86-734-15340

ASSESSMENT REPORT

ON THE

B.S. AND P.S. CLAIM GROUPS

LUMBY PROJECT

FOR

Owner/Operator: THE QUINTO MINING CORPORATION

VERNON M.D. B.C.

N.T.S. 82L/7W

Latitude 50° 18' North

Longitude 118° 56.5' West

D.L. KURAN B.SC., F.G.A.C.

DECEMBER 1st, 1986.

SUMMARY

A reconnaissance exploration program has been completed on two contiguous claim groups comprising part of Quinto Mining's Lumby Project, located at Lumby, British Columbia. The work consisted of soil, stream and rock chip geochemistry as well as an airborne geophysical survey. The objective of the program was to locate new target zones similar to the gold bearing shear zone on the contiguous Chap group of claims where Quinto Mining is actively drilling.

A total of nineteen heavy mineral stream samples, one hundred and ninety soil samples and eighteen rock chip samples were taken between August 10th and September 10th, 1986. A total of three hundred line kilometers of airborne geophysical survey consisting of VLF, E.M. and magnetics, was completed between August 22nd and August 23rd, 1986.

The geochemical survey resulted in several isolated precious and base metal anomalies in both stream and soil samples. The geophysical survey resulted in three major geophysical anomalies as well as several smaller but significant targets.

The program was successful in locating several new targets for further exploration. Follow-up detailed geological, geochemical and geophysical surveys are recommended.

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1.0 INTRODUCTION

The Quinto Mining Corporation has completed a preliminary exploration program on two claim groups comprising part of its Lumby Project at Lumby, British Columbia. The work consisted of stream heavy mineral sampling, contour soil sampling and rock chip sampling. An airborne geophysical survey was conducted by Dighem Surveys and Processing Corporation of Mississauga, Ontario.

The objective of the program was to locate new zones similar to the structurally controlled gold and silver mineralization on Saddle Mountain, covered by the Chap group which Quinto is actively developing. The B.S. and P.S. claim groups are underlain by the same geology and regional structural elements which underlie Saddle Mountain.

Quinto Mining has 100% ownership of the claim groups comprising the Lumby Project. Greyhawk Resources Ltd, and Willcrest Resources Ltd, have entered into an agreement whereby they can each earn an interest in the property from Quinto after completing certain requirements.

2.0 CLAIM STATUS

The portion of the claims referred to in this report consists of two groups of mineral claims totalling 183 units staked in 1985 and 1986 and grouped in September 1986. The claims were recorded at the Mining Recorders office in the Vernon Mining Division. A list of claims and their record numbers are listed in Table I. The claim locations are shown on Figure 1.

