.00		SAGD	50781			0.50	0.05					
			102.00	103.00	1.00		MBX	50780			0.66	0.03					
			103.00	104.00	1.00		MBX	50886			0.15	< 0.02					
			104.00	105.00	1.00		SAGD	50885			0.18	< 0.02					
			105.00	106.00	1.00		SAGD	50884			0.30	< 0.02					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 804 — PAGE: 5 OF: 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			106.00	107.00	1.00		SAGD	50883			0.42	0.02					
			107.00	108.00	1.00		SAGD	50882			0.11	< 0.02					
								AVERAGES									
			89.00	99.00	10.00						4.87	0.63					
			94.00	98.00	4.00						7.07	1.10					
			12.00	108.00	96.00						1.18	2.01					
			14.00	31.00	17.00						0.10	5.10					
			23.00	28.00	5.00						0.12	10.13					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 805 — PAGE 1 OF 5

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 199 ° — DEPTH: 98.00m

CLAIM: LOGAN 2 — NORTHING: 222.13 — DATE STARTED: JULY 8D 1988

SECTION: 105 W — EASTING: -72.91 — DATE FINISHED: JULY 11D 1988

CORE SIZE: 3.0m AT BASE — ELEVATION: 1371.2 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH L-5 WAS PLACED TO INTERSECT A HIGH-GRADE INTERVAL ON THE SECTION INCLUDING DDH 86-L-6 AND 86-L-7. APPROXIMATELY 68m OF MODERATE TO HIGH GRADE MINERALIZATION (SPHALERITE,PYRITE,CHALCOPYRITE,ARSENOPYRITE) WAS INTERSECTED. THE TRENCH WAS CLOSED AFTER INTERSECTING THE FOOTWALL FAULT.

UTM COORDINATES: NORTH END NORTHING 6708265.41 EASTING 419356.58, SOUTH END NORTHING 6708172.23 EASTING 419383.54

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	199.00°	0.00	6.50	6.50		AGD										
46.00	0.00°	197.00°	6.50	12.00	5.50		SAGD										
67.00	0.00°	199.00°	12.00	16.50	4.50		SCH										
			16.50	18.70	2.20		MQV										
			18.70	20.40	1.70		AFD										
			20.40	22.50	2.10		MQV										
			22.50	25.00	2.50		AGD										
			25.00	31.00	6.00		QV										
			31.00	38.00	7.00		AGD										
			38.00	38.70	0.70		QV										
			38.70	40.70	2.00		AGD										
			40.70	41.40	0.70		QV										
			41.40	65.00	23.60		AGD										
			65.00	65.60	0.60		MQV										
			65.60	69.30	3.70		AGD										
			69.30	70.40	1.10		MQV										
			70.40	72.00	1.60		MS										
			72.00	72.60	0.60		MQV										
			72.60	75.00	2.40		MBX										
			75.00	81.70	6.70		AGD										
			81.70	84.60	2.90		MS										
			84.60	95.20	10.60		GM										
			95.20	98.00	2.80		AGD										
								ASSAYS AND ANALYSES									
			4.00	5.00	1.00		AGD	50887			0.06	0.02					
			5.00	6.00	1.00		AGD	50888			0.06	< 0.02					
			6.00	7.00	1.00		SAGD	50889			0.08	< 0.02					
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 805 — PAGE: 2 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			7.00	8.00	1.00		SAGD	50890			0.05	< 0.02					
			8.00	9.00	1.00		SAGD	50891			0.03	< 0.02					
			9.00	10.00	1.00		SAGD	50892			0.07	< 0.02					
			10.00	11.00	1.00		SAGD	50893			0.06	< 0.02					
			11.00	12.00	1.00		SAGD	50894			0.10	< 0.02					
			12.00	13.00	1.00		SCH	50895			0.36	0.14					
			13.00	14.00	1.00		SCH	50896			0.07	0.03					
			14.00	15.00	1.00		SCH	50897			0.04	0.03					
			15.00	16.00	1.00		SCH	50898			0.05	0.07					
			16.00	17.00	1.00		MQV	50899			0.17	0.19					
			17.00	18.00	1.00		MQV	50900			0.38	1.59					
			18.00	19.00	1.00		MQV	50901			0.44	4.49					
			19.00	20.00	1.00		AFD	50902			0.34	1.69					
			20.00	21.00	1.00		MQV	50903			0.54	4.80					
			21.00	22.00	1.00		MQV	50904			1.66	1.82					
			22.00	23.00	1.00		AGD	50905			0.70	3.55					
			23.00	24.00	1.00		AGD	50906			0.33	1.46					
			24.00	25.00	1.00		AGD	50907			0.21	9.56					
			25.00	26.00	1.00		QV	50908			0.13	5.67					
			26.00	27.00	1.00		QV	50909			0.28	9.55					
			27.00	28.00	1.00		QV	50910			0.19	8.45					
			28.00	29.00	1.00		QV	50911			0.31	11.00					
			29.00	30.00	1.00		QV	50912			0.39	1.94					
			30.00	31.00	1.00		QV	50913			0.12	1.51					
			31.00	32.00	1.00		AGD	50914			0.06	0.22					
			32.00	33.00	1.00		AGD	50915			0.12	0.62					
			33.00	34.00	1.00		AGD	50916			0.06	0.33					
			34.00	36.00	2.00		AGD	50917			0.05	0.38					
			36.00	37.00	1.00		AGD	50918			0.06	0.26					
			37.00	38.00	1.00		AGD	50919			0.04	0.11					
			38.00	39.00	1.00		AGD	50920			0.09	1.08					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 805 — PAGE: 3 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			39.00	39.00	0.00		QV	50921			0.21	2.10					
			39.00	40.00	1.00		AGD	50922			0.08	1.15					
			40.00	41.00	1.00		AGD	50923			0.57	0.80					
			41.00	42.00	1.00		QV	50924			0.14	0.75					
			42.00	43.00	1.00		AGD	50925			0.08	2.51					
			43.00	44.00	1.00		AGD	50926			0.08	0.77					
			44.00	45.00	1.00		AGD	50927			0.04	0.89					
			45.00	46.00	1.00		AGD	50928			0.05	0.28					
			46.00	47.00	1.00		AGD	50929			0.15	1.73					
			47.00	48.00	1.00		AGD	50930			0.24	1.67					
			48.00	49.00	1.00		AGD	50931			0.16	0.86					
			49.00	50.00	1.00		AGD	50932			0.08	2.20					
			50.00	51.00	1.00		AGD	50933			0.06	0.82					
			51.00	52.00	1.00		AGD	50934			0.11	0.33					
			52.00	53.00	1.00		AGD	50935			0.06	1.02					
			53.00	54.00	1.00		AGD	50936			0.04	0.32					
			54.00	55.00	1.00		AGD	50937			0.05	0.70					
			55.00	56.00	1.00		AGD	50938			0.11	0.23					
			56.00	57.00	1.00		AGD	50939			0.16	0.61					
			57.00	58.00	1.00		AGD	50940			0.20	0.98					
			58.00	59.00	1.00		AGD	50941			0.17	0.34					
			59.00	60.00	1.00		AGD	50942			0.10	0.29					
			60.00	61.00	1.00		AGD	50943			0.11	0.45					
			61.00	62.00	1.00		AGD	50944			0.16	0.27					
			62.00	63.00	1.00		AGD	50945			0.53	0.80					
			63.00	64.00	1.00		AGD	50946			0.81	3.14					
			64.00	65.00	1.00		AGD	50947			0.97	4.15					
			65.00	66.00	1.00		MQV	50948			0.49	3.31					
			66.00	67.00	1.00		AGD	50949			0.99	0.40					
			67.00	68.00	1.00		AGD	50950			4.23	3.93					
			68.00	69.00	1.00		AGD	50951			2.98	1.01					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 805 — PAGE: 4 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			69.00	70.00	1.00		MQV	50952			0.97	3.81					
			70.00	71.00	1.00		MS	50953			4.12	1.58					
			71.00	72.00	1.00		MS	50954			9.15	1.64					
			72.00	73.00	1.00		MQV	50955			9.12	1.99					
			73.00	74.00	1.00		BX	50956			3.49	0.99					
			74.00	75.00	1.00		BX	50957			4.83	2.64					
			75.00	76.00	1.00		AGD	50958			0.48	0.74					
			76.00	77.00	1.00		AGD	50959			0.64	1.71					
			77.00	78.00	1.00		AGD	50960			1.20	1.43					
			78.00	79.00	1.00		AGD	50961			0.12	0.93					
			79.00	80.00	1.00		AGD	50962			0.10	0.68					
			80.00	81.00	1.00		AGD	50963			0.48	0.51					
			81.00	82.00	1.00		AGD	50964			4.87	1.30					
			82.00	83.00	1.00		MS	50965			27.25	2.58					
			83.00	84.00	1.00		MS	50966			29.56	2.69					
			84.00	85.00	1.00		MS	50967			24.00	2.04					
			85.00	86.00	1.00		GM	50968			15.73	1.23					
			86.00	87.00	1.00		GM	50969			2.62	0.27					
			87.00	88.00	1.00		GM	50970			2.80	0.44					
			88.00	89.00	1.00		GM	50971			0.47	0.05					
			89.00	90.00	1.00		GM	50972			0.21	0.08					
			90.00	91.00	1.00		GM	50973			0.32	0.02					
			91.00	92.00	1.00		GM	50974			0.15	< 0.02					
			92.00	93.00	1.00		GM	50975			0.32	0.02					
			93.00	94.00	1.00		GM	50976			0.37	0.08					
			94.00	95.00	1.00		GM	50977			0.15	0.06					
			95.00	96.00	1.00		GM	50978			0.13	0.06					
								AVERAGES									
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 805 — PAGE: 5 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			59.00	90.00	31.00						4.95	1.52					
			67.00	88.00	21.00						7.08	1.63					
			78.00	88.00	10.00						10.75	1.27					
			81.00	88.00	7.00						15.26	1.51					
			18.00	31.00	13.00						0.43	5.04					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 806; — PAGE 1 OF 5

AREA: WEST ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 313.00m
CLAIM: LOGAN 34 — NORTHING: -333.14 — DATE STARTED: JULY 20D 1988
SECTION: 1915 W — EASTING: -1857.88 — DATE FINISHED: JULY 27D 1988
CORE SIZE: 2.5m at base — ELEVATION: 1400.53 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD
CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: S.H./M.K./P.C.

COMMENTS: TRENCH L-6 WAS DUG TO TEST A COINCIDENT ZN-AG-SN SOIL GEOCHEMISTRY ANOMALY AND A MODERATE I.P. ANOMALY, AND TO EXAMINE GEOLOGY AT DEPTH. MINOR PYRITE-SPHALERITE(?) MINERALIZATION (2m) WAS INTERSECTED. THE TRENCH WAS CLOSED AT THE TARGET LENGTH OF 313m.

UTM COORDINATES:(NORTH TO SOUTH) N 6706804.14 E 418192.26, N 6706728.33 E 418173.06, N 6706642.02 E 418231.52, N 6706594.82 E 418266.48, N 6706536.28 E 418298.68

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD					VALUES BELOW IN PPM UNLESS NOTED								
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	235.60°	0.00	45.60	45.60		AGD										
72.00	0.00°	181.60°	45.60	46.60	1.00		METS										
127.00	0.00°	175.60°	46.60	52.20	5.60		AGD										
217.00	0.00°	181.60°	52.20	56.00	3.80		METS										
224.00	0.00°	168.60°	56.00	57.80	1.80		AGD										
249.00	0.00°	180.60°	57.80	69.00	11.20		METS										
264.00	0.00°	189.60°	69.00	72.00	3.00		AGD										
289.00	0.00°	176.60°	72.00	78.00	6.00		GAP										
304.00	0.00°	187.60°	78.00	92.00	14.00		AGD										
			92.00	93.00	1.00		METS										
			93.00	98.00	5.00		AGD										
			98.00	106.20	8.20		SAGD										
			106.20	107.20	1.00		AFD										
			107.20	115.80	8.60		AGD										
			115.80	116.90	1.10		METS										
			116.90	148.80	31.90		AGD										
			148.80	153.00	4.20		METS										
			153.00	183.00	30.00		AGD										
			183.00	192.00	9.00		ROAD										
			192.00	197.00	5.00		METS										
			197.00	198.80	1.80		AGD										
			198.80	200.00	1.20		METS										
			200.00	205.00	5.00		AGD										
			205.00	206.00	1.00		METS										
			206.00	217.00	11.00		AGD										
			217.00	223.20	6.20		METS										
			223.20	231.00	7.80		AGD										
			231.00	233.20	2.20		SAGD										
			233.20	241.00	7.80		AGD										
			241.00	247.00	6.00		SAGD										
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 806 — PAGE: 2 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA | GEOLOGY AND ASSAY RECORD | VALUES BELOW IN PPM UNLESS NOTED

Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			247.00	274.00	27.00		AGD										
			274.00	306.00	32.00		SAGD										
			306.00	313.00	7.00		METS										
								ASSAYS AND ANALYSES									
			0.00	3.00	3.00		AGD	51246			175ppm	0.2 ppm					
			3.00	6.00	3.00		AGD	51245			230ppm	0.2 ppm					
			6.00	9.00	3.00		AGD	51244			184ppm	0.1 ppm					
			9.00	12.00	3.00		AGD	51243			226ppm	0.1 ppm					
			12.00	15.00	3.00		AGD	51242			132ppm	0.1 ppm					
			15.00	18.00	3.00		AGD	51241			181ppm	0.1 ppm					
			18.00	21.00	3.00		AGD	51240			189ppm	0.2 ppm					
			21.00	24.00	3.00		AGD	51239			203ppm	0.1 ppm					
			24.00	27.00	3.00		AGD	51238			202ppm	0.4 ppm					
			27.00	30.00	3.00		AGD	51237			413ppm	0.3 ppm					
			30.00	33.00	3.00		AGD	51236			279ppm	0.2 ppm					
			33.00	36.00	3.00		AGD	51235			369ppm	0.2 ppm					
			36.00	39.00	3.00		AGD	51234			251ppm	0.2 ppm					
			39.00	42.00	3.00		AGD	51233			293ppm	0.1 ppm					
			42.00	45.00	3.00		AGD	51232			249ppm	0.3 ppm					
			45.00	48.00	3.00		AGD	51231			444ppm	0.2 ppm					
			48.00	51.00	3.00		AGD	51230			214ppm	0.2 ppm					
			51.00	54.00	3.00		METS	51229			331ppm	0.2 ppm					
			54.00	57.00	3.00		METS	51228			320ppm	0.1 ppm					
			57.00	60.00	3.00		METS	51227			240ppm	0.2 ppm					
			60.00	63.00	3.00		METS	51226			530ppm	0.5 ppm					
			63.00	66.00	3.00		METS	51225			872ppm	0.2 ppm					
			66.00	69.00	3.00		METS	51224			335ppm	0.1 ppm					
			69.00	72.00	3.00		AGD	51223			335ppm	0.2 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 806 PAGE: 3 OF: 5

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	In %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			78.00	80.00	2.00		SCH	50999			303ppm	0.1 ppm					
			80.00	82.00	2.00		SCH	50998			421ppm	0.2 ppm					
			82.00	84.00	2.00		SCH	50997			398ppm	0.2 ppm					
			84.00	86.00	2.00		AGD	50996			177ppm	0.2 ppm					
			86.00	88.00	2.00		AGD	50995			347ppm	0.1 ppm					
			88.00	90.00	2.00		AGD	50994			247ppm	0.2 ppm					
			90.00	92.00	2.00		AGD	50993			640ppm	0.2 ppm					
			92.00	94.00	2.00		METS	50992			492ppm	0.6 ppm					
			94.00	96.00	2.00		AGD	50991			267ppm	0.1 ppm					
			96.00	99.00	3.00		AGD	50990			287ppm	0.2 ppm					
			99.00	102.00	3.00		SAGD	50989			775ppm	0.6 ppm					
			102.00	105.00	3.00		SAGD	50988			890ppm	0.3 ppm					
			105.00	107.00	2.00		AFD	50987			993ppm	1.0 ppm					
			107.00	109.00	2.00		AGD	50986			309ppm	0.9 ppm					
			109.00	111.00	2.00		AGD	50985			219ppm	1.0 ppm					
			111.00	114.00	3.00		AGD	50984			448ppm	0.9 ppm					
			114.00	117.00	3.00		METS	50983			387ppm	1.3 ppm					
			117.00	120.00	3.00		SAGD	50982			792ppm	1.2 ppm					
			120.00	123.00	3.00		SAGD	50981			819ppm	0.3 ppm					
			123.00	126.00	3.00		SAGD	50980			765ppm	0.2 ppm					
			126.00	129.00	3.00		AGD	50979			559ppm	0.4 ppm					
			129.00	132.00	3.00		AGD	51000			815ppm	0.6 ppm					
			132.00	135.00	3.00		AGD	51001			1895ppm	0.5 ppm					
			135.00	138.00	3.00		AGD	51002			1915ppm	0.4 ppm					
			138.00	141.00	3.00		AGD	51003			1558ppm	1.1 ppm					
			141.00	144.00	3.00		AGD	51004			1268ppm	0.3 ppm					
			144.00	147.00	3.00		AGD	51005			720ppm	0.4 ppm					
			147.00	150.00	3.00		AGD	51006			778ppm	0.6 ppm					
			150.00	153.00	3.00		METS	51007			526ppm	1.4 ppm					
			153.00	155.00	2.00		AGD	51008			548ppm	3.1 ppm					
			155.00	157.00	2.00		AGD	51009			316ppm	2.7 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 806 — PAGE: 4 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;														
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			157.00	159.00	2.00		AGD	51010			451ppm	7.9 ppm					
			159.00	161.00	2.00		AGD	51011			262ppm	2.9 ppm					
			161.00	163.00	2.00		AGD	51012			278ppm	3.4 ppm					
			163.00	165.00	2.00		AGD	51013			415ppm	0.9 ppm					
			165.00	167.00	2.00		AGD	51014			535ppm	0.6 ppm					
			167.00	169.00	2.00		AGD	51015			408ppm	1.1 ppm					
			169.00	171.00	2.00		AGD	51016			508ppm	1.5 ppm					
			171.00	173.00	2.00		AGD	51017			497ppm	1.3 ppm					
			173.00	175.00	2.00		AGD	51018			725ppm	0.6 ppm					
			175.00	177.00	2.00		AGD	51019			899ppm	2.0 ppm					
			177.00	179.00	2.00		AGD	51020			791ppm	0.9 ppm					
			179.00	181.00	2.00		AGD	51021			553ppm	6.3 ppm					
			181.00	183.00	2.00		AGD	51022			233ppm	2.9 ppm					
			192.00	194.00	2.00		METS	51023			329ppm	1.1 ppm					
			194.00	197.00	3.00		METS	51024			390ppm	0.4 ppm					
			197.00	200.00	3.00		AGD	51025			300ppm	0.3 ppm					
			200.00	202.00	2.00		AGD	51026			178ppm	0.3 ppm					
			202.00	205.00	3.00		AGD	51027			329ppm	0.8 ppm					
			205.00	208.00	3.00		AGD	51028			203ppm	0.3 ppm					
			208.00	211.00	3.00		AGD	51029			245ppm	0.5 ppm					
			211.00	214.00	3.00		AGD	51030			436ppm	1.2 ppm					
			214.00	217.00	3.00		AGD	51031			178ppm	0.5 ppm					
			217.00	220.00	3.00		METS	51191			854ppm	0.2 ppm					
			220.00	223.00	3.00		METS	51192			784ppm	0.2 ppm					
			223.00	226.00	3.00		AGD	51193			619ppm	0.2 ppm					
			226.00	229.00	3.00		AGD	51194			347ppm	0.2 ppm					
			229.00	232.00	3.00		AGD	51195			359ppm	0.3 ppm					
			232.00	235.00	3.00		SAGD	51196			658ppm	0.3 ppm					
			235.00	238.00	3.00		AGD	51197			625ppm	0.3 ppm					
			238.00	241.00	3.00		AGD	51198			675ppm	0.3 ppm					
			241.00	244.00	3.00		SAGD	51199			679ppm	0.2 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 806 — PAGE: 5 OF: 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			244.00	247.00	3.00		SAGD	51200			675ppm	0.3 ppm					
			247.00	250.00	3.00		AGD	51201			848ppm	0.4 ppm					
			250.00	253.00	3.00		AGD	51202			1418ppm	0.5 ppm					
			253.00	256.00	3.00		AGD	51203			838ppm	0.9 ppm					
			256.00	259.00	3.00		AGD	51204			718ppm	0.4 ppm					
			259.00	262.00	3.00		AGD	51205			390ppm	0.4 ppm					
			262.00	265.00	3.00		AGD	51206			929ppm	1.8 ppm					
			265.00	268.00	3.00		AGD	51207			130ppm	0.2 ppm					
			268.00	271.00	3.00		AGD	51208			177ppm	0.2 ppm					
			271.00	274.00	3.00		AGD	51209			425ppm	0.4 ppm					
			274.00	277.00	3.00		SAGD	51210			437ppm	0.2 ppm					
			277.00	280.00	3.00		SAGD	51211			499ppm	0.3 ppm					
			280.00	283.00	3.00		SAGD	51212			292ppm	0.2 ppm					
			283.00	286.00	3.00		SAGD	51213			613ppm	0.2 ppm					
			286.00	289.00	3.00		SAGD	51214			281ppm	0.1 ppm					
			289.00	292.00	3.00		SAGD	51215			363ppm	0.1 ppm					
			292.00	295.00	3.00		SAGD	51216			408ppm	0.1 ppm					
			295.00	298.00	3.00		SAGD	51217			229ppm	0.1 ppm					
			298.00	301.00	3.00		SAGD	51218			279ppm	0.1 ppm					
			301.00	304.00	3.00		SAGD	51219			260ppm	0.1 ppm					
			304.00	307.00	3.00		METS	51220			215ppm	0.2 ppm					
			307.00	310.00	3.00		METS	51221			683ppm	0.3 ppm					
			310.00	313.00	3.00		METS	51222			746ppm	0.1 ppm					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 807 — PAGE 1 OF 4

AREA: WEST ZONE — DIP: 0 ° — AZIMUTH (I): 180 ° — DEPTH: 254.00m
CLAIM: LOGAN 36 — NORTHING: -759.69 — DATE STARTED: JULY 21D 1988
SECTION: 2430 W — EASTING: -2411.93 — DATE FINISHED: JULY 23D 1988
CORE SIZE: 2.0m at base — ELEVATION: 1555.56 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD
CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: S.H./M.K./P.C.

COMMENTS: TRENCH 1-7 WAS DUG TO TEST A MODERATE TO STRONG I.P. ANOMALY, AND NEARBY ZN-AG SOIL GEOCHEMISTRY ANOMALY. NO MINERALIZATION WAS INTERSECTED, AND THE TRENCH WAS CLOSED AT THE TARGET LENGTH OF 255m.

UTM COORDINATES: NORTH END NORTHING 6706140.36 EASTING 417973.56, SOUTH END NORTHING 6705933.15 EASTING 418122.71

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (I)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	183.60°	0.00	2.00	2.00		FGD										
10.00	0.00°	180.60°	2.00	4.00	2.00		METS										
20.00	0.00°	187.60°	4.00	5.40	1.40		SAGD										
30.00	0.00°	173.60°	5.40	22.00	16.60		METS										
55.00	0.00°	179.60°	22.00	29.20	7.20		SAGD										
80.00	0.00°	187.60°	29.20	34.40	5.20		METS										
105.00	0.00°	191.60°	34.40	39.00	4.60		SAGD										
130.00	0.00°	175.60°	39.00	47.00	8.00		METS										
145.00	0.00°	163.60°	47.00	48.00	1.00		SAGD										
160.00	0.00°	177.60°	48.00	87.00	39.00		METS										
200.00	0.00°	175.60°	87.00	88.00	1.00		SAGD										
215.00	0.00°	177.60°	88.00	109.00	21.00		AGD										
235.00	0.00°	173.60°	109.00	115.60	6.60		METS										
			115.60	117.90	2.30		AGD										
			117.90	123.00	5.10		METS										
			123.00	126.00	3.00		AGD										
			126.00	163.00	37.00		METS										
			163.00	168.00	5.00		AGD										
			168.00	190.00	22.00		METS										
			190.00	194.00	4.00		AGD										
			194.00	204.00	10.00		METS										
			204.00	206.00	2.00		AGD										
			206.00	216.00	10.00		METS										
			216.00	217.60	1.60		QV										
			217.60	251.00	33.40		METS										
			251.00	254.00	3.00		AGD										
								ASSAYS AND ANALYSES									
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 807 — PAGE: 2 OF 4

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			0.00	3.00	3.00		FGD	51032			0.01	0.04					
			3.00	5.00	2.00		SAGD	51033			0.03	0.03					
			5.00	8.00	3.00		METS	51034			0.01	0.02					
			8.00	11.00	3.00		METS	51035			0.03	0.03					
			11.00	13.00	2.00		METS	51036			0.02	0.02					
			13.00	15.00	2.00		METS	51037			0.09	0.02					
			15.00	18.00	3.00		METS	51038			0.02	< 0.02					
			18.00	21.00	3.00		METS	51039			0.01	< 0.02					
			21.00	23.00	2.00		METS	51040			0.02	< 0.02					
			23.00	25.00	2.00		SAGD	51041			0.01	< 0.02					
			25.00	27.00	2.00		SAGD	51042			< 0.01	< 0.02					
			27.00	29.00	2.00		SAGD	51043			0.06	< 0.02					
			29.00	32.00	3.00		METS	51044			0.11	< 0.02					
			32.00	35.00	3.00		METS	51045			0.06	< 0.02					
			35.00	37.00	2.00		SAGD	51046			< 0.01	< 0.02					
			37.00	37.00	2.00		SAGD	51047			0.03	< 0.02					
			39.00	42.00	3.00		METS	51048			0.05	< 0.02					
			42.00	45.00	3.00		METS	51049			0.05	< 0.02					
			45.00	48.00	3.00		METS	51050			0.02	< 0.02					
			48.00	51.00	3.00		METS	51051			0.04	< 0.02					
			51.00	54.00	3.00		METS	51052			0.03	< 0.02					
			54.00	57.00	3.00		METS	51053			0.03	< 0.02					
			57.00	60.00	3.00		METS	51054			0.02	< 0.02					
			60.00	63.00	3.00		METS	51055			0.02	< 0.02					
			63.00	66.00	3.00		METS	51056			0.01	< 0.02					
			66.00	69.00	3.00		METS	51057			0.05	< 0.02					
			69.00	72.00	3.00		METS	51058			0.05	< 0.02					
			72.00	75.00	3.00		METS	51059			0.08	< 0.02					
			75.00	78.00	3.00		METS	51060			0.05	< 0.02					
			78.00	81.00	3.00		METS	51061			0.02	< 0.02					
			81.00	84.00	3.00		METS	51062			0.01	< 0.02					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY LOGAN D.D.H. L 88 - 807 PAGE 3 OF 4

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			84.00	87.00	3.00		SAGD	51063			0.02	< 0.02					
			87.00	90.00	3.00		AGD	51064			0.03	< 0.02					
			90.00	93.00	3.00		AGD	51065			0.02	< 0.02					
			93.00	96.00	3.00		AGD	51066			0.02	< 0.02					
			96.00	99.00	3.00		AGD	51067			0.03	< 0.02					
			99.00	102.00	3.00		AGD	51068			0.02	< 0.02					
			102.00	105.00	3.00		AGD	51069			0.01	< 0.02					
			105.00	108.00	3.00		AGD	51070			< 0.01	< 0.02					
			108.00	111.00	3.00		METS	51071			0.01	< 0.02					
			111.00	114.00	3.00		METS	51072			< 0.01	< 0.02					
			114.00	117.00	3.00		AGD	51073			0.01	< 0.02					
			117.00	120.00	3.00		METS	51074			0.03	< 0.02					
			120.00	123.00	3.00		METS	51075			0.01	< 0.02					
			123.00	126.00	3.00		AGD	51076			< 0.01	< 0.02					
			126.00	129.00	3.00		METS	51077			0.01	< 0.02					
			129.00	132.00	3.00		METS	51078			< 0.01	< 0.02					
			132.00	135.00	3.00		METS	51079			< 0.01	0.02					
			135.00	138.00	3.00		METS	51080			< 0.01	< 0.02					
			138.00	141.00	3.00		METS	51081			< 0.01	< 0.02					
			141.00	144.00	3.00		METS	51082			< 0.01	< 0.02					
			144.00	147.00	3.00		METS	51083			< 0.01	< 0.02					
			147.00	150.00	3.00		METS	51084			< 0.01	< 0.02					
			150.00	153.00	3.00		METS	51085			0.02	< 0.02					
			153.00	156.00	3.00		METS	51086			< 0.01	< 0.02					
			156.00	159.00	3.00		METS	51087			< 0.01	< 0.02					
			159.00	162.00	3.00		METS	51088			< 0.01	< 0.02					
			162.00	165.00	3.00		AGD	51089			< 0.01	< 0.02					
			165.00	168.00	3.00		AGD	51090			< 0.01	< 0.02					
			168.00	171.00	3.00		METS	51091			< 0.01	< 0.02					
			171.00	174.00	3.00		METS	51092			< 0.01	< 0.02					
			174.00	177.00	3.00		METS	51093			0.01	< 0.02					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 807 — PAGE: 4 OF: 4

AREA: — DIP: — AZIMUTH (I): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (I)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			177.00	180.00	3.00		METS	51094			< 0.01	< 0.02					
			180.00	183.00	3.00		METS	51095			< 0.01	< 0.02					
			183.00	186.00	3.00		METS	51096			< 0.01	< 0.02					
			186.00	189.00	3.00		METS	51097			< 0.01	< 0.02					
			189.00	192.00	3.00		AGD	51098			< 0.01	0.02					
			192.00	195.00	3.00		AGD	51099			< 0.01	< 0.02					
			195.00	198.00	3.00		METS	51100			< 0.01	< 0.02					
			198.00	201.00	3.00		METS	51101			< 0.01	< 0.02					
			201.00	204.00	3.00		METS	51102			< 0.01	< 0.02					
			204.00	207.00	3.00		AGD	51103			< 0.01	< 0.02					
			207.00	210.00	3.00		METS	51104			< 0.01	< 0.02					
			210.00	213.00	3.00		METS	51105			1.04	< 0.02					
			213.00	216.00	3.00		METS	51106			< 0.01	< 0.02					
			216.00	219.00	3.00		QV	51107			0.02	< 0.02					
			219.00	222.00	3.00		METS	51108			0.02	< 0.02					
			222.00	225.00	3.00		METS	51109			0.01	0.02					
			225.00	228.00	3.00		METS	51110			0.02	< 0.02					
			228.00	231.00	3.00		METS	51111			0.02	< 0.02					
			231.00	234.00	3.00		METS	51112			0.01	< 0.02					
			234.00	237.00	3.00		METS	51113			0.01	< 0.02					
			237.00	240.00	3.00		METS	51114			0.02	< 0.02					
			240.00	243.00	3.00		METS	51115			0.04	< 0.02					
			243.00	246.00	3.00		METS	51116			0.02	< 0.02					
			246.00	249.00	3.00		METS	51117			< 0.01	< 0.02					
			249.00	252.00	3.00		METS	51118			< 0.01	< 0.02					
			252.00	254.00	2.00		AGD	51119			< 0.01	< 0.02					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 808 — PAGE 1 OF 4

AREA: WEST ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 217.00m
CLAIM: LOGAN 34 — NORTHING: -668.18 — DATE STARTED: JULY 25D 1988
SECTION: 1800 W — EASTING: -1794.44 — DATE FINISHED: JULY 26D 1988
CORE SIZE: 2.0m at base — ELEVATION: 1418.55 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD
CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH 1-8 WAS DUG TO TEST A MODERATE TO STRONG I.P. ANOMALY AND COINCIDENT ZN-AG SOIL GEOCHEMISTRY ANOMALY. NO MINERALIZATION WAS INTERSECTED. MAPPING WAS MADE DIFFICULT BY POOR EXPOSURES AND STEEP SLOPES. THE TRENCH WAS CLOSED AT ITS TARGET LENGTH OF 217m.
UTM COORDINATES: NORTH END N 6706562.70 E 418432.82; INTERMEDIATES N 6706528.25 E 418447.34, N 6706527.93 E 418448.54; SOUTH END N 6706393.42 E 418538.55
NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	170.60°	0.00	12.00	12.00		AGD										
57.00	0.00°	175.60°	12.00	27.00	15.00		SAGD										
127.00	0.00°	173.60°	27.00	39.00	12.00		ROAD										
142.00	0.00°	177.60°	39.00	49.00	10.00		SAGD										
157.00	0.00°	181.60°	49.00	68.80	19.80		METS										
			68.80	104.00	35.20		AGD										
			104.00	110.50	6.50		SAGD										
			110.50	123.00	12.50		AGD										
			123.00	139.00	16.00		METS										
			139.00	141.40	2.40		AGD										
			141.40	154.00	12.60		METS										
			154.00	155.00	1.00		AGD										
			155.00	162.80	7.80		METS										
			162.80	192.00	29.20		AGD										
			192.00	197.40	5.40		METS										
			197.40	205.00	7.60		AGD										
			205.00	208.00	3.00		METS										
			208.00	209.00	1.00		AGD										
			209.00	210.00	1.00		METS										
			210.00	212.00	2.00		SGD										
			212.00	217.00	5.00		METS										
								ASSAYS AND ANALYSES									
			0.00	3.00	3.00		AGD	51190			352ppm	0.2 ppm					
			3.00	6.00	3.00		AGD	51189			348ppm	0.2 ppm					
			6.00	9.00	3.00		AGD	51188			213ppm	0.4 ppm					
			9.00	12.00	3.00		AGD	51187			140ppm	0.2 ppm					
			12.00	15.00	3.00		SAGD	51186			268ppm	0.2 ppm					
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 808 — PAGE: 2 OF: 4