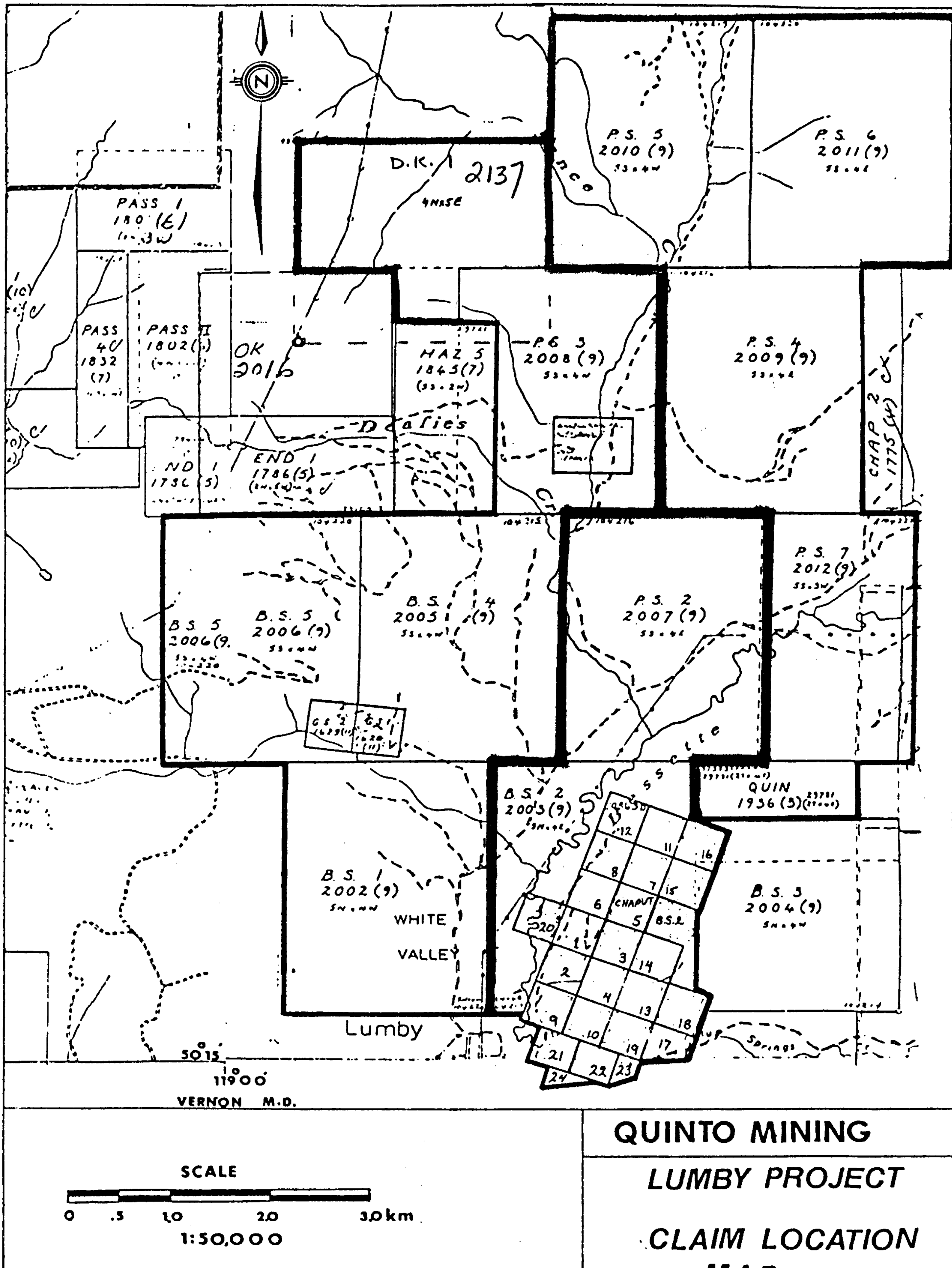
Greyhawk Resources Ltd, has an option with Quinto to acquire a 50% interest in the property. Willcrest Resources Ltd, has an agreement whereby it has the right to earn 50% of Greyhawk's interest in the property.

CLAIM STATUS - TABLE I

MINERAL CLAIM	UNITS	RECORD NO:	EXPIRY DATE *
B.S. Group			
B.S.-1	20	2002	Sept. 24, 1988
B.S.-4	20	2005	Sept. 24, 1988
B.S.-5	20	2006	Sept. 24, 1988
P.S.-3	20	2008	Sept. 24, 1988
D.K.-1	20	2137	July 9. 1989
	100		
P.S. GROUP			
P.S.-4	20	2009	Sept. 24, 1988
P.S.-5	20	2010	Sept. 24, 1988
P.S.-6	20	2011	Sept. 24, 1988
P.S.-7	15	2012	Sept. 24, 1988
QUIN	8	1936	March 16, 1989
	83		

TOTAL 183 UNITS

* After recording this work.



QUINTO MINING

LUMBY PROJECT

CLAIM LOCATION MAP

DLK	DEC.1 '86	NTS 82L/7w	FIG. 1

3.0 LOCATION AND ACCESS

The claims are located immediately north of Lumby, B.C., a small logging community, 25 km. east of Vernon, B.C. on Highway #6 (Fig.2). Access to the claims is via the Mable Lake Road, north from Lumby. A series of active and ābandoned logging roads provide good 4x4 truck access to a large portion of the claims. Scheduled air service to Vancouver is available from Kelowna, one hours drive south of Lumby. The majority of the claims cover privately owned ranchland and permission must be obtained from the owners to access the claims.