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			15.00	18.00	3.00		SAGD	51185			334ppm	0.2 ppm					
			18.00	21.00	3.00		SAGD	51184			462ppm	0.2 ppm					
			21.00	24.00	3.00		SAGD	51183			1034ppm	0.2 ppm					
			24.00	27.00	3.00		SAGD	51182			478ppm	0.3 ppm					
			39.00	42.00	3.00		SAGD	51181			237ppm	0.6 ppm					
			42.00	45.00	3.00		SAGD	51180			365ppm	0.4 ppm					
			45.00	48.00	3.00		SAGD	51179			394ppm	0.6 ppm					
			48.00	51.00	3.00		METS	51178			354ppm	0.7 ppm					
			51.00	54.00	3.00		METS	51177			280ppm	0.5 ppm					
			54.00	57.00	3.00		METS	51176			208ppm	0.5 ppm					
			57.00	60.00	3.00		METS	51175			179ppm	0.8 ppm					
			60.00	63.00	3.00		METS	51174			298ppm	0.8 ppm					
			63.00	66.00	3.00		METS	51173			355ppm	0.6 ppm					
			66.00	69.00	3.00		METS	51172			850ppm	0.5 ppm					
			69.00	72.00	3.00		AGD	51171			658ppm	0.4 ppm					
			72.00	75.00	3.00		AGD	51170			964ppm	0.4 ppm					
			75.00	78.00	3.00		AGD	51169			362ppm	0.4 ppm					
			78.00	81.00	3.00		AGD	51168			435ppm	0.3 ppm					
			81.00	84.00	3.00		AGD	51167			353ppm	0.4 ppm					
			84.00	87.00	3.00		QV	51166			241ppm	0.4 ppm					
			87.00	90.00	3.00		AGD	51165			164ppm	0.5 ppm					
			90.00	93.00	3.00		AGD	51164			245ppm	0.5 ppm					
			93.00	96.00	3.00		AGD	51163			713ppm	0.3 ppm					
			96.00	99.00	3.00		AGD	51162			796ppm	0.3 ppm					
			99.00	102.00	3.00		AGD	51161			682ppm	0.5 ppm					
			102.00	105.00	3.00		AGD	51160			430ppm	0.2 ppm					
			105.00	108.00	3.00		SAGD	51159			489ppm	0.2 ppm					
			108.00	111.00	3.00		SAGD	51158			537ppm	0.2 ppm					
			111.00	114.00	3.00		AGD	51157			666ppm	0.3 ppm					
			114.00	117.00	3.00		AGD	51156			923ppm	0.3 ppm					
			117.00	119.00	2.00		AGD	51155			332ppm	0.4 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY LOGAN D.D.H. L 88 - 808 PAGE 3 OF 4

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			119.00	121.00	2.00		AGD	51154			283ppm	0.2 ppm					
			121.00	123.00	2.00		AGD	51153			495ppm	0.2 ppm					
			123.00	126.00	3.00		METS	51152			1449ppm	0.2 ppm					
			126.00	129.00	3.00		METS	51151			1637ppm	0.4 ppm					
			129.00	132.00	3.00		METS	51150			1405ppm	0.4 ppm					
			132.00	135.00	3.00		METS	51149			1468ppm	0.6 ppm					
			135.00	138.00	3.00		METS	51148			1850ppm	0.4 ppm					
			138.00	141.00	3.00		AGD	51147			1694ppm	0.6 ppm					
			141.00	144.00	3.00		METS	51146			1292ppm	0.9 ppm					
			144.00	147.00	3.00		METS	51145			1480ppm	0.6 ppm					
			147.00	150.00	3.00		METS	51144			2590ppm	2.2 ppm					
			150.00	153.00	3.00		METS	51143			1370ppm	0.8 ppm					
			153.00	156.00	3.00		METS	51142			1658ppm	0.6 ppm					
			156.00	159.00	3.00		METS	51141			1038ppm	0.4 ppm					
			159.00	162.00	3.00		METS	51140			997ppm	0.6 ppm					
			162.00	165.00	3.00		AGD	51139			597ppm	0.5 ppm					
			165.00	168.00	3.00		AGD	51138			479ppm	1.0 ppm					
			168.00	171.00	3.00		AGD	51137			552ppm	2.4 ppm					
			171.00	174.00	3.00		AGD	51136			383ppm	1.0 ppm					
			174.00	177.00	3.00		AGD	51135			594ppm	1.4 ppm					
			177.00	180.00	3.00		AGD	51134			527ppm	1.0 ppm					
			180.00	183.00	3.00		AGD	51133			444ppm	1.2 ppm					
			183.00	186.00	3.00		AGD	51132			683ppm	1.7 ppm					
			186.00	189.00	3.00		AGD	51131			766ppm	3.3 ppm					
			189.00	192.00	3.00		AGD	51130			548ppm	12.1 ppm					
			192.00	194.00	2.00		METS	51129			1276ppm	4.7 ppm					
			194.00	196.00	2.00		METS	51128			1424ppm	1.8 ppm					
			196.00	198.00	2.00		METS	51127			1872ppm	3.0 ppm					
			198.00	201.00	3.00		AGD	51126			408ppm	0.2 ppm					
			201.00	204.00	3.00		AGD	51125			774ppm	0.2 ppm					
			204.00	207.00	3.00		METS	51124			788ppm	0.4 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 808 — PAGE: 4 OF 4

AREA: — DIP: — AZIMUTH (t): — DEPTH:

CLAIM: — NORTHING: — DATE STARTED:

SECTION: — EASTING: — DATE FINISHED:

CORE SIZE: — ELEVATION: — CONTRACTOR:

CORE RECOVERY: — CORE STORED AT: — LOGGED BY:

COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			207.00	209.00	2.00		METS	51123			799ppm	0.5 ppm					
			209.00	211.00	2.00		AGD	51122			838ppm	0.5 ppm					
			211.00	214.00	3.00		METS	51121			591ppm	0.5 ppm					
			214.00	217.00	3.00		METS	51120			713ppm	0.4 ppm					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 809 — PAGE 1 OF 7

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (I): 180 ° — DEPTH: 338.00m
CLAIM: LOGAN 6 — NORTHING: 42.81 — DATE STARTED: AUGUST 9D 1988
SECTION: 490 E — EASTING: 481.59 — DATE FINISHED: AUGUST 13D 1988
CORE SIZE: 2.0m at base — ELEVATION: 1358.05 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD
CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: MATT KOKAN

COMMENTS: TRENCH L-809 WAS DUG TO TEST COINCIDENT SOIL GEOCHEMISTRY AND I.P. ANOMALIES, AND TO TEST THE SOURCE OF MINERALIZED FLOAT. APPROXIMATELY 5m OF WEAK PYRITE-ARSENOPYRITE-SPHALERITE MINERALIZATION IN QUARTZ VEINS WAS INTERSECTED. THE TRENCH WAS TERMINATED AT THE TARGET LENGTH OF 338m.

UTM COORDINATES: NORTH END N 6708428.42 E 419915.79, CENTER N 6708211.77 E 420057.80, SOUTH END N 6708139.62 E 420103.18

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (I)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	2.00	2.00		AGD										
			2.00	2.60	0.60		GM										
			0.00	7.50	7.50		AGD										
			7.50	11.40	3.90		SAGD										
			11.40	12.40	1.00		GM										
			12.40	14.00	1.60		SAGD										
			14.00	14.60	0.60		AGD										
			14.60	19.00	4.40		QV										
			19.00	22.70	3.70		AGD										
			22.70	23.80	1.10		SAGD										
			23.80	42.40	18.60		AGD										
			42.40	44.60	2.20		SAGD										
			44.60	83.00	38.40		AGD										
			83.00	87.10	4.10		SAGD										
			87.10	136.90	49.80		AGD										
			136.90	142.00	5.10		SAGD										
			142.00	163.30	21.30		AGD										
			163.30	164.30	1.00		QV										
			164.30	165.00	0.70		SAGD										
			165.00	167.00	2.00		AGD										
			167.00	168.30	1.30		SAGD										
			168.30	169.00	0.70		QV										
			169.00	174.00	5.00		AGD										
			174.00	182.00	8.00		OB										
			182.00	218.40	36.40		AGD										
			218.40	219.70	1.30		SAGD										
			219.70	258.00	38.30		AGD										
			258.00	259.00	1.00		SCH										
			259.00	264.40	5.40		SAGD										
			264.40	282.00	17.60		AGD										
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 809 — PAGE: 2 — OF: 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			282.00	290.00	8.00		SAGD										
			290.00	292.50	2.50		AGD										
			292.50	295.00	2.50		SAGD										
			295.70	295.70	0.00		AGD										
			295.70	307.40	11.70		SAGD										
			307.40	308.60	1.20		AGD										
			308.60	312.00	3.40		SAGD										
			312.00	312.80	0.80		AGD										
			312.80	325.20	12.40		SAGD										
			325.20	335.00	9.80		AGD										
			335.00	338.00	3.00		SAGD										
								ASSAYS AND ANALYSES									
			0.00	2.00	2.00		AGD	51425			1000ppm	1.8 ppm					
			2.00	5.00	3.00		AGD	51424			660ppm	8.5 ppm					
			5.00	8.00	3.00		QV	51423			540ppm	0.2 ppm					
			8.00	11.00	3.00		SAGD	51422			1300ppm	1.3 ppm					
			11.00	12.00	1.00		GM	51421			620ppm	0.2 ppm					
			12.00	13.00	1.00		SAGD	51420			1500ppm	0.6 ppm					
			13.00	14.00	1.00		SAGD	51419			1050ppm	0.8 ppm					
			14.00	15.00	1.00		AGD	51418			2200ppm	1.3 ppm					
			15.00	16.00	1.00		QV	51417			4000ppm	20.7 ppm					
			16.00	17.00	1.00		QV	51416			3000ppm	12.5 ppm					
			17.00	18.00	1.00		QV	51415			4800ppm	21.8 ppm					
			18.00	19.00	1.00		QV	51414			7900ppm	48.9 ppm					
			19.00	20.00	1.00		AGD	51413			640ppm	1.5 ppm					
			20.00	21.00	1.00		AGD	51412			800ppm	1.3 ppm					
			21.00	22.00	1.00		AGD	51411			510ppm	2.2 ppm					
			22.00	23.00	1.00		AGD	51410			640ppm	2.2 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 809 — PAGE: 3 — OF: 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			23.00	24.00	1.00		SAGD	51409			1000ppm	1.4 ppm					
			24.00	25.00	1.00		AGD	51408			870ppm	1.9 ppm					
			25.00	26.00	1.00		AGD	51407			205ppm	0.9 ppm					
			26.00	27.00	1.00		AGD	51406			480ppm	3.3 ppm					
			27.00	28.00	1.00		AGD	51405			335ppm	18.8 ppm					
			28.00	29.00	1.00		AGD	51404			250ppm	10.2 ppm					
			29.00	30.00	1.00		AGD	51403			640ppm	2.4 ppm					
			30.00	31.00	1.00		AGD	51402			355ppm	1.3 ppm					
			31.00	34.00	3.00		AGD	51401			1200ppm	27.5 ppm					
			34.00	35.00	1.00		AGD	51400			930ppm	1.6 ppm					
			35.00	36.00	1.00		AGD	51399			6.45	6.1 ppm					
			36.00	37.00	1.00		AGD	51398			230ppm	1.1 ppm					
			37.00	40.00	3.00		AGD	51397			280ppm	1.2 ppm					
			40.00	43.00	3.00		SAGD	51396			280ppm	0.7 ppm					
			43.00	46.00	3.00		SAGD	51395			710ppm	1.6 ppm					
			46.00	49.00	3.00		AGD	51394			350ppm	0.2 ppm					
			49.00	52.00	3.00		AGD	51393			510ppm	2.3 ppm					
			52.00	55.00	3.00		AGD	51392			520ppm	0.7 ppm					
			55.00	58.00	3.00		AGD	51391			810ppm	4.3 ppm					
			58.00	61.00	3.00		AGD	51390			590ppm	1.3 ppm					
			61.00	64.00	3.00		AGD	51389			560ppm	0.4 ppm					
			64.00	67.00	3.00		AGD	51388			330ppm	0.2 ppm					
			67.00	70.00	3.00		AGD	51387			395ppm	0.1 ppm					
			70.00	73.00	3.00		AGD	51386			560ppm	0.4 ppm					
			73.00	76.00	3.00		AGD	51385			770ppm	1.4 ppm					
			76.00	79.00	3.00		AGD	51384			600ppm	0.4 ppm					
			79.00	82.00	3.00		AGD	51383			520ppm	1.2 ppm					
			82.00	85.00	3.00		SAGD	51382			530ppm	4.5 ppm					
			85.00	88.00	3.00		SAGD	51381			520ppm	0.4 ppm					
			88.00	91.00	3.00		AGD	51380			470ppm	6.7 ppm					
			91.00	94.00	3.00		AGD	51379			760ppm	1.2 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY LOGAN D.D.H. L 88 - 809 PAGE 4 OF 7

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			94.00	97.00	3.00		AGD	51378			500ppm	0.3 ppm					
			97.00	100.00	3.00		AGD	51377			250ppm	0.1 ppm					
			100.00	103.00	3.00		AGD	51376			800ppm	0.9 ppm					
			103.00	104.00	1.00		AGD	51375			1100ppm	0.6 ppm					
			104.00	105.00	1.00		AGD	51374			6.80	1.51					
			105.00	106.00	1.00		AGD	51373			590ppm	0.5 ppm					
			106.00	108.00	2.00		AGD	51372			110ppm	0.1 ppm					
			108.00	111.00	3.00		AGD	51371			360ppm	5.6 ppm					
			111.00	114.00	3.00		AGD	51370			290ppm	0.2 ppm					
			114.00	115.00	1.00		AGD	51369			590ppm	0.9 ppm					
			115.00	116.00	1.00		AGD	51368			450ppm	0.7 ppm					
			116.00	117.00	1.00		AGD	51367			820ppm	1.2 ppm					
			117.00	118.00	1.00		AGD	51366			920ppm	5.2 ppm					
			118.00	119.00	1.00		AGD	51365			930ppm	10.0 ppm					
			119.00	122.00	3.00		AGD	51364			790ppm	0.3 ppm					
			122.00	125.00	3.00		AGD	51363			1100ppm	0.2 ppm					
			125.00	128.00	3.00		AGD	51362			880ppm	0.2 ppm					
			128.00	131.00	3.00		AGD	51361			680ppm	0.1 ppm					
			131.00	134.00	3.00		AGD	51360			980ppm	0.3 ppm					
			134.00	135.00	1.00		AGD	51359			1450ppm	12.6 ppm					
			135.00	136.00	1.00		AGD	51358			740ppm	8.5 ppm					
			136.00	137.00	1.00		SAGD	51357			610ppm	0.4 ppm					
			137.00	138.00	1.00		SAGD	51356			780ppm	0.4 ppm					
			138.00	139.00	1.00		SAGD	51355			1050ppm	0.2 ppm					
			139.00	140.00	1.00		SAGD	51354			2100ppm	1.8 ppm					
			140.00	143.00	3.00		SAGD	51353			770ppm	0.2 ppm					
			143.00	146.00	3.00		AGD	51352			740ppm	0.1 ppm					
			146.00	149.00	3.00		AGD	51351			460ppm	1.4 ppm					
			149.00	152.00	3.00		AGD	51350			760ppm	0.1 ppm					
			152.00	155.00	3.00		AGD	51349			460ppm	0.1 ppm					
			155.00	158.00	3.00		AGD	51348			580ppm	0.2 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 809 — PAGE: 5 OF: 7

AREA: — DIP: — AZIMUTH (I): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (I)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			158.00	161.00	3.00		AGD	51347			740ppm	0.1 ppm					
			161.00	163.00	2.00		AGD	51346			710ppm	0.2 ppm					
			163.00	164.00	1.00		QV	51345			2700ppm	2.9 ppm					
			164.00	165.00	1.00		SAGD	51344			2800ppm	4.7 ppm					
			165.00	166.00	1.00		AGD	51343			2900ppm	17.6 ppm					
			166.00	167.00	1.00		AGD	51342			1200ppm	1.0 ppm					
			167.00	168.00	1.00		SAGD	51341			1000ppm	0.6 ppm					
			168.00	169.00	1.00		QV	51340			750ppm	0.5 ppm					
			169.00	170.00	1.00		AGD	51339			460ppm	4.4 ppm					
			170.00	173.00	3.00		AGD	51338			560ppm	9.9 ppm					
			173.00	176.00	3.00		AGD	51337			290ppm	0.1 ppm					
			0.00	0.00	0.00			0									
			0.00	0.00	0.00			0									
			182.00	185.00	3.00		AGD	51334			490ppm	0.2 ppm					
			185.00	188.00	3.00		AGD	51333			460ppm	0.2 ppm					
			188.00	191.00	3.00		AGD	51332			520ppm	0.2 ppm					
			191.00	194.00	3.00		AGD	51331			540ppm	0.1 ppm					
			194.00	197.00	3.00		AGD	51330			780ppm	0.2 ppm					
			197.00	200.00	3.00		AGD	51329			310ppm	0.1 ppm					
			200.00	203.00	3.00		AGD	51328			330ppm	0.2 ppm					
			203.00	206.00	3.00		AGD	51327			550ppm	< 0.1 ppm					
			206.00	209.00	3.00		AGD	51326			460ppm	0.1 ppm					
			209.00	212.00	3.00		AGD	51325			490ppm	0.1 ppm					
			212.00	215.00	3.00		AGD	51324			420ppm	< 0.1 ppm					
			215.00	218.00	3.00		AGD	51323			500ppm	0.1 ppm					
			218.00	221.00	3.00		AGD	51322			1150ppm	0.2 ppm					
			221.00	224.00	3.00		AGD	51321			1150ppm	0.2 ppm					
			224.00	227.00	3.00		AGD	51320			1500ppm	0.2 ppm					
			227.00	230.00	3.00		AGD	51319			780ppm	0.1 ppm					
			230.00	233.00	3.00		AGD	51318			1450ppm	0.1 ppm					
			233.00	236.00	3.00		AGD	51317			430ppm	< 0.1 ppm					
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 809 — PAGE: 6 OF 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			236.00	239.00	3.00		AGD	51316			460ppm	< 0.1 ppm					
			239.00	242.00	3.00		AGD	51315			530ppm	0.1 ppm					
			242.00	245.00	3.00		AGD	51314			340ppm	< 0.1 ppm					
			245.00	248.00	3.00		AGD	51313			570ppm	0.2 ppm					
			248.00	251.00	3.00		AGD	51312			820ppm	0.2 ppm					
			251.00	254.00	3.00		AGD	51311			540ppm	0.1 ppm					
			254.00	257.00	3.00		AGD	51310			1800ppm	0.1 ppm					
			257.00	260.00	3.00		SCH	51309			1300ppm	0.1 ppm					
			260.00	263.00	3.00		SAGD	51308			590ppm	0.1 ppm					
			263.00	266.00	3.00		AGD	51307			720ppm	0.2 ppm					
			266.00	269.00	3.00		AGD	51306			470ppm	0.2 ppm					
			269.00	272.00	3.00		AGD	51305			270ppm	0.3 ppm					
			272.00	275.00	3.00		AGD	51304			275ppm	0.2 ppm					
			275.00	278.00	3.00		AGD	51303			380ppm	0.1 ppm					
			278.00	281.00	3.00		AGD	51302			360ppm	< 0.1 ppm					
			281.00	284.00	3.00		SAGD	51301			440ppm	< 0.1 ppm					
			284.00	287.00	3.00		SAGD	51300			550ppm	< 0.1 ppm					
			287.00	290.00	3.00		SAGD	51299			380ppm	< 0.1 ppm					
			290.00	293.00	3.00		AGD	51298			680ppm	0.3 ppm					
			293.00	294.50	1.50		QV	51297			1040ppm	3.3 ppm					
			294.50	296.00	1.50		AGD	51296			580ppm	0.6 ppm					
			296.00	299.00	3.00		SAGD	51295			360ppm	< 0.1 ppm					
			299.00	302.00	3.00		SAGD	51294			630ppm	0.1 ppm					
			302.00	305.00	3.00		SAGD	51293			570ppm	0.1 ppm					
			305.00	308.00	3.00		SAGD	51292			860ppm	0.1 ppm					
			308.00	311.00	3.00		SAGD	51291			520ppm	< 0.1 ppm					
			311.00	314.00	3.00		AGD	51290			370ppm	0.1 ppm					
			314.00	317.00	3.00		SAGD	51289			560ppm	0.1 ppm					
			317.00	320.00	3.00		SAGD	51288			480ppm	0.2 ppm					
			320.00	323.00	3.00		SAGD	51287			370ppm	0.1 ppm					
			323.00	326.00	3.00		SAGD	51286			660ppm	0.1 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 809 — PAGE: 7 OF: 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			326.00	329.00	3.00		AGD	51285			850ppm	0.1 ppm					
			329.00	332.00	3.00		AGD	51284			570ppm	0.2 ppm					
			332.00	335.00	3.00		AGD	51283			370ppm	0.1 ppm					
			335.00	338.00	3.00		SAGD	51282			710ppm	K 0.1 ppm					

DDR - 85 - 10

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 810 — PAGE 1 OF 3

AREA: WEST ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 109.00m
CLAIM: LOGAN 7 LOGAN 8 — NORTHING: 105.65 — DATE STARTED: AUGUST 3D 1988
SECTION: 1095 E — EASTING: 1085.18 — DATE FINISHED: AUGUST 3D 1988
CORE SIZE: 2.0 m at base — ELEVATION: 1361.54 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD
CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH 88-L-10 WAS DUG TO TEST A STRONG I.P. ANOMALY ABOVE THE SECTION FORMED BY DDH 87-L-53. NO SIGNIFICANT MINERALIZATION WAS INTERSECTED. THE TRENCH WAS ABANDONED AT THE TARGET LENGTH OF 110m.

UTM COORDINATES: NORTH END NORTHING 6708819.24 EASTING 420379.64, SOUTH END NORTHING 6708729.30 EASTING 420439.32

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	181.60°	0.00	2.00	2.00		OB										
20.00	0.00°	185.60°	2.00	4.00	2.00		GD										
30.00	0.00°	183.60°	4.00	5.00	1.00		SAGD										
42.00	0.00°	180.60°	5.00	7.50	2.50		SCH										
50.00	0.00°	182.60°	7.50	9.00	1.50		AGD										
68.00	0.00°	175.60°	9.00	9.80	0.80		SCH										
90.00	0.00°	177.60°	9.80	15.80	6.00		GD										
			15.80	30.00	14.20		AGD										
			30.00	42.60	12.60		GD										
			42.60	44.00	1.40		AGD										
			44.00	46.00	2.00		SAGD										
			46.00	54.70	8.70		AGD										
			54.70	56.20	1.50		METS										
			56.20	60.00	3.80		AGD										
			60.00	63.00	3.00		SCH										
			63.00	64.00	1.00		SAGD										
			64.00	77.40	13.40		AGD										
			77.40	80.80	3.40		METS										
			80.80	88.50	7.70		AGD										
			88.50	95.10	6.60		GD										
			95.10	99.20	4.10		AGD										
			99.20	100.20	1.00		SAGD										
			100.20	101.40	1.20		METS										
			101.40	104.90	3.50		AGD										
			104.90	108.00	3.10		METS										
			108.00	109.00	1.00		AGD										
								ASSAYS AND ANALYSES									
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 810 PAGE: 2 OF: 3

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			2.00	5.00	3.00		GD	51247			195ppm	0.1 ppm					
			5.00	8.00	3.00		SCH	51248			165ppm	0.1 ppm					
			8.00	11.00	3.00		GD	51249			320ppm	0.1 ppm					
			11.00	14.00	3.00		GD	51250			143ppm	0.5 ppm					
			14.00	17.00	3.00		GD	51251			245ppm	0.1 ppm					
			17.00	20.00	3.00		GD	51252			230ppm	0.1 ppm					
			20.00	23.00	3.00		GD	51253			250ppm	0.2 ppm					
			23.00	26.00	3.00		AGD	51254			480ppm	0.1 ppm					
			26.00	29.00	3.00		AGD	51255			250ppm	0.1 ppm					
			29.00	32.00	3.00		GD	51256			300ppm	0.1 ppm					
			32.00	35.00	3.00		GD	51257			245ppm	0.1 ppm					
			35.00	38.00	3.00		GD	51258			260ppm	0.1 ppm					
			38.00	41.00	3.00		GD	51259			98ppm	0.1 ppm					
			41.00	44.00	3.00		GD	51260			330ppm	0.1 ppm					
			44.00	47.00	3.00		SAGD	51261			720ppm	0.1 ppm					
			47.00	50.00	3.00		AGD	51262			350ppm	0.2 ppm					
			50.00	53.00	3.00		AGD	51263			690ppm	0.2 ppm					
			53.00	56.00	3.00		AGD	51264			800ppm	0.1 ppm					
			56.00	59.00	3.00		AGD	51265			720ppm	0.1 ppm					
			59.00	62.00	3.00		SCH	51266			580ppm	0.1 ppm					
			62.00	65.00	3.00		AGD	51267			960ppm	0.1 ppm					
			65.00	68.00	3.00		AGD	51268			345ppm	0.2 ppm					
			68.00	71.00	3.00		AGD	51269			118ppm	0.1 ppm					
			71.00	74.00	3.00		AGD	51270			265ppm	0.1 ppm					
			74.00	77.00	3.00		AGD	51271			155ppm	0.1 ppm					
			77.00	80.00	3.00		METS	51272			500ppm	0.2 ppm					
			80.00	83.00	3.00		AGD	51273			650ppm	0.4 ppm					
			83.00	86.00	3.00		AGD	51274			285ppm	0.3 ppm					
			86.00	89.00	3.00		AGD	51275			315ppm	0.2 ppm					
			89.00	92.00	3.00		GD	51276			330ppm	0.1 ppm					
			92.00	95.00	3.00		GD	51277			270ppm	0.1 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 810 — PAGE: 3 OF 3

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: ____ ____ CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			95.00	98.00	3.00		AGD	51278			250ppm	< 0.1 ppm					
			98.00	101.00	3.00		AGD	51279			270ppm	< 0.1 ppm					
			101.00	104.00	3.00		AGD	51280			200ppm	< 0.1 ppm					
			104.00	107.00	3.00		METS	51281			335ppm	< 0.1 ppm					

DDR - 85 - 10

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 811 — PAGE 1 OF 2

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 117.00m

CLAIM: LOGAN 8 — NORTHING: -277 — DATE STARTED: AUGUST 13D 1988

SECTION: 1205 E — EASTING: 1206 — DATE FINISHED: AUGUST 15D 1988

CORE SIZE: 2.0m at base — ELEVATION: 1317 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: MATT KOKAN

COMMENTS: TRENCH L-811 WAS DUG TO TEST A COINCIDENT I.P. AND ZN-AG SOIL GEOCHEMISTRY ANOMALY. APPROXIMATELY 5m OF WIDELY-SPACED WEAKLY MINERALIZED QUARTZ VEINING WAS INTERSECTED. THE TRENCH WAS ABANDONED AFTER REACHING THE TARGET LENGTH OF 120m.

UTM COORDINATES: NORTH END NORTHING 6708574.00 EASTING 420693.00

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED							
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	18.60	18.60		AGD										
			18.60	23.00	4.40		SAGD										
			23.00	43.50	20.50		AGD										
			43.50	45.00	1.50		SAGD										
			45.00	48.40	3.40		AGD										
			48.40	49.60	1.20		SAGD										
			49.60	60.10	10.50		AGD										
			60.10	60.80	0.70		MQV										
			60.80	72.80	12.00		AGD										
			72.80	74.00	1.20		SAGD										
			74.00	93.00	19.00		AGD										
			93.00	99.00	6.00		SAGD										
			99.00	107.30	8.30		AGD										
			107.30	112.50	5.20		SAGD										
			112.50	117.00	4.50		AGD										
								ASSAYS AND ANALYSES									
			0.00	3.00	3.00		AGD	74266			80ppm	0.1 ppm					
			3.00	6.00	3.00		AGD	74265			100ppm	0.1 ppm					
			6.00	9.00	3.00		AGD	74264			60ppm	0.1 ppm					
			9.00	12.00	3.00		AGD	74263			78ppm	0.1 ppm					
			12.00	15.00	3.00		AGD	74262			140ppm	0.2 ppm					
			15.00	18.00	3.00		AGD	74261			95ppm	0.2 ppm					
			18.00	21.00	3.00		SAGD	74260			537ppm	1.0 ppm					
			21.00	22.00	1.00		SAGD	74259			562ppm	0.3 ppm					
			22.00	24.00	2.00		SAGD	74258			325ppm	0.1 ppm					
			24.00	27.00	3.00		AGD	74257			190ppm	0.2 ppm					
			27.00	30.00	3.00		AGD	74256			140ppm	0.1 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 811 PAGE: 2 OF: 2

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED					
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			30.00	33.00	3.00		AGD	74255			100ppm	0.1 ppm					
			33.00	36.00	3.00		AGD	74254			160ppm	0.1 ppm					
			36.00	39.00	3.00		AGD	74253			135ppm	0.2 ppm					
			39.00	42.00	3.00		AGD	74252			180ppm	0.2 ppm					
			42.00	45.00	3.00		SAGD	74251			102ppm	0.3 ppm					
			45.00	48.00	3.00		AGD	51500			120ppm	0.4 ppm					
			48.00	51.00	3.00		AGD	51499			128ppm	0.5 ppm					
			51.00	54.00	3.00		AGD	51498			72ppm	0.5 ppm					
			54.00	57.00	3.00		AGD	51497			130ppm	3.3 ppm					
			57.00	60.00	3.00		AGD	51496			142ppm	8.3 ppm					
			60.00	61.00	1.00		MQV	51495			1933ppm	35.69					
			61.00	63.00	2.00		AGD	51494			110ppm	< 0.1 ppm					
			63.00	66.00	3.00		AGD	51493			155ppm	0.1 ppm					
			66.00	69.00	3.00		AGD	51492			120ppm	0.3 ppm					
			69.00	72.00	3.00		AGD	51491			152ppm	0.2 ppm					
			72.00	75.00	3.00		AGD	51490			213ppm	0.1 ppm					
			75.00	78.00	3.00		AGD	51489			120ppm	0.1 ppm					
			78.00	81.00	3.00		AGD	51488			90ppm	0.1 ppm					
			81.00	84.00	3.00		AGD	51487			110ppm	0.1 ppm					
			84.00	87.00	3.00		AGD	51486			92ppm	0.1 ppm					
			87.00	90.00	3.00		AGD	51485			110ppm	0.1 ppm					
			90.00	93.00	3.00		SAGD	51484			150ppm	0.2 ppm					
			93.00	96.00	3.00		SAGD	51483			608ppm	0.3 ppm					
			96.00	99.00	3.00		SAGD	51482			140ppm	0.1 ppm					
			99.00	102.00	3.00		AGD	51481			80ppm	< 0.1 ppm					
			102.00	105.00	3.00		AGD	51480			53ppm	< 0.1 ppm					
			105.00	108.00	3.00		SAGD	51479			93ppm	0.2 ppm					
			108.00	111.00	3.00		SAGD	51478			430ppm	0.3 ppm					
			111.00	114.00	3.00		SAGD	51477			471ppm	0.8 ppm					
			114.00	117.00	3.00		AGD	51476			652ppm	0.2 ppm					

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 812 — PAGE 1 OF 5

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 111.00m

CLAIM: LOGAN 5 — NORTHING: 214 — DATE STARTED: AUGUST 16D 1988

SECTION: 685 E — EASTING: 681 — DATE FINISHED: AUGUST 19D 1988

CORE SIZE: 2.0m at base — ELEVATION: 1379 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH L-812 WAS DUG TO TEST GRADE AND CONTINUITY OF MAIN ZONE MINERALIZATION AT SURFACE ABOVE THE SECTION FORMED BY DDH 87-L-44. APPROXIMATELY 40m OF WEAK ARSENOPYRITE-SPHALERITE MINERALIZATION WAS INTERSECTED. THE TRENCH WAS ABANDONED AFTER PASSING THE TARGET LENGTH OF 100m.