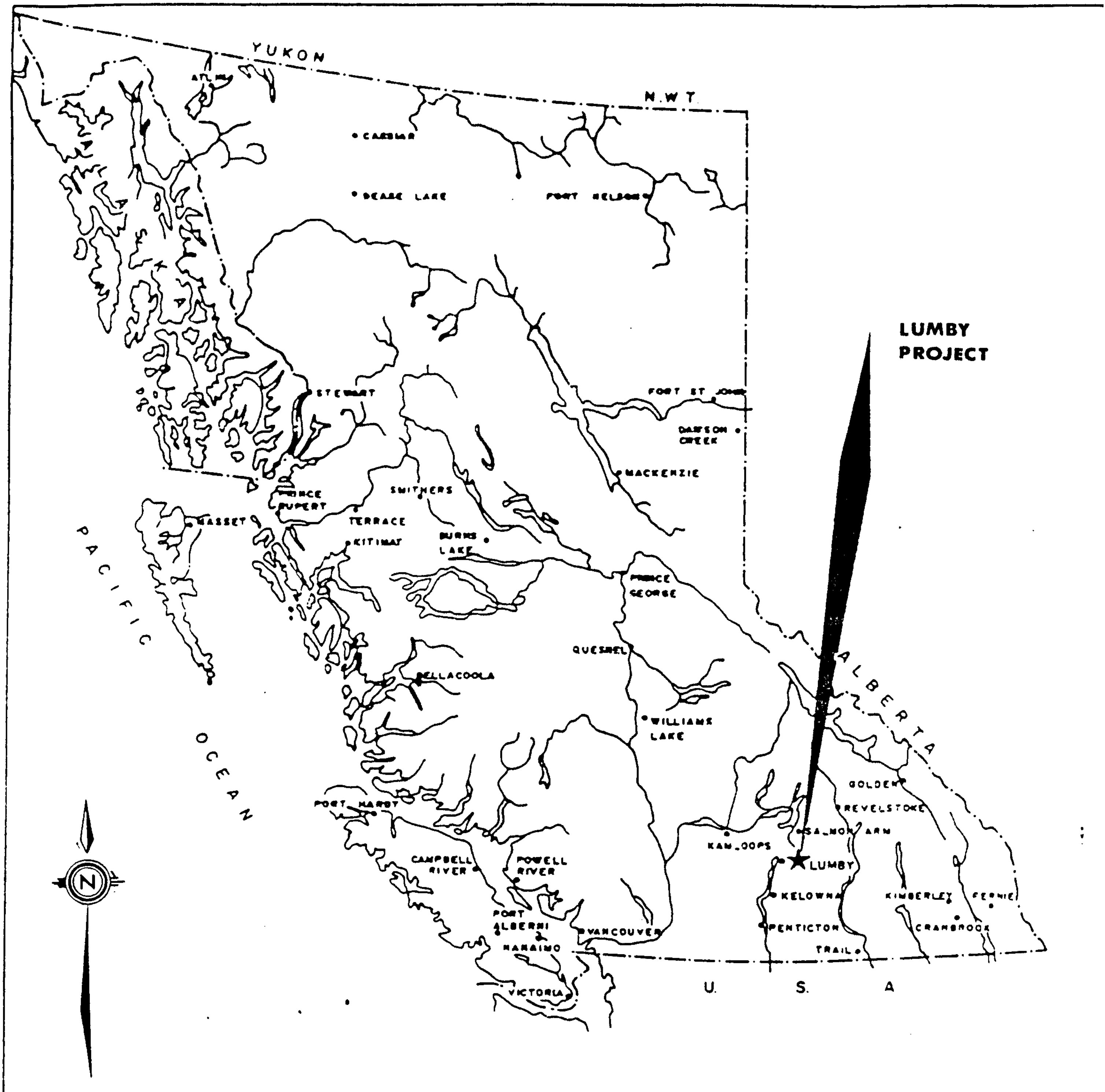
4.0 PHYSIOGRAPHY

The central portion of the claim group is occupied by a broad flat agricultural valley drained by Bessett Creek. South facing slopes are sparcely timbered, while north facing slopes are heavily timbered. The hillsides are covered by moderately thick overburden and forest debris. Rare outcrop exposures are found along road cuts and other logging disturbances. Elevations on the property range from 490 metres in the valley floor to 1190 metres in the northwest corner of the claims.

Winters in the area are moderate and short while the summers are long, warm and dry, which is typical of the northern Okanogan valley.

5.0 PREVIOUS WORK

Mining activity in the Lumby area is primarily confined to Saddle Mountain covered by the Chap group of Quinto's claims. Small diggings dating back to the early 1900's have been located. Serious mineral exploration and development started in 1968 when a quartz-sulphide vein was discovered on the lower west slope of Saddle Mountain during logging operations.