UTM COORDINATES: NORTH END NORTHING 6708684.00 EASTING 419983.00

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED					
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	5.00	5.00		AGD										
			5.00	8.40	3.40		SCH										
			8.40	13.00	4.60		AGD										
			13.00	14.00	1.00		SAGD										
			14.00	28.00	14.00		AGD										
			28.00	31.00	3.00		SAGD										
			31.00	38.00	7.00		GM										
			38.00	54.60	16.60		AFD										
			54.60	60.60	6.00		FQP										
			60.60	64.00	3.40		AGD										
			64.00	65.20	1.20		AFD										
			65.20	70.00	4.80		AGD										
			70.00	71.00	1.00		GM										
			71.00	75.50	4.50		AFD										
			75.50	80.00	4.50		GM										
			80.00	87.00	7.00		SAGD										
			87.00	90.80	3.80		AGD										
			90.80	94.00	3.20		SAGD										
			94.00	111.00	17.00		AGD										
								ASSAYS AND ANALYSES									
			0.00	1.00	1.00		AGD	74284			1860ppm	0.4 ppm					
			1.00	2.00	1.00		AGD	74285			1480ppm	0.4 ppm					
			2.00	3.00	1.00		AGD	74286			1340ppm	0.1 ppm					
			3.00	4.00	1.00		AGD	74287			1130ppm	0.4 ppm					
			4.00	5.00	1.00		AGD	74288			2500ppm	0.4 ppm					
			5.00	6.00	1.00		SCH	74289			990ppm	0.8 ppm					
			6.00	7.00	1.00		SCH	74290			1060ppm	0.9 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 812 — PAGE: 2 OF 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED								
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t		
			7.00	8.00	1.00		SCH	74291			1280ppm	0.7 ppm							
			8.00	9.00	1.00		AGD	74292			850ppm	0.5 ppm							
			9.00	10.00	1.00		AGD	74293			268ppm	1.3 ppm							
			10.00	11.00	1.00		AGD	74294			580ppm	2.0 ppm							
			11.00	12.00	1.00		AGD	74295			1020ppm	0.4 ppm							
			12.00	13.00	1.00		AGD	74296			650ppm	0.2 ppm							
			13.00	14.00	1.00		SAGD	74297			490ppm	0.6 ppm							
			14.00	15.00	1.00		AGD	74298			570ppm	0.4 ppm							
			15.00	16.00	1.00		AGD	74299			460ppm	0.9 ppm							
			16.00	17.00	1.00		AGD	74300			470ppm	0.7 ppm							
			17.00	18.00	1.00		AGD	74301			380ppm	1.3 ppm							
			18.00	19.00	1.00		AGD	74302			316ppm	1.4 ppm							
			19.00	20.00	1.00		AGD	74303			372ppm	5.2 ppm							
			20.00	21.00	1.00		AGD	74304			470ppm	2.2 ppm							
			21.00	22.00	1.00		AGD	74305			980ppm	0.3 ppm							
			22.00	23.00	1.00		AGD	74306			1170ppm	1.2 ppm							
			23.00	24.00	1.00		AGD	74307			126ppm	1.2 ppm							
			24.00	25.00	1.00		AGD	74308			276ppm	0.7 ppm							
			25.00	26.00	1.00		AGD	74309			450ppm	1.3 ppm							
			26.00	27.00	1.00		AGD	74310			460ppm	1.5 ppm							
			27.00	28.00	1.00		AGD	74311			450ppm	2.0 ppm							
			28.00	29.00	1.00		SAGD	74312			324ppm	2.7 ppm							
			29.00	30.00	1.00		SAGD	74313			224ppm	0.38							
			30.00	31.00	1.00		SAGD	74314			370ppm	0.21							
			31.00	32.00	1.00		GM	74315			182ppm	0.42							
			32.00	33.00	1.00		SAGD	74316			194ppm	0.19							
			33.00	34.00	1.00		SAGD	74317			280ppm	0.27							
			34.00	35.00	1.00		GM	74318			590ppm	4.28							
			35.00	36.00	1.00		SAGD	74319			780ppm	14.43							
			36.00	37.00	1.00		SAGD	74320			440ppm	6.89							
			37.00	38.00	1.00		GM	74321			800ppm	15.24							
								CONTINUED											

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 812 — PAGE: 3 OF: 5

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			38.00	39.00	1.00		AFD	74322			610ppm	10.92					
			39.00	40.00	1.00		AFD	74323			324ppm	2.22					
			40.00	41.00	1.00		AFD	74324			240ppm	1.32					
			41.00	42.00	1.00		AFD	74325			218ppm	0.95					
			42.00	43.00	1.00		AFD	74326			230ppm	1.53					
			43.00	44.00	1.00		AFD	74327			194ppm	0.71					
			44.00	45.00	1.00		AFD	74328			272ppm	2.60					
			45.00	46.00	1.00		AFD	74329			240ppm	1.71					
			46.00	47.00	1.00		AFD	74330			164ppm	2.98					
			47.00	48.00	1.00		QV	74331			148ppm	2.90					
			48.00	49.00	1.00		AFD	74332			178ppm	1.29					
			49.00	50.00	1.00		AFD	74333			188ppm	1.30					
			50.00	51.00	1.00		AFD	74334			144ppm	1.50					
			51.00	52.00	1.00		AFD	74335			104ppm	0.48					
			52.00	53.00	1.00		AFD	74336			118ppm	0.47					
			53.00	54.00	1.00		AFD	74337			112ppm	0.50					
			54.00	55.00	1.00		AFD	74338			96ppm	0.40					
			55.00	56.00	1.00		FQP	74339			134ppm	0.27					
			56.00	57.00	1.00		FQP	74340			156ppm	0.41					
			57.00	58.00	1.00		FQP	74341			142ppm	0.53					
			58.00	59.00	1.00		FQP	74342			316ppm	0.59					
			59.00	60.00	1.00		FQP	74343			174ppm	0.53					
			60.00	61.00	1.00		AFD	74344			170ppm	0.40					
			61.00	62.00	1.00		AGD	74345			200ppm	0.93					
			62.00	63.00	1.00		AGD	74346			1580ppm	0.15					
			63.00	64.00	1.00		AGD	74347			1530ppm	0.22					
			64.00	65.00	1.00		AFD	74348			382ppm	0.60					
			65.00	66.00	1.00		AGD	74349			1260ppm	1.19					
			66.00	67.00	1.00		AGD	74350			1280ppm	1.76					
			67.00	68.00	1.00		AFD	74351			340ppm	0.42					
			68.00	69.00	1.00		AGD	74352			124ppm	12.1 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 812 PAGE: 4 OF: 5

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;														
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			69.00	70.00	1.00		AGD	74353			146ppm	3.8 ppm					
			70.00	71.00	1.00		GM	74354			118ppm	1.1 ppm					
			71.00	72.00	1.00		AFD	74355			500ppm	0.9 ppm					
			72.00	73.00	1.00		AFD	74356			328ppm	0.8 ppm					
			73.00	74.00	1.00		AFD	74357			44ppm	0.4 ppm					
			74.00	75.00	1.00		AFD	74358			24ppm	0.4 ppm					
			75.00	76.00	1.00		AFD	74359			142ppm	6.4 ppm					
			76.00	77.00	1.00		GM	74360			56ppm	1.4 ppm					
			77.00	78.00	1.00		GM	74361			336ppm	0.7 ppm					
			78.00	79.00	1.00		GM	74362			720ppm	0.3 ppm					
			79.00	80.00	1.00		GM	74363			1120ppm	7.0 ppm					
			80.00	81.00	1.00		SAGD	74364			86ppm	0.5 ppm					
			81.00	82.00	1.00		SAGD	74365			102ppm	0.6 ppm					
			82.00	83.00	1.00		SAGD	74366			88ppm	0.2 ppm					
			83.00	84.00	1.00		SAGD	74367			136ppm	4.4 ppm					
			84.00	85.00	1.00		SAGD	74368			28ppm	0.4 ppm					
			85.00	86.00	1.00		SAGD	74369			30ppm	0.4 ppm					
			86.00	87.00	1.00		SAGD	74370			48ppm	1.4 ppm					
			87.00	88.00	1.00		AGD	74371			68ppm	0.6 ppm					
			88.00	89.00	1.00		AGD	74372			66ppm	0.3 ppm					
			89.00	90.00	1.00		AGD	74373			800ppm	0.5 ppm					
			90.00	91.00	1.00		AGD	74374			152ppm	0.1 ppm					
			91.00	92.00	1.00		SAGD	74375			268ppm	0.7 ppm					
			92.00	93.00	1.00		SAGD	74376			116ppm	0.5 ppm					
			93.00	94.00	1.00		SAGD	74377			54ppm	0.8 ppm					
			94.00	95.00	1.00		AGD	74283			880ppm	0.1 ppm					
			95.00	96.00	1.00		AGD	74282			840ppm	0.2 ppm					
			96.00	97.00	1.00		AGD	74281			780ppm	0.2 ppm					
			97.00	98.00	1.00		AGD	74280			730ppm	0.5 ppm					
			98.00	99.00	1.00		AGD	74279			580ppm	0.2 ppm					
			99.00	100.00	1.00		AGD	74278			2300ppm	0.7 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 812 PAGE: 5 OF: 5

AREA: DIP: AZIMUTH (t): DEPTH:

CLAIM: NORTHING: DATE STARTED:

SECTION: EASTING: DATE FINISHED:

CORE SIZE: ELEVATION: CONTRACTOR:

CORE RECOVERY: CORE STORED AT: LOGGED BY:

COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			100.00	101.00	1.00		AGD	74277			940ppm	0.2 ppm					
			101.00	102.00	1.00		AGD	74276			386ppm	0.1 ppm					
			102.00	103.00	1.00		AGD	74275			308ppm	0.2 ppm					
			103.00	104.00	1.00		AGD	74274			314ppm	0.1 ppm					
			104.00	105.00	1.00		AGD	74273			790ppm	0.2 ppm					
			105.00	106.00	1.00		AGD	74272			920ppm	0.4 ppm					
			106.00	107.00	1.00		AGD	74271			390ppm	0.2 ppm					
			107.00	108.00	1.00		AGD	74270			280ppm	0.1 ppm					
			108.00	109.00	1.00		AGD	74269			290ppm	0.1 ppm					
			109.00	110.00	1.00		AGD	74268			320ppm	0.1 ppm					
			110.00	111.00	1.00		AGD	74267			490ppm	0.2 ppm					
								AVERAGES									
			29.00	68.00	39.00						0.00	2.16					
			34.00	47.00	13.00						0.00	5.06					
			34.00	42.00	8.00						0.00	7.03					
			34.00	39.00	5.00						0.00	10.35					

DDR - 85 - 10

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 813 — PAGE 1 OF 4

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 78.00m

CLAIM: LOGAN 2 — NORTHING: 193 — DATE STARTED: AUGUST 19D 1988

SECTION: 200 W — EASTING: -177 — DATE FINISHED: AUGUST 21D 1988

CORE SIZE: 2.0m at base — ELEVATION: 1379 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH L-813 WAS DUG TO TEST THE GRADE AND CONTINUITY OF MAIN ZONE MINERALIZATION AT SURFACE. APPROXIMATELY 20m OF LOW TO MEDIUM GRADE SPHALERITE-PYRITE WAS INTERSECTED. THE TRENCH WAS CLOSED AFTER PASSING THROUGH THE FOOTWALL FAULT.

UTM COORDINATES: NORTH END NORTHING 6708183.00 EASTING 419289.00

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD					VALUES BELOW IN PPM UNLESS NOTED								
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	1.00	1.00		AGD										
			1.00	7.80	6.80		SAGD										
			7.80	9.60	1.80		AFD										
			9.60	14.50	4.90		AGD										
			14.50	37.20	22.70		AFD										
			37.20	40.00	2.80		AGD										
			40.00	40.60	0.60		MQV										
			40.60	42.10	1.50		AGD										
			42.10	43.00	0.90		MQV										
			43.00	48.10	5.10		AGD										
			48.10	49.30	1.20		MQV										
			49.30	50.80	1.50		AGD										
			50.80	51.70	0.90		MQV										
			51.70	61.00	9.30		AFD										
			61.00	65.00	4.00		GM										
			65.00	67.10	2.10		SAGD										
			67.10	69.00	1.90		AGD										
			69.00	71.10	2.10		SAGD										
			71.10	78.00	6.90		AGD										
								ASSAYS AND ANALYSES									
			0.00	1.00	1.00		AGD	74454			205ppm	0.1 ppm					
			1.00	2.00	1.00		SAGD	74453			1050ppm	1.1 ppm					
			2.00	3.00	1.00		SAGD	74452			1300ppm	0.8 ppm					
			3.00	4.00	1.00		SAGD	74451			1850ppm	0.7 ppm					
			4.00	5.00	1.00		SAGD	74450			1500ppm	0.3 ppm					
			5.00	6.00	1.00		SAGD	74449			3800ppm	1.5 ppm					
			6.00	7.00	1.00		SAGD	74448			3000ppm	7.4 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY LOGAN D.D.H. L 88 - 813 PAGE 2 OF 4

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			7.00	8.00	1.00		SAGD	74447			5500ppm	10.4 ppm					
			8.00	9.00	1.00		AFD	74446			3000ppm	5.5 ppm					
			9.00	10.00	1.00		AFD	74445			1000ppm	6.4 ppm					
			10.00	11.00	1.00		AGD	74444			9640ppm	18.3 ppm					
			11.00	12.00	1.00		AGD	74443			2000ppm	15.4 ppm					
			12.00	13.00	1.00		AGD	74442			630ppm	6.1 ppm					
			13.00	14.00	1.00		AGD	74441			500ppm	4.4 ppm					
			14.00	15.00	1.00		AFD	74440			1850ppm	6.4 ppm					
			15.00	16.00	1.00		AFD	74439			4100ppm	5.4 ppm					
			16.00	17.00	1.00		AFD	74438			3000ppm	7.0 ppm					
			17.00	18.00	1.00		AFD	74437			5600ppm	5.9 ppm					
			18.00	19.00	1.00		AFD	74436			3200ppm	2.9 ppm					
			19.00	20.00	1.00		AFD	74435			3400ppm	3.8 ppm					
			20.00	21.00	1.00		AFD	74434			3100ppm	1.9 ppm					
			21.00	22.00	1.00		AFD	74433			3600ppm	2.9 ppm					
			22.00	23.00	1.00		AFD	74432			3100ppm	2.1 ppm					
			23.00	24.00	1.00		AFD	74431			2400ppm	2.1 ppm					
			24.00	25.00	1.00		AFD	74430			2700ppm	2.2 ppm					
			25.00	26.00	1.00		AFD	74429			4400ppm	2.9 ppm					
			26.00	27.00	1.00		AFD	74428			2800ppm	3.4 ppm					
			27.00	28.00	1.00		AFD	74427			3700ppm	2.3 ppm					
			28.00	29.00	1.00		AFD	74426			2800ppm	1.2 ppm					
			29.00	30.00	1.00		AFD	74425			3600ppm	1.6 ppm					
			30.00	31.00	1.00		AFD	74424			4000ppm	2.5 ppm					
			31.00	32.00	1.00		AFD	74423			4000ppm	1.9 ppm					
			32.00	33.00	1.00		AFD	74422			2400ppm	1.8 ppm					
			33.00	34.00	1.00		AFD	74421			3800ppm	2.0 ppm					
			34.00	35.00	1.00		AFD	74420			3800ppm	2.9 ppm					
			35.00	36.00	1.00		AFD	74419			4300ppm	6.6 ppm					
			36.00	37.00	1.00		AFD	74418			3100ppm	12.1 ppm					
			37.00	38.00	1.00		AGD	74417			2700ppm	7.9 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY LOGAN D.D.H. L 88 - 813 PAGE 3 OF 4

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			38.00	39.00	1.00		AGD	74416			3900ppm	7.7 ppm					
			39.00	40.00	1.00		AGD	74415			3700ppm	8.8 ppm					
			40.00	41.00	1.00		MQV	74414			4000ppm	0.82					
			41.00	42.00	1.00		AGD	74413			2300ppm	0.43					
			42.00	43.00	1.00		MQV	74412			9400ppm	1.71					
			43.00	44.00	1.00		AGD	74411			4600ppm	0.38					
			44.00	45.00	1.00		AGD	74410			4600ppm	0.33					
			45.00	46.00	1.00		AGD	74409			3400ppm	0.33					
			46.00	47.00	1.00		AGD	74408			4300ppm	0.27					
			47.00	48.00	1.00		AGD	74407			2900ppm	0.23					
			48.00	49.00	1.00		MQV	74406			10200ppm	1.11					
			49.00	50.00	1.00		AGD	74405			2400ppm	0.25					
			50.00	51.00	1.00		MQV	74404			1900ppm	0.22					
			51.00	52.00	1.00		MQV	74403			2400ppm	0.40					
			52.00	53.00	1.00		AFD	74402			550ppm	0.44					
			53.00	54.00	1.00		AFD	74401			480ppm	0.31					
			54.00	55.00	1.00		AFD	74400			480ppm	9.0 ppm					
			55.00	56.00	1.00		AFD	74399			490ppm	5.9 ppm					
			56.00	57.00	1.00		AFD	74398			670ppm	2.1 ppm					
			57.00	58.00	1.00		AFD	74397			345ppm	1.5 ppm					
			58.00	59.00	1.00		AFD	74396			192ppm	2.1 ppm					
			59.00	60.00	1.00		AFD	74395			205ppm	3.0 ppm					
			60.00	61.00	1.00		AFD	74394			275ppm	1.2 ppm					
			61.00	62.00	1.00		GM	74393			350ppm	0.9 ppm					
			62.00	63.00	1.00		GM	74392			600ppm	0.9 ppm					
			63.00	64.00	1.00		GM	74391			480ppm	0.5 ppm					
			64.00	65.00	1.00		GM	74390			320ppm	1.9 ppm					
			65.00	66.00	1.00		SAGD	74389			560ppm	1.1 ppm					
			66.00	67.00	1.00		SAGD	74388			220ppm	1.1 ppm					
			67.00	68.00	1.00		AGD	74387			195ppm	1.7 ppm					
			68.00	69.00	1.00		AGD	74386			285ppm	1.2 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 813 — PAGE: 4 OF 4

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD — VALUES BELOW IN PPM UNLESS NOTED													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			69.00	70.00	1.00		SAGD	74385			215ppm	0.8 ppm					
			70.00	71.00	1.00		SAGD	74384			185ppm	0.7 ppm					
			71.00	72.00	1.00		AGD	74383			156ppm	0.4 ppm					
			72.00	73.00	1.00		AGD	74382			380ppm	1.2 ppm					
			73.00	74.00	1.00		AGD	74381			1000ppm	1.3 ppm					
			74.00	75.00	1.00		AGD	74380			1150ppm	1.4 ppm					
			75.00	76.00	1.00		AGD	74379			960ppm	1.4 ppm					
			76.00	77.00	1.00		AGD	74378			650ppm	0.7 ppm					

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 814 — PAGE 1 OF 7

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (t): 180 ° — DEPTH: 206.00m

CLAIM: LOGAN 3 — NORTHING: 248.5 — DATE STARTED: AUGUST 21D 1988

SECTION: 275 E — EASTING: 285 — DATE FINISHED: AUGUST 25D 1988

CORE SIZE: 2.0m at base — ELEVATION: 1390 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH L-814 WAS DUG TO TEST GRADE AND CONTINUITY OF THE MAIN ZONE DEPOSIT AT SURFACE. APPROXIMATELY 120m OF WEAK TO MODERATE GRADE SPHALERITE-ARSENOPYRITE MINERALIZATION WAS INTERSECTED. THE TRENCH WAS ABANDONED AT THE TARGET LENGTH OF 200m.