SCALE

0 100 250 500 km

QUINTO MINING CORP

LUMBY PROJECT LOCATION MAP

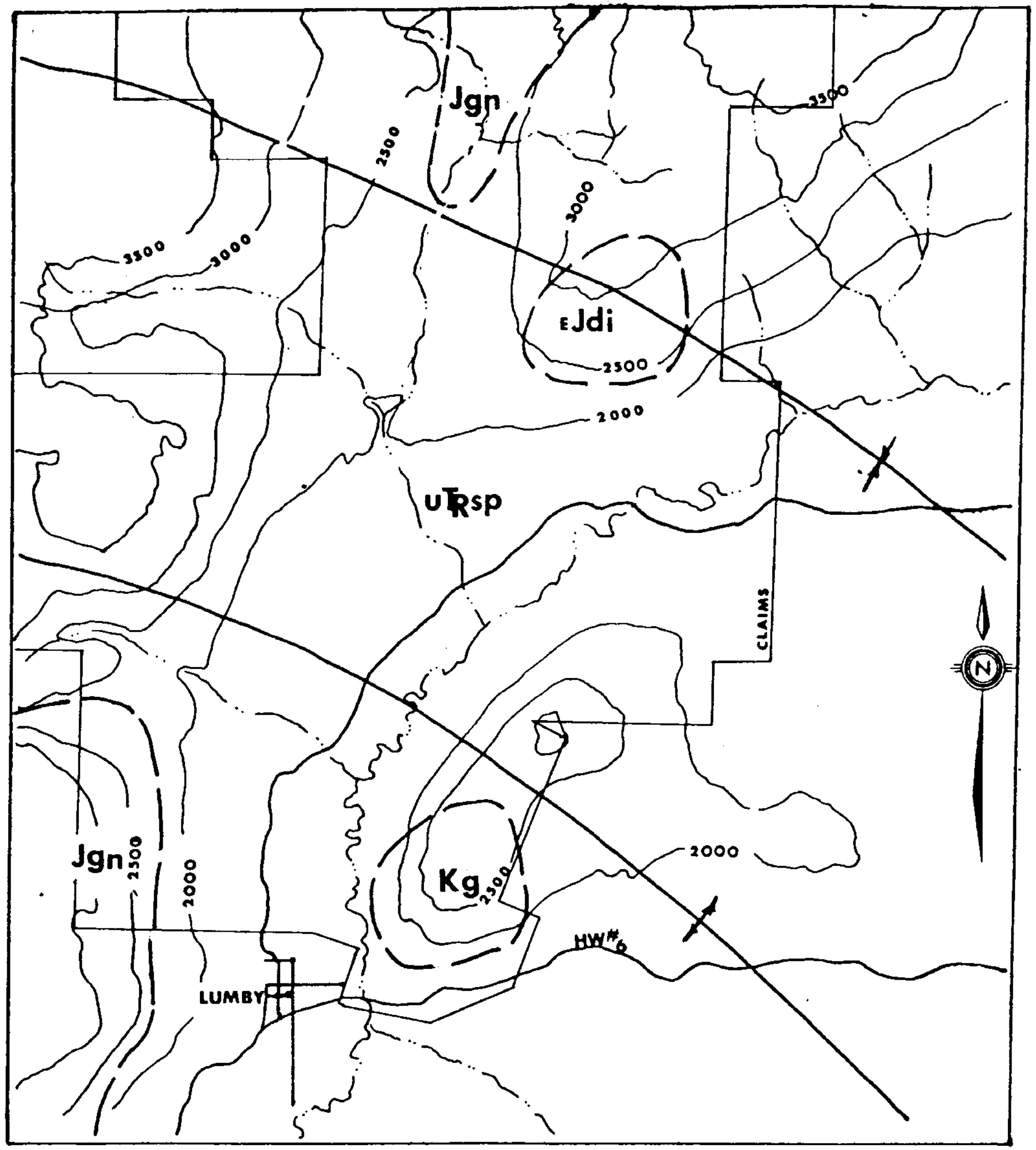
DLK	DEC. 1 '86	NTS 82L/7w	FIG. 2

Further exploration led to the development of the Chaput silver mine. An estimated 40,000 tons of ore was mined and milled by working a quartz-galena-sphalerite-pyrite vein from two levels of underground workings. A 150 ton per day gravity and floatation mill was constructed to process the ore. In 1983 the mine, mill and existing claims were purchased by The Quinto Mining Corporation, which expanded the claim group.

A coincident geophysical-geochemical anomaly roughly one km. east and 300 metres above and along strike from the mine was trenched. A wide shear zone containing quartz and pyrite mineralization was uncovered. Surface rock samples returned assays of up to 0.5 oz/ton gold. Exploration and development drilling by Quinto was started in August 1985 and is an ongoing project. Local rumours suggest that prospectors and loggers located sulphide occurrences on the west side of the claim group in the upper reaches of Deafies and Gallon creeks.

6.0 REGIONAL GEOLOGY

The Geological Survey of Canada reports that the basement rocks north of Lumby belong to the Sicamous Formation of the Slocan Group of Upper Triassic age. These rocks consist of shale, argillite, siltstone, phyllite, tuff and calcareous pelite, minor conglomerate, limestone, greenstone, chloritic phyllite and kyanite-andalusite-staurolite schists. These rocks are mainly east to west striking and are folded around east to west trending fold axis and have been intruded by three ages of igneous stocks. Six km. north of Lumby on a synclinal axis is a small stock of diorite of early Jurassic age (EJDI). The southern half of Saddle Mountain at Lumby consists of Cretaceous granodiorite (Kg). Two km. west of Lumby, the ridge is occupied by late Jurassic granitic rocks (A.V. Okuzitch 1979, Fig 3).



LEGEND

MESOZOIC

CRETACEOUS

Kg	GRANITE, GRANODIORITE: LESSER QUARTZ MONZONITE AND QUARTZ DIORITE.

BALDY BATHOLITH AND SATELLITIC STOCKS.

Kqm	QUARTZ MONZONITE, GRANODIORITE: MINOR PEGMATITE.

EARLY CRETACEOUS

SALMON ARM, DEEP CREEK, NISCONLITH AND SCOTCH CREEK PLUTONS.

εKgd	GRANODIORITE, GRANITE, QUARTZ MONZONITE: MINOR DIORITE, GABBRO, QUARTZ, DIORITE.

RAFT BATHOLITH

εKqm	QUARTZ MONZONITE, GRANODIORITE: MINOR PEGMATITE AND DIORITE.

JURASSIC OR CRETACEOUS

(hatched)	SYENITE AND FELSITE DYKES.

JURASSIC

Jgn	MASSIVE AND FOLIATED, SYNTECTONIC PEGMATITE, APLITE, LEUCOCRATIC GRANITE AND QUARTZ MONZONITE BORDERING AND WITHIN SHUSWAP METAMORPHIC COMPLEX AND OKANAGAN PLUTONIC AND METAMORPHIC COMPLEX: SILVER STAR INTRUSIONS: (MAY INCLUDE ORTHOGNEISS OF PALAEOZOIC AND PROTEROZOIC AGES).

LATE JURASSIC

VALHALLA PLUTONIC ROCKS

ℓJgd	GRANODIORITE, GRANITE: MINOR GABBRO, DIORITE, QUARTZ DIORITE.

EARLY JURASSIC

LONG RIDGE PLUTON

εJg	FOLIATED, LINEATED GRANITE (MAY INCLUDE PALAEOZOIC PLUTONIC ROCKS).

NELSON PLUTONIC ROCKS: THUYA BATHOLITH AND SATELLITIC STOCKS.

εJgd	QUARTZ DIORITE, GRANODIORITE: MINOR DIORITE, GRANITE, AMPHIBOLITE, GABBRO AND ULTRAMAFIC ROCKS.
εJdi	DIORITE: MINOR QUARTZ DIORITE AND GABBRO.
εJy	SYENITE AND MONZONITE.

INTRUSIVE CONTACT

TRIASSIC AND JURASSIC

UPPER TRIASSIC AND LOWER JURASSIC

NICOLA GROUP (POSSIBLY INCLUDES SLOCAN GROUP NEAR SOUTHEAST EDGE OF AREA).

TRJNv	ANDESITE AND BASALT FLOW ROCKS, PORPHYRITIC AUGITE ANDESITE, BRECCIA, TUFF, AGGLOMERATE, GREENSTONE, CHLORITIC PHYLLITE: MINOR ARGILLITE, LIMESTONE, SERICITIC SCHIST.