UTM COORDINATES: NORTH END NORTHING 6708506.00 EASTING 419661.00

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED						
Depth	Dip	Az (t)	From (m)	To (m)	Int.(m)	T.W(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	180.00°	0.00	3.40	3.40		GM										
145.00	0.00°	176.00°	3.40	10.00	6.60		AGD										
			10.00	16.90	6.90		SAGD										
			16.90	18.10	1.20		MQV										
			18.10	22.00	3.90		AGD										
			22.00	22.70	0.70		QV										
			22.70	25.60	2.90		AGD										
			25.60	27.80	2.20		GM										
			27.80	29.00	1.20		SAGD										
			29.00	32.00	3.00		AGD										
			32.00	37.60	5.60		SAGD										
			37.60	39.00	1.40		AGD										
			39.00	40.40	1.40		MQV										
			40.40	41.20	0.80		AGD										
			41.20	43.80	2.60		AFD										
			43.80	59.80	16.00		AGD										
			59.80	62.70	2.90		GM										
			62.70	66.30	3.60		AGD										
			66.30	67.20	0.90		SAGD										
			67.20	112.00	44.80		AGD										
			112.00	112.70	0.70		MQV										
			112.70	118.00	5.30		AGD										
			118.00	119.20	1.20		QV										
			119.20	123.70	4.50		AGD										
			123.70	128.80	5.10		AFD										
			128.80	130.10	1.30		GM										
			130.10	133.90	3.80		QV										
			133.90	137.60	3.70		AFD										
			137.60	138.50	0.90		SAGD										
			138.50	143.40	4.90		AFD										
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 814 — PAGE: 2 OF 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD										VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int.(m)	T.W(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			143.40	144.10	0.70		AGD				--						
			144.10	145.90	1.80		GOSSN										
			145.90	146.60	0.70		MQV										
			146.60	148.60	2.00		GOSSN										
			148.60	150.40	1.80		SAGD										
			150.40	151.00	0.60		MQV										
			151.00	154.00	3.00		SAGD										
			154.00	154.80	0.80		MQV										
			154.80	159.00	4.20		GM										
			159.00	164.40	5.40		AGD										
			164.40	165.60	1.20		GM										
			165.60	192.80	27.20		AGD										
			192.80	193.60	0.80		MQV										
			193.60	206.00	12.40		AGD										
								ASSAYS	AND	ANALYSES							
			1.00	4.00	3.00		GM	74455			760ppm	0.6 ppm					
			4.00	7.00	3.00		AGD	74456			840ppm	0.5 ppm					
			7.00	10.00	3.00		AGD	74457			610ppm	0.3 ppm					
			10.00	13.00	3.00		SAGD	74458			1020ppm	1.6 ppm					
			13.00	16.00	3.00		SAGD	74459			1400ppm	3.0 ppm					
			16.00	17.00	1.00		SAGD	74460			1940ppm	10.3 ppm					
			17.00	18.00	1.00		MQV	74461			1840ppm	29.8 ppm					
			18.00	19.00	1.00		AGD	74462			495ppm	12.7 ppm					
			19.00	20.00	1.00		AGD	74463			290ppm	5.5 ppm					
			20.00	21.00	1.00		AGD	74464			238ppm	7.2 ppm					
			21.00	22.00	1.00		AGD	74465			840ppm	21.6 ppm					
			22.00	23.00	1.00		QV	74466			600ppm	16.8 ppm					
			23.00	26.00	3.00		AGD	74467			660ppm	7.5 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 814 — PAGE: 3 OF 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;														
Depth	Dip	Az (t)	From (m)	To (m)	Int.(m)	T.W(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			26.00	29.00	3.00		GM	74468			840ppm	1.7 ppm					
			29.00	32.00	3.00		AGD	74469			565ppm	0.6 ppm					
			32.00	35.00	3.00		SAGD	74470			730ppm	6.0 ppm					
			35.00	38.00	3.00		SAGD	74471			490ppm	2.0 ppm					
			38.00	39.00	1.00		AGD	74472			300ppm	2.9 ppm					
			39.00	40.00	1.00		MQV	74473			680ppm	4.5 ppm					
			40.00	41.00	1.00		AGD	74474			1560ppm	18.7 ppm					
			41.00	42.00	1.00		AFD	74475			765ppm	10.9 ppm					
			42.00	43.00	1.00		AFD	74476			740ppm	32.0 ppm					
			43.00	44.00	1.00		AGD	74477			1860ppm	19.3 ppm					
			44.00	45.00	1.00		AGD	74478			445ppm	3.9 ppm					
			45.00	46.00	1.00		AGD	74479			3600ppm	26.9 ppm					
			46.00	47.00	1.00		AGD	74480			530ppm	5.4 ppm					
			47.00	48.00	1.00		AGD	74481			670ppm	5.5 ppm					
			48.00	49.00	1.00		AGD	74482			420ppm	0.7 ppm					
			49.00	50.00	1.00		AGD	74483			880ppm	4.9 ppm					
			50.00	51.00	1.00		AGD	74484			620ppm	0.9 ppm					
			51.00	52.00	1.00		AGD	74485			305ppm	2.4 ppm					
			52.00	53.00	1.00		AGD	74486			620ppm	5.7 ppm					
			53.00	54.00	1.00		AGD	74487			680ppm	7.8 ppm					
			54.00	55.00	1.00		AGD	74488			1040ppm	4.70					
			55.00	56.00	1.00		AGD	74489			460ppm	0.76					
			56.00	57.00	1.00		AGD	74490			460ppm	2.79					
			57.00	58.00	1.00		AGD	74491			145ppm	0.33					
			58.00	59.00	1.00		AGD	74492			5900ppm	1.01					
			59.00	60.00	1.00		AGD	74493			3250ppm	1.53					
			60.00	61.00	1.00		GM	74494			120ppm	0.30					
			61.00	62.00	1.00		GM	74495			160ppm	0.22					
			62.00	63.00	1.00		AGD	74496			136ppm	0.39					
			63.00	64.00	1.00		AGD	74497			188ppm	1.37					
			64.00	65.00	1.00		AGD	74498			245ppm	0.21					
								CONTINUED									

DDR - 85 - 10

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY LOGAN D.D.H. L 88 - 814 PAGE 4 OF 7

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			65.00	66.00	1.00		AGD	74499			210ppm	0.28					
			66.00	67.00	1.00		SAGD	74500			122ppm	0.14					
			67.00	68.00	1.00		AGD	74501			158ppm	0.16					
			68.00	69.00	1.00		AGD	74502			228ppm	0.47					
			69.00	70.00	1.00		AGD	74503			224ppm	1.36					
			70.00	71.00	1.00		AGD	74504			220ppm	0.16					
			71.00	72.00	1.00		AGD	74505			570ppm	3.38					
			72.00	73.00	1.00		AGD	74506			122ppm	0.18					
			73.00	74.00	1.00		AGD	74507			188ppm	0.36					
			74.00	75.00	1.00		AGD	74508			500ppm	0.32					
			75.00	76.00	1.00		AGD	74509			720ppm	0.14					
			76.00	77.00	1.00		AGD	74510			400ppm	0.17					
			77.00	78.00	1.00		AGD	74511			255ppm	0.49					
			78.00	79.00	1.00		AGD	74512			220ppm	0.24					
			79.00	80.00	1.00		AGD	74513			310ppm	0.22					
			80.00	81.00	1.00		AGD	74514			605ppm	0.13					
			81.00	82.00	1.00		AGD	74515			345ppm	0.70					
			82.00	83.00	1.00		AGD	74516			760ppm	4.02					
			83.00	84.00	1.00		AGD	74517			925ppm	0.79					
			84.00	85.00	1.00		AGD	74518			580ppm	1.67					
			85.00	86.00	1.00		AGD	74519			2750ppm	1.94					
			86.00	87.00	1.00		AGD	74520			350ppm	0.17					
			87.00	88.00	1.00		AGD	74521			550ppm	0.24					
			88.00	89.00	1.00		AGD	74522			267ppm	0.31					
			89.00	90.00	1.00		AGD	74523			160ppm	0.31					
			90.00	91.00	1.00		AGD	74524			230ppm	0.46					
			91.00	92.00	1.00		AGD	74525			388ppm	0.64					
			92.00	93.00	1.00		AGD	74526			264ppm	0.15					
			93.00	94.00	1.00		AGD	74527			380ppm	1.94					
			94.00	95.00	1.00		AGD	74528			475ppm	0.36					
			95.00	96.00	1.00		AGD	74529			305ppm	0.39					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 814 — PAGE: 5 OF: 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			96.00	97.00	1.00		AGD	74530			330ppm	0.24					
			97.00	98.00	1.00		AGD	74531			280ppm	4.8 ppm					
			98.00	99.00	1.00		AGD	74532			720ppm	6.5 ppm					
			99.00	100.00	1.00		AGD	74533			255ppm	6.5 ppm					
			100.00	101.00	1.00		AGD	74534			320ppm	9.5 ppm					
			101.00	102.00	1.00		AGD	74535			291ppm	12.9 ppm					
			102.00	103.00	1.00		AGD	74536			150ppm	1.9 ppm					
			103.00	104.00	1.00		AGD	74537			220ppm	4.0 ppm					
			104.00	105.00	1.00		AGD	74538			200ppm	9.9 ppm					
			105.00	106.00	1.00		AGD	74539			100ppm	8.3 ppm					
			106.00	107.00	1.00		AGD	74540			96ppm	5.8 ppm					
			107.00	108.00	1.00		AGD	74541			186ppm	11.9 ppm					
			108.00	109.00	1.00		AGD	74542			104ppm	4.7 ppm					
			109.00	110.00	1.00		AGD	74543			146ppm	4.8 ppm					
			110.00	111.00	1.00		AGD	74544			136ppm	4.1 ppm					
			111.00	112.00	1.00		AGD	74545			330ppm	6.2 ppm					
			112.00	113.00	1.00		MQV	74546			330ppm	5.8 ppm					
			113.00	114.00	1.00		AGD	74547			342ppm	13.5 ppm					
			114.00	115.00	1.00		AGD	74548			390ppm	16.0 ppm					
			115.00	116.00	1.00		AGD	74549			350ppm	5.5 ppm					
			116.00	117.00	1.00		AGD	74550			855ppm	4.5 ppm					
			117.00	118.00	1.00		AGD	74551			285ppm	16.4 ppm					
			118.00	119.00	1.00		MQV	74552			330ppm	18.9 ppm					
			119.00	120.00	1.00		AGD	74553			355ppm	13.5 ppm					
			120.00	121.00	1.00		AGD	74554			275ppm	16.0 ppm					
			121.00	122.00	1.00		AGD	74555			189ppm	14.0 ppm					
			122.00	123.00	1.00		AGD	74556			212ppm	6.1 ppm					
			123.00	124.00	1.00		AGD	74557			313ppm	18.8 ppm					
			124.00	125.00	1.00		AFD	74558			196ppm	16.0 ppm					
			125.00	126.00	1.00		AFD	74559			219ppm	19.5 ppm					
			126.00	127.00	1.00		AFD	74560			57ppm	6.1 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN D.D.H.: L 88 - 814 PAGE: 6 OF: 7

AREA: DIP: AZIMUTH (t): DEPTH:
CLAIM: NORTHING: DATE STARTED:
SECTION: EASTING: DATE FINISHED:
CORE SIZE: ELEVATION: CONTRACTOR:
CORE RECOVERY: CORE STORED AT: LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD : VALUES BELOW IN PPM UNLESS NOTED :													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	In %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			127.00	128.00	1.00		AFD	74561			78ppm	9.9 ppm					
			128.00	129.00	1.00		AFD	74562			70ppm	8.3 ppm					
			129.00	130.00	1.00		GM	74563			129ppm	17.0 ppm					
			130.00	131.00	1.00		QV	74564			185ppm	15.4 ppm					
			131.00	132.00	1.00		QV	74565			240ppm	26.3 ppm					
			132.00	133.00	1.00		QV	74566			390ppm	40.2 ppm					
			133.00	134.00	1.00		QV	74567			248ppm	32.7 ppm					
			134.00	135.00	1.00		AFD	74568			70ppm	29.7 ppm					
			135.00	136.00	1.00		AFD	74569			64ppm	12.7 ppm					
			136.00	137.00	1.00		AFD	74570			185ppm	13.3 ppm					
			137.00	138.00	1.00		AFD	74571			880ppm	3.5 ppm					
			138.00	139.00	1.00		SAGD	74572			200ppm	12.5 ppm					
			139.00	140.00	1.00		AFD	74573			132ppm	0.9 ppm					
			140.00	142.00	2.00		AFD	74574			222ppm	16.6 ppm					
			142.00	144.00	2.00		AFD	74575			1320ppm	3.3 ppm					
			144.00	146.00	2.00		GOSSN	74576			1630ppm	10.7 ppm					
			146.00	147.00	1.00		MQV	74577			6400ppm	7.8 ppm					
			147.00	148.00	1.00		GOSSN	74578			2300ppm	1.8 ppm					
			148.00	150.00	2.00		SAGD	74579			2400ppm	2.5 ppm					
			150.00	151.00	1.00		MQV	74580			4600ppm	15.5 ppm					
			151.00	152.00	1.00		SAGD	74581			670ppm	2.4 ppm					
			152.00	154.00	2.00		SAGD	74582			1340ppm	0.8 ppm					
			154.00	155.00	1.00		MQV	74583			4500ppm	2.7 ppm					
			155.00	157.00	2.00		GM	74584			4850ppm	0.1 ppm					
			157.00	159.00	2.00		GM	74585			3700ppm	2.5 ppm					
			159.00	161.00	2.00		AGD	74586			3000ppm	1.1 ppm					
			161.00	163.00	2.00		AGD	74587			870ppm	0.2 ppm					
			163.00	165.00	2.00		AGD	74588			4200ppm	0.5 ppm					
			165.00	167.00	2.00		AGD	74589			3000ppm	0.7 ppm					
			167.00	169.00	2.00		AGD	74590			1100ppm	0.6 ppm					
			169.00	171.00	2.00		AGD	74591			880ppm	1.4 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 814 — PAGE: 7 OF 7

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;														
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W.(m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			171.00	173.00	2.00		AGD	74592			940ppm	0.2 ppm					
			173.00	175.00	2.00		AGD	74593			2750ppm	0.4 ppm					
			175.00	177.00	2.00		AGD	74594			3200ppm	1.5 ppm					
			177.00	179.00	2.00		AGD	74595			1780ppm	0.8 ppm					
			179.00	181.00	2.00		AGD	74596			1540ppm	0.8 ppm					
			181.00	183.00	2.00		AGD	74597			2800ppm	1.3 ppm					
			183.00	185.00	2.00		AGD	74598			740ppm	0.5 ppm					
			185.00	187.00	2.00		AGD	74599			670ppm	0.9 ppm					
			187.00	189.00	2.00		AGD	74600			615ppm	1.0 ppm					
			189.00	191.00	2.00		AGD	74601			1040ppm	1.3 ppm					
			191.00	193.00	2.00		AGD	74602			11000ppm	25.7 ppm					
			193.00	194.00	1.00		MQV	74603			13000ppm	1.59					
			194.00	195.00	1.00		AGD	74604			8200ppm	3.7 ppm					
			195.00	196.00	1.00		AGD	74605			1120ppm	1.7 ppm					
			196.00	198.00	2.00		AGD	74606			1080ppm	1.3 ppm					
			198.00	200.00	2.00		AGD	74607			880ppm	2.9 ppm					
			200.00	202.00	2.00		AGD	74608			2350ppm	3.0 ppm					
			202.00	204.00	2.00		AGD	74609			1560ppm	3.7 ppm					
			204.00	206.00	2.00		AGD	74610			7600ppm	8.9 ppm					
								AVERAGES									
			54.00	74.00	20.00						0.00	1.00					
			81.00	94.00	13.00						0.00	1.03					
			54.00	58.00	4.00						0.00	2.15					
			82.00	86.00	4.00						0.00	2.11					

DDR - 85 - 10

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: 88 -L- 815 — PAGE 1 OF 4

AREA: MAIN ZONE — DIP: 0 ° — AZIMUTH (I): 180 ° — DEPTH: 104.00m

CLAIM: LOGAN 5 — NORTHING: 208.5 — DATE STARTED: AUGUST 25D 1988

SECTION: 785 E — EASTING: 811 — DATE FINISHED: AUGUST 27D 1988

CORE SIZE: 2.0m at base — ELEVATION: 1378 m — CONTRACTOR: ARCTIC DIAMOND DRILLING LTD

CORE RECOVERY: 100 % — CORE STORED AT: N/A — LOGGED BY: PAUL CONROY

COMMENTS: TRENCH L-815 WAS EMPLACED TO TEST THE GRADE AND CONTINUITY AT SURFACE IN THE MAIN ZONE DEPOSIT ABOVE HOLE 87-L-45. APPROXIMATELY 25m OF WEAK ARSENOPYRITE-SPHALERITE MINERALIZATION WAS INTERSECTED. THE TRENCH WAS TERMINATED AFTER PASSING THROUGH THE FOOTWALL FAULT.