UPPER TRIASSIC

KARNIAN AND NORIAN

NICOLA GROUP

uTRNs	BLACK SHALE, ARGILLITE, CONGLOMERATE, LIMESTONE, SILTSTONE: MINOR TUFF AND PHYLLITE.
uTRNc	LIMESTONE

SLOCAN GROUP

SICAMOUS FORMATION

uTRsc	SERICITIC, GRAPHITIC AND ARGILLACEOUS LIMESTONE: CALCAREOUS PHYLLITE, ARGILLITE.
uTRsp	SHALE, ARGILLITE, MASSIVE SILTSTONE, PHYLLITE, TUFF AND CALCAREOUS PELITE: MINOR CONGLOMERATE, LIMESTONE, GREENSTONE, CHLORITIC PHYLLITE AND ANDALUCITE -, STAUROLITE - AND KYANITE - BEARING SCHIST.
uTRscg	CONGLOMERATE.

SCALE

0 .5 1.0 2.0 3.0 km.

1:50,000

From: A.V. OKULITCH, 1979., GSC #637

QUINTO MINING CORP.

LUMBY PROJECT
REGIONAL GEOLOGY

DLK	DEC / 1986	NTS 82L/7W	Fig. 3

7.0 EXPLORATION FIELD WORK

Between August 10th and September 10th, 1986, a regional scale soil, rock chip and heavy mineral stream sample program was conducted on the B.S. and P.S. claims by Quinto Mining Corporation staff, supervised by the author.

Between August 22nd and 23rd, 1986, an airborne geophysical survey was conducted over all the claims owned by Quinto in the Lumby Project. The purpose of the project was to try to locate new mineralized zones similar to the structurally controlled gold bearing shear zone presently being developed on Saddle Mountain. The geophysical survey was flown over known mineralized zones to obtain its geophysical signature in an attempt to match it to other structures on the property. The area explored by this program is moderately to heavily overburden covered so geochemical and geophysical methods are neccessary to locate mineralized zones.

7.1 GEOPHYSICAL

Between August 22nd and August 23rd, 1986, a total of 300 line km of airborne geophysical survey was flown over the B.S., P.S. and Chap claim groups at Lumber, B.C. Actual measurement of lines flown totals 300 km. Contract line kms was estimated at 294 which explains the difference between the cost statement in this report and the one in the Dighem report.

A detailed description of method, instrumentation and interpretation is contained within report number 262 by Dighem Surveys and Processing Inc., dated October 17th, 1986. This report is listed as Appendix A in this report with accompanying maps located in the map pouches as Figs. 5,6 and 7.

7.2 GEOCHEMISTRY

Between August 10th, 1986 and September 10th, 1986, a reconnaissance geochemical survey was conducted on the P.S. and B.S. claim groups. The program consisted of heavy mineral stream samples, contour soil line sampling and rock chip sampling. All types of samples, their locations and analytical results are shown on Fig.4 and inserts 4a, 4b and 4c.

A total of 19 stream heavy mineral samples were taken from major and minor drainages on the north central portion of the claim groups. Lack of water and heavy sediment was a problem in some minor drainages. Roughly 25 kg. of wet stream sediments was hand panned down to 8.5 to 55.7 gms. of heavy sediment. Samples were placed in plastic bags, tagged and shipped by bus to Acme Analytical Labs in Vancouver for analysis. At the lab the samples were further prepared by heavy liquid separation. A 0.5 gm sample was digested with 3 ml of 3-1-2 HCL-HN03-H20 at 95^{o}C. for one hour and diluted to 10 ml by water. Analysis for Cu, Pb, Zn and Ag was completed by I.C.P. Gold was analyzed by A.A. from a 10 gm sample.

A total of 18 rock chip samples were taken from scattered quartz and calcite veins, shears and pyritic country rocks encountered mainly along roads and logging disturbances. The rock chips were bagged, tagged and shipped by bus to Vancouver for analysis. Samples were crushed and pulverized at the lab. Cu, Pb, Zn, As and Ag were analyzed by I.C.P. Gold was analyzed by A.A.

A total of 190 soil samples were taken from the claims. the majority of the samples were taken from three contour sample lines run at a set elevation with samples taken at 25 m. intervals. The samples were taken from grub hoe dug holes which ranged in depth from 30 to 60 cm. below surface.