UTM COORDINATES: NORTH END NORTHING 6708753.00 EASTING 420095.00

NOTE: All azimuths are set relative to grid north - 324.41° TN

SURVEY DATA			GEOLOGY AND ASSAY RECORD								VALUES BELOW IN PPM UNLESS NOTED							
Depth	Dip	Az (I)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
0.00	0.00°	182.00°	0.00	3.60	3.60		SAGD										
22.00	0.00°	178.00°	3.60	16.00	12.40		AGD										
60.00	0.00°	179.00°	16.00	16.80	0.80		GM										
			16.80	20.00	3.20		AGD										
			20.00	20.90	0.90		GM										
			20.90	27.00	6.10		SAGD										
			27.00	28.40	1.40		AGD										
			28.40	32.20	3.80		GM										
			32.20	46.30	14.10		AGD										
			46.30	47.20	0.90		SCH										
			47.20	48.40	1.20		AGD										
			48.40	62.30	13.90		AFD										
			62.30	66.00	3.70		AGD										
			66.00	70.00	4.00		GM										
			70.00	81.90	11.90		AGD										
			81.90	84.10	2.20		SAGD										
			84.10	104.00	19.90		AGD										
								ASSAYS AND ANALYSES									
			0.00	1.00	1.00		SAGD	74611			237ppm	22.7 ppm					
			1.00	2.00	1.00		AGD	74612			130ppm	6.8 ppm					
			2.00	3.00	1.00		AGD	74613			375ppm	2.7 ppm					
			3.00	4.00	1.00		AGD	74614			390ppm	8.8 ppm					
			4.00	5.00	1.00		AGD	74615			706ppm	1.2 ppm					
			5.00	6.00	1.00		AGD	74616			669ppm	1.6 ppm					
			6.00	7.00	1.00		AGD	74617			922ppm	1.4 ppm					
			7.00	8.00	1.00		AGD	74618			1005ppm	6.4 ppm					
			8.00	9.00	1.00		AGD	74619			558ppm	45.0 ppm					
								CONTINUED									

DDR - 85 - IU

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 815 — PAGE: 2 — OF: 4

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD : VALUES BELOW IN PPM UNLESS NOTED :													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			9.00	10.00	1.00		AGD	74620			508ppm	4.7 ppm					
			10.00	11.00	1.00		AGD	74621			742ppm	2.0 ppm					
			11.00	12.00	1.00		AGD	74622			1054ppm	7.8 ppm					
			12.00	13.00	1.00		AGD	74623			612ppm	12.5 ppm					
			13.00	14.00	1.00		AGD	74624			403ppm	20.1 ppm					
			14.00	15.00	1.00		AGD	74625			352ppm	2.6 ppm					
			15.00	16.00	1.00		AGD	74626			680ppm	7.4 ppm					
			16.00	17.00	1.00		GM	74627			813ppm	0.7 ppm					
			17.00	18.00	1.00		AGD	74628			1636ppm	1.4 ppm					
			18.00	19.00	1.00		AGD	74629			570ppm	0.6 ppm					
			19.00	20.00	1.00		AGD	74630			994ppm	7.3 ppm					
			20.00	21.00	1.00		GM	74631			738ppm	3.7 ppm					
			21.00	22.00	1.00		SAGD	74632			838ppm	1.0 ppm					
			22.00	23.00	1.00		SAGD	74633			928ppm	1.6 ppm					
			23.00	24.00	1.00		SAGD	74634			1199ppm	4.0 ppm					
			24.00	25.00	1.00		SAGD	74635			617ppm	2.4 ppm					
			25.00	26.00	1.00		SAGD	74636			1236ppm	2.3 ppm					
			26.00	27.00	1.00		SAGD	74637			1476ppm	2.3 ppm					
			27.00	28.00	1.00		AGD	74638			1678ppm	1.1 ppm					
			28.00	29.00	1.00		GM	74639			923ppm	45.0 ppm					
			29.00	30.00	1.00		GM	74640			760ppm	32.0 ppm					
			30.00	31.00	1.00		GM	74641			675ppm	1.5 ppm					
			31.00	32.00	1.00		GM	74642			342ppm	1.4 ppm					
			32.00	33.00	1.00		AGD	74643			690ppm	1.3 ppm					
			33.00	34.00	1.00		AGD	74644			431ppm	1.0 ppm					
			34.00	35.00	1.00		AGD	74645			773ppm	0.6 ppm					
			35.00	36.00	1.00		AGD	74646			540ppm	3.6 ppm					
			36.00	37.00	1.00		AGD	74647			670ppm	2.1 ppm					
			37.00	38.00	1.00		AGD	74648			556ppm	3.4 ppm					
			38.00	39.00	1.00		AGD	74649			646ppm	1.2 ppm					
			39.00	40.00	1.00		AGD	74650			495ppm	1.1 ppm					
								CONTINUED									

CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

PROPERTY: LOGAN — D.D.H.: L 88 - 815 — PAGE: 3 OF 4

AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

SURVEY DATA			GEOLOGY AND ASSAY RECORD ; VALUES BELOW IN PPM UNLESS NOTED ;													
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			40.00	41.00	1.00		AGD	74651			541ppm	0.7 ppm					
			41.00	42.00	1.00		AGD	74652			629ppm	0.5 ppm					
			42.00	43.00	1.00		AGD	74653			388ppm	0.8 ppm					
			43.00	44.00	1.00		AGD	74654			597ppm	0.6 ppm					
			44.00	45.00	1.00		AGD	74655			315ppm	17.3 ppm					
			45.00	46.00	1.00		AGD	74656			416ppm	8.4 ppm					
			46.00	47.00	1.00		SCH	74657			243ppm	2.5 ppm					
			47.00	48.00	1.00		AGD	74658			355ppm	4.5 ppm					
			48.00	49.00	1.00		AFD	74659			370ppm	1.7 ppm					
			49.00	50.00	1.00		AFD	74660			467ppm	4.1 ppm					
			50.00	51.00	1.00		AFD	74661			314ppm	3.6 ppm					
			51.00	52.00	1.00		AFD	74662			351ppm	2.8 ppm					
			52.00	53.00	1.00		AFD	74663			272ppm	1.9 ppm					
			53.00	54.00	1.00		AFD	74664			481ppm	3.6 ppm					
			54.00	55.00	1.00		AFD	74665			172ppm	9.3 ppm					
			55.00	56.00	1.00		AFD	74666			266ppm	3.9 ppm					
			56.00	57.00	1.00		AFD	74667			179ppm	1.0 ppm					
			57.00	58.00	1.00		AFD	74668			273ppm	1.4 ppm					
			58.00	59.00	1.00		AFD	74669			360ppm	1.7 ppm					
			59.00	60.00	1.00		AFD	74670			160ppm	1.8 ppm					
			60.00	61.00	1.00		AFD	74671			42ppm	1.9 ppm					
			61.00	62.00	1.00		AFD	74672			41ppm	6.9 ppm					
			62.00	63.00	1.00		AGD	74673			96ppm	4.2 ppm					
			63.00	64.00	1.00		AGD	74674			151ppm	3.9 ppm					
			64.00	65.00	1.00		AGD	74675			63ppm	2.2 ppm					
			65.00	66.00	1.00		AGD	74676			73ppm	7.5 ppm					
			66.00	67.00	1.00		GM	74677			1761ppm	1.7 ppm					
			67.00	68.00	1.00		GM	74678			3040ppm	1.9 ppm					
			68.00	69.00	1.00		GM	74679			2189ppm	4.0 ppm					
			69.00	70.00	1.00		GM	74680			1929ppm	1.0 ppm					
			70.00	72.00	2.00		AGD	74681			740ppm	0.7 ppm					
								CONTINUED									

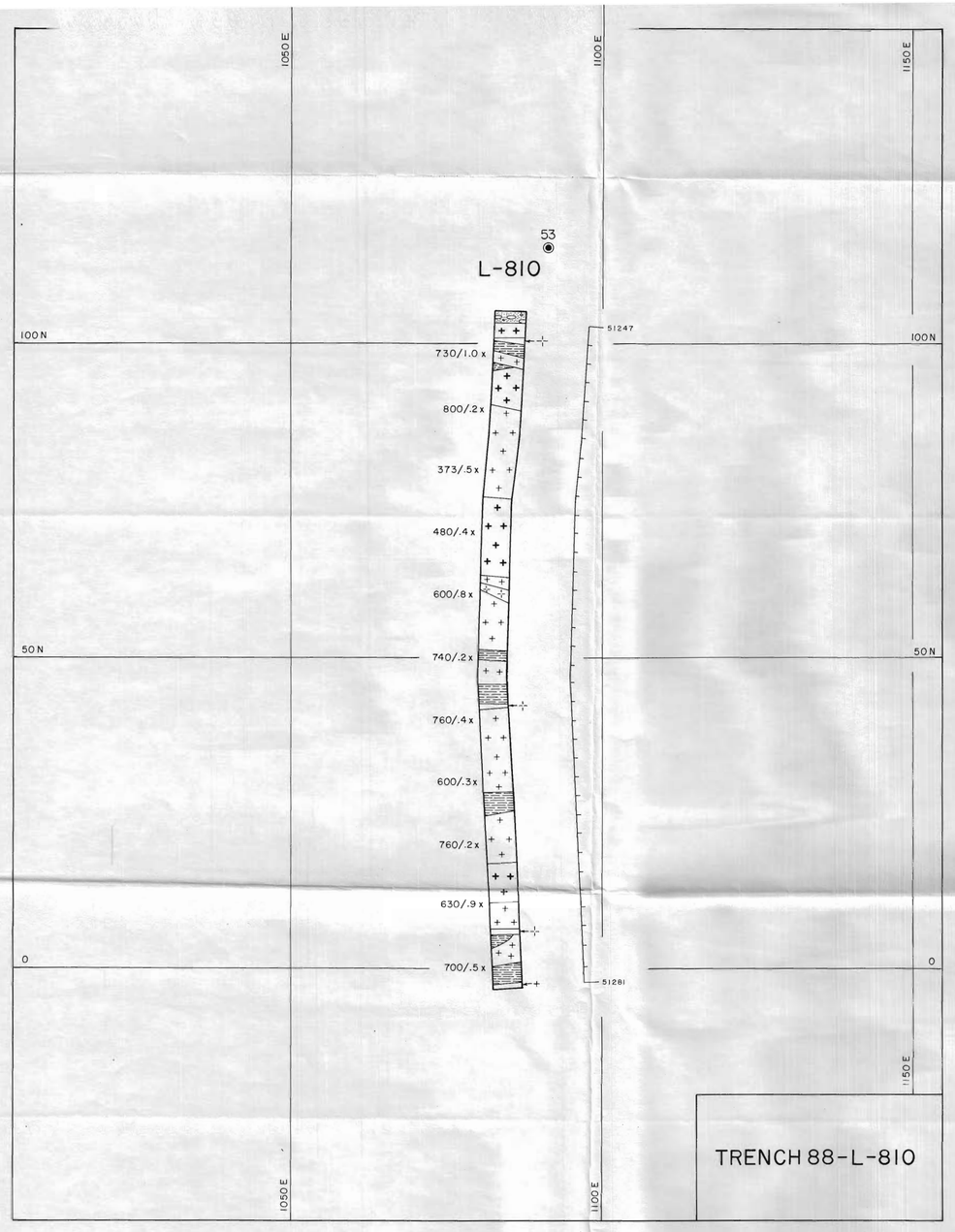
CORDILLERAN ENGINEERING — DIAMOND DRILL RECORD

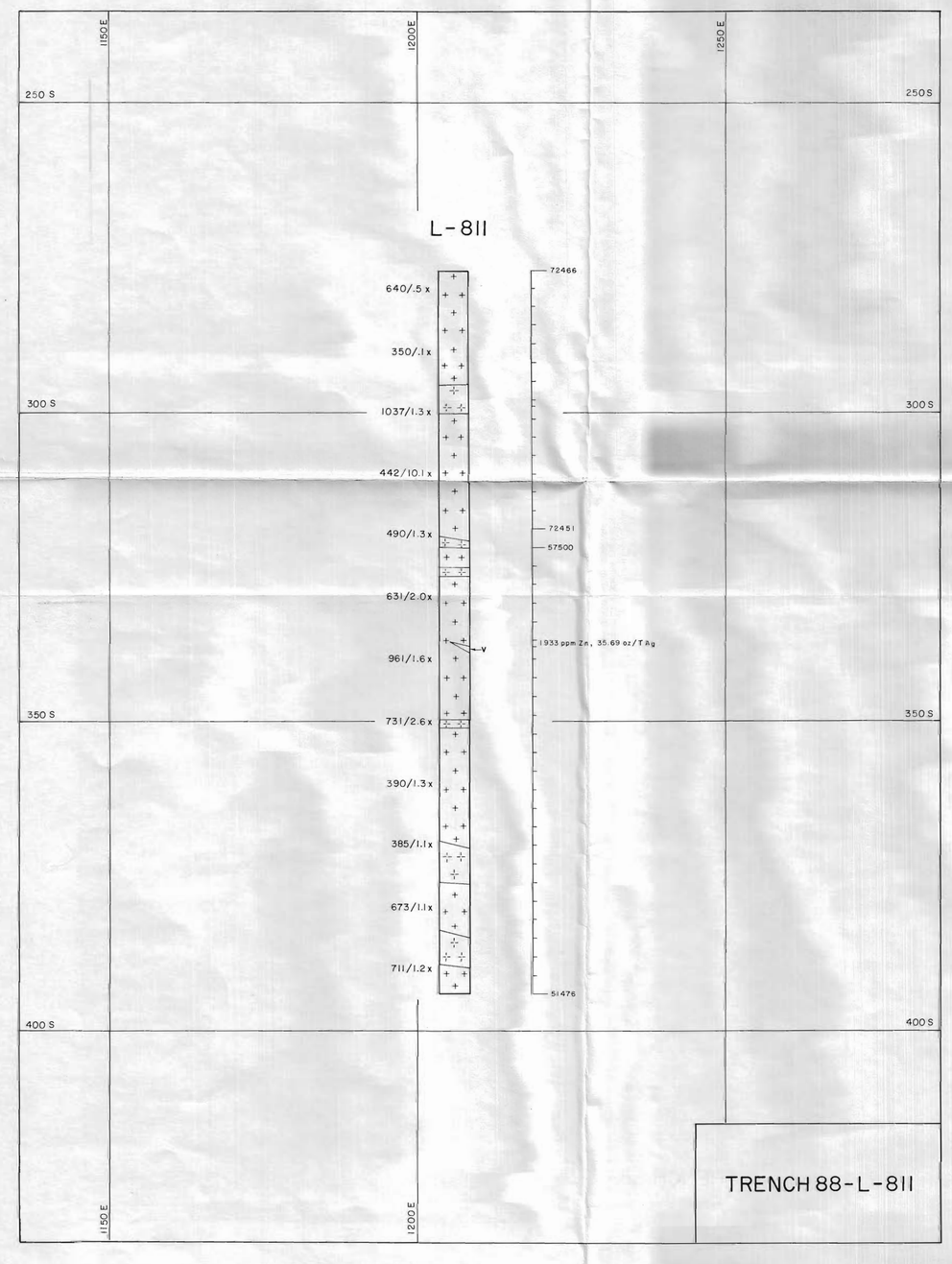
PROPERTY: LOGAN — D.D.H.: L 88 - 815 — PAGE: 4 OF 4

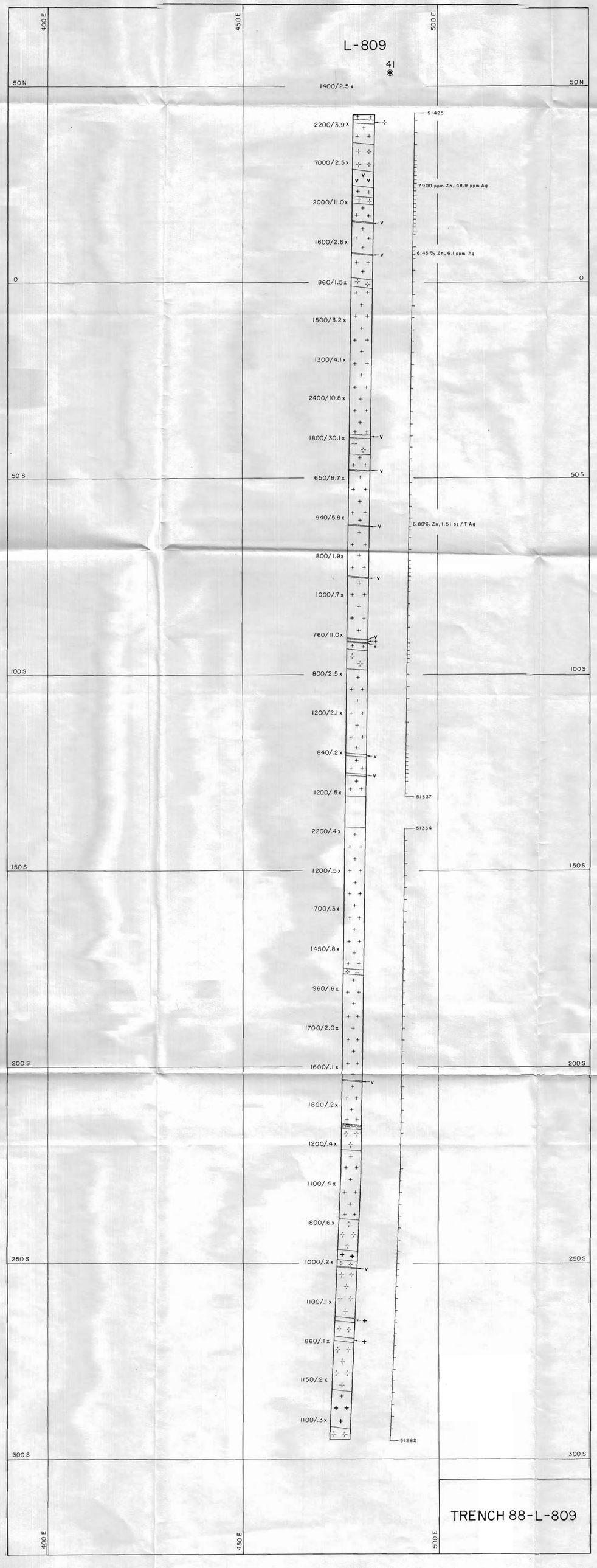
AREA: — DIP: — AZIMUTH (t): — DEPTH:
CLAIM: — NORTHING: — DATE STARTED:
SECTION: — EASTING: — DATE FINISHED:
CORE SIZE: — ELEVATION: — CONTRACTOR:
CORE RECOVERY: — CORE STORED AT: — LOGGED BY:
COMMENTS:

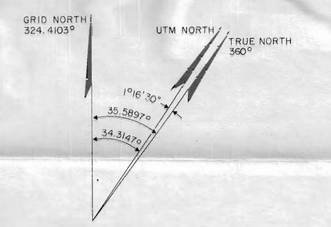
SURVEY DATA			GEOLOGY AND ASSAY RECORD									VALUES BELOW IN PPM UNLESS NOTED				
Depth	Dip	Az (t)	From (m)	To (m)	Int. (m)	T.W. (m)	Geology	Sample No.	Rec. %	S.G.	Zn %	Ag oz/t	Sn	Cu	Pb	As	Au oz/t
			72.00	74.00	2.00		AGD	74682			923ppm	0.2 ppm					
			74.00	76.00	2.00		AGD	74683			873ppm	0.5 ppm					
			76.00	78.00	2.00		AGD	74684			791ppm	0.2 ppm					
			78.00	80.00	2.00		AGD	74685			2300ppm	0.1 ppm					
			80.00	82.00	2.00		AGD	74686			588ppm	0.2 ppm					
			82.00	84.00	2.00		GM	74687			282ppm	0.5 ppm					
			84.00	86.00	2.00		AGD	74688			494ppm	1.0 ppm					
			86.00	88.00	2.00		AGD	74689			651ppm	0.3 ppm					
			88.00	90.00	2.00		AGD	74690			793ppm	0.1 ppm					
			90.00	92.00	2.00		AGD	74691			633ppm	0.1 ppm					
			92.00	94.00	2.00		AGD	74692			308ppm	0.1 ppm					
			94.00	96.00	2.00		AGD	74693			550ppm	0.2 ppm					
			96.00	98.00	2.00		AGD	74694			268ppm	0.7 ppm					
			98.00	100.00	2.00		AGD	74695			120ppm	0.1 ppm					
			100.00	102.00	2.00		AGD	74696			938ppm	0.2 ppm					
			102.00	104.00	2.00		AGD	74697			656ppm	0.3 ppm					

DDR - 85 - IU









LITHOLOGY

OVERBURDEN

GOSSAN

massive iron ± manganese oxides

GRANODIORITE

medium to coarse-grained, light grey, quartz-plagioclase-muscovite bearing equigranular to pegmatitic granodiorite.

medium to coarse-grained, light grey, quartz-plagioclase-muscovite-sericite-clay bearing equigranular to pegmatitic granodiorite, moderate sericite-clay alteration; locally crosscut by quartz or quartz-sulfide veins; occasionally intensely silicified; may grade into breccia.

light grey, quartz-sericite-clay bearing granodiorite; very strong, pervasive clay and sericite alteration.

FOLIATED GRANODIORITE

moderately foliated medium-grained green-grey, muscovite-sericite-quartz-feldspar-chlorite bearing granodiorite; occasionally grades into a muscovite, quartz chlorite schist.

FELDSPAR-QUARTZ PORPHYRY

feldspar-quartz porphyry; up to 25% feldspar-quartz phenocrysts set in a light green-grey aphanitic groundmass.

FELSITE DIKES

fine-grained, medium grey-green, occasionally porphyritic, felsite dike; locally crosscut by quartz or quartz sulfide veinlets; may grade into breccia.

pale green-grey, felsite dike with moderate to strong silicification and clay-sericite alteration.

SCHIST

medium-grained, medium brown-grey, quartz-biotite-chlorite-muscovite schist; occurs as xenoliths within intrusive rocks.

BRECCIAS

mainly sulfide bearing breccia; clay-sericite altered, angular to sub-angular granodiorite, felsite or sulfide clasts; quartz and/or sulfide cement; moderately silicified.

diatreme (?) breccia; cream coloured, highly siliceous matrix, well rounded quartz, sulfide (sphalerite) or country rock clasts.

ANKERITE VEINS

cream coloured commonly sulfide bearing (sphalerite, pyrite, arsenopyrite, pyrrhotite, chalcopyrite, tetrahedrite), ankerite (and/or dolomite ?) veins; occasionally may contain minor quartz.

QUARTZ VEINS

clear to medium grey, commonly sulfide bearing (sphalerite, pyrite, arsenopyrite, pyrrhotite, chalcopyrite, tetrahedrite), quartz veins.

SULFIDE VEINS

>90% sulfides, veins and masses, primarily sphalerite with lesser pyrite, arsenopyrite, pyrrhotite, chalcopyrite and tetrahedrite.

SYMBOLS

LITHOLOGICAL CONTACT
Known, Assumed

FAULT
Known, Assumed

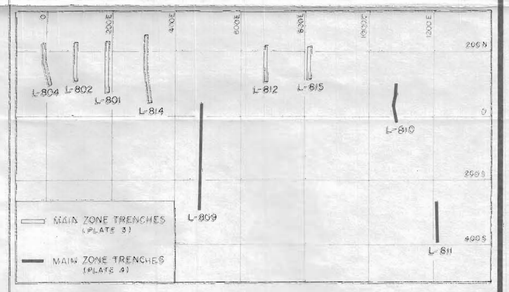
41 — DIAMOND DRILL HOLE COLLAR
With Number

5101 / 6.80% Zn, 1.51 oz/T Ag / 5105 — SAMPLE INTERVAL
With significant results

700/5 x — SOIL SAMPLE, Zn/Ag ppm

INDEX MAP

1 : 10,000



FAIRFIELD MINERALS LTD.
TOTAL ENERGOLD CORPORATION

LOGAN PROJECT
WATSON LAKE MINING DISTRICT, YUKON TERRITORY

MAIN ZONE AREA
TRENCH PLANS
TR88-L-809, TR88-L-810
TR88-L-811

Scale = 1:500

meters 0 5 10 15 20 25 30 35 40 45 50 metres

CORDILLERAN ENGINEERING LTD.
1980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9

OCTOBER 1988

PLATE 1

MAIN BLOCK

EASTERN BLOCK

L-801 L-802 L-804 L-805 L-812 L-813 L-814 L-815

TRACE OF "MAIN VEIN"

LITHOLOGY

OVERBURDEN

GOSSAN
massive iron ± manganese oxides

GRANODIORITE
medium to coarse-grained, light grey, quartz-plagioclase-muscovite-sericite bearing equigranular to pegmatitic granodiorite

medium to coarse-grained, light grey, quartz-plagioclase-muscovite-sericite-clay bearing equigranular to pegmatitic granodiorite, moderate sericite-clay alteration, locally intrinsic by quartz-sulfide veins, occasionally intensely silicified, may grade into breccia

light grey, quartz-sericite-clay bearing granodiorite, very strong pervasive clay and sericite alteration

FOLIATED GRANODIORITE
moderately foliated medium-grained green-grey, muscovite-sericite-quartz-feldspar-chlorite bearing granodiorite, occasionally grades into a muscovite, quartz-chlorite schist

FELDSPAR - QUARTZ PORPHYRY
feldspar-quartz porphyry, up to 25% feldspar-quartz phenocrysts set in a light green-grey aphanitic groundmass

FELSITE DIKES
fine-grained, medium grey-green, occasionally porphyritic, felsite dike, locally cut by quartz or quartz-sulfide veinlets, may grade into breccia

pale green-grey, felsite dike with moderate to strong silicification and clay-sericite alteration

SCHIST
medium-grained, medium brown-grey, quartz-biotite-chlorite-muscovite schist, occurs as xenoliths within intrusive rocks

BRECCIAS
mainly sulfide bearing breccia, clay-sericite altered, angular to sub-angular granodiorite, felsite or sulfide clasts, quartz-sulfide (sphalerite) cement, moderately silicified

dacitoid (?) breccia, cream coloured, highly siliceous matrix, well rounded quartz, sulfide (sphalerite) or country rock clasts

ANKERITE VEINS
cream coloured commonly sulfide bearing (sphalerite, pyrite, arsenopyrite, pyrrhotite, chalcopyrite, tetrahedrite), ankerite (and/or dolomite ?) veins, occasionally may contain minor quartz

QUARTZ VEINS
clear to medium grey, commonly sulfide bearing (sphalerite, pyrite, arsenopyrite, pyrrhotite, chalcopyrite, tetrahedrite), quartz veins

SULFIDE VEINS
> 90% sulfides, veins and masses, primarily sphalerite with lesser pyrite, arsenopyrite, pyrrhotite, chalcopyrite and tetrahedrite

GRID NORTH 324.40°
UTM NORTH 0.10°
TRUE NORTH 360°
21.38°W
M.Dec.

SYMBOLS

LITHOLOGICAL CONTACT
Known, Assumed

FAULT
Known, Assumed

DIAMOND DRILL HOLE INTERCEPT WITH NUMBER

SAMPLING
Showing Sample Interval and Number

5.00-5.00 / 75.0

ASSAY AVERAGES
75.0 m, Au/Ton $/ton
Intercept in Metres

FAULT ZONE

CONTOUR
Elevation in metres, interval 10 metres
1370

ROAD

MAIN ZONE TRENCHES (PLATE 4)
MAIN ZONE TRENCHES (PLATE 5)

INDEX MAP
1:15,000

FAIRFIELD MINERALS LTD.
TOTAL ENERGOLD CORPORATION

LOGAN PROJECT
WATSON LAKE MINING DISTRICT, YUKON TERRITORY

MAIN ZONE DEPOSIT
SURFACE PLAN

Scale = 1:1000
metres 0 5 10 15 20 25 30 35 40 45 50 metres

CORDILLERAN ENGINEERING LTD.
980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9

OCTOBER 1988

GRID NORTH 324 41'25"
UTM NORTH
TRUE NORTH 360°
17°16'30"
35.5807 s
34.3427 s

LEGEND

LITHOLOGY

- ALTERED GRANODIORITE
- SEVERELY ALTERED GRANODIORITE
- SCHIST AND METASEDIMENTARY ROCKS
- CHALCEDONIC BRECCIA

SOIL GEOCHEMISTRY

- ≥ 400 ppm ZINC
- ≥ 10 ppm SILVER
- ≥ 50 ppm TIN

SURVEYS

- △1 SURVEY CONTROL POINT 87-012 (MT. TINDLE)
- △2 SURVEY CONTROL POINT BASE LINE 500S, 2800W
- △24 SURVEY CONTROL POINT 87-011 (THE ZIPPER)
- △25 SURVEY CONTROL POINT 88-03
- ⊙5 AIR PHOTO TARGET ESKER NEAR PASS LAKE
- ⊙6 AIR PHOTO TARGET BASE LINE 500S, 2000W

SYMBOLS

- LIMIT OF OUTCROP
- SURFACE TRACE OF MAIN ZONE STRUCTURE
- SURFACE TRACE OF WEAKLY MINERALIZED STRUCTURE
- 85 DIAMOND DRILL HOLE COLLAR WITH NUMBER
- 807 TRENCH WITH NUMBER
- 477/9 • TRENCH SOIL SAMPLE LOCATION WITH RESULT (ppm Zn/ppm Ag)
- CUT LINE
- ROAD

FAIRFIELD MINERALS LTD.
TOTAL ENERGOLD CORPORATION

LOGAN PROJECT
WATSON LAKE MINING DISTRICT, YUKON TERRITORY

WEST ZONE
COMPILATION MAP

Scale = 1:2000
meters 0 20 40 60 80 100 200 metres

CORDILLERAN ENGINEERING LTD.
1980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9

OCTOBER, 1988 PLATE 3

LEGEND

SYMBOLS

- DIAMOND DRILL COLLAR WITH HOLE NUMBER
- TRENCH WITH NUMBER
- ROAD
- CUT LINE
- ≥400 ppm ZINC SOIL CONTOUR

MINERALIZATION

- SURFACE TRACE OF MINERALIZED ZONE
- PRESENTLY DEFINED ZINC-SILVER DEPOSIT(S)
- SURFACE TRACE OF WEST ZONE FAULT

GEOPHYSICS

- DEFINITE ANOMALY
- PROBABLE ANOMALY
- POSSIBLE ANOMALY

NOTE:

LINES 4400W TO 3200W RESULTS ARE FOR 100m DIPOLE SPREAD

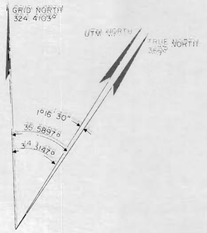
LINES 3000W TO 900E RESULTS ARE FOR 25m DIPOLE SPREAD EXCEPT AS NOTED

LINES 1000E TO 1400E RESULTS ARE FOR 100m DIPOLE SPREAD EXCEPT AS NOTED

LINES 1600E TO 2300E RESULTS ARE FOR 25m DIPOLE SPREAD EXCEPT AS NOTED

LINES 2400E TO 3800E RESULTS ARE FOR 100m DIPOLE SPREAD

LINES 300S, 100S, + 350N RESULTS ARE FOR 50m DIPOLE SPREAD



FAIRFIELD MINERALS LTD.
TOTAL ENERGOLD CORPORATION
LOGAN PROJECT
COMPILATION MAP

200 0 200 400 600 800 1000m

Scale = Fi 10,000

CORDILLERAN ENGINEERING LTD.
1980 - 1055 W HASTINGS STREET
VANCOUVER, B.C. V6E 2E9

OCTOBER 1988

PLATE 4