The B soil horizon was sampled. The soil horizon varied in its development relative to overburden thickness. The sample sites were marked by flagging. The samples were placed in marked kraft paper sample bags and shipped by bus to Vancouver for analysis. The samples were dried and screened to - 80 mesh. Cu, Pb, Ag and As were analyzed by ICP from a .5 gm sample. Gold was analyzed by A.A. from a 10 gm sample.

8.0 RESULTS

The geochemical sampling program resulted in several erratic precious metal anomalies in the soil and stream samples.

Only 19 stream heavy mineral stream samples were taken so statistical analysis of such a small population is invalid. There is a general correlation between percent heavy material in the samples and the relative amouns of base and precious metals recovered from them although the largest samples did not return the highest values. Gold values ranged from 1 ppb up to 58,500 ppb. Six of the samples contained greater than 1000 ppb gold and are considered to be anomalous. All samples were taken from drainages in the north-central portion of the claims known as Vance creek and its tributaries. Four anomalous samples came from the main drainage and values generally decreased upstream. These may reflect a placer concentration. Two of the samples were taken from side drainages. Sample 2653 came from the west side of the valley high in Vance creek. This may reflect a bedrock source on the P.S.-5 or D.K.-1 claim. Sample 2662 came from the east side but is low down and the sample above it carried low values so it may also reflect valley placer values.

The 18 rock chip samples came from various locations from quartz and calcite vein material and pyritzed country rock and their locations are shown on Fig 4. The highest precious metal values came from float boulders and quartz veins exposed along a road cut on the B.S.-4 claim.

The boulders were white to rusty quartz and contained from 1% to 20% pyrrhotite. Although the highest gold value was 15 ppb the abundance of float indicates the area has been tectonically active and therefore a valid exploration target.

A total of 190 soil samples were taken mainly from three separate contour soil lines. Although the sampled areas are small and probably represent different basement lithologies, a rough statistical analysis was calculated to give an idea of anomalous thresholds for the six elements analyzed. Anomalous values belong to the top 16% of the population. The values arrived at are list below.

TABLE II

ELEMENT	Cu(ppm)	Pb(ppm)	Zn(ppm)	Ag(ppm)	Au(ppb)	As(ppm)
Anomalous Threshold	100	12	225	0.6	2	9

Sample locations are shown on Fig.4. and values are plotted on Figs. 4a, 4b and 4c.

Contour line B.200E to B.2300E on claim P.S.-4 was designed to cross a diorite intrusive stock from east to west. Values are shown on Fig. 4a. Numerous samples were slightly anomalous in base metals. Only one sample was highly anomalous at 48 ppb Au reflecting 24 times the anomalous threshold.

Contour line A3-0 to A3-1550, run at 785 m. elevation from northeast to southwest across the local lithological strike in the north-central portion of the P.S.3. claim, is shown in detail on Fig. 4b. The only element with anomalies of note is gold. There are four samples returning from 5 to 10 times the anomalous threshold and warrant in-fill sampling.

Line B-1 to B-40 was run above a road cut at 1040 m. elevation in the west-central portion of claim P.S.-4. The samples were taken in attempt to locate buried mineralized structures in the area of abundant vein float material. The line as a whole has a relatively high copper content. High zinc values are sporatic. One sample was extremely anomalous in zinc and carried very anomalous silver values as well. A detailed plot of this line is shown on Fig.4c.

9.0 CONCLUSIONS

The results of the limited geochemical survey are moderately encouraging. The anomalous precious metal values are scattered, usually one station anomalies. They probably reflect narrow mineralized veins or shears. No heavily mineralized or highly anomalous targets were located through the rock chip samples. Anomalous heavy mineral samples indicate a possible precious metal bedrock source in P.S.-5.

The airborne geophysical survey resulted in the locating of several highly conductive zones on the property. Three main zones are evident on the Dighem electromagnetic anomaly map. Zone A. located on the north flank of Saddle Mountain on the Quin and P.S.-7. claims is a complex area of moderate to strong conductors. Zone B. located in claims P.S.-3, 4 and 6. shows a strong northwest to southeast conductive feature on the east of Vance creek and a broader multiple conductor zone on the west. Another zone is located in the northern half of B.S.-4. showns a strong linear multiple conductor. Numerous short high complitude anomalies were also located throughout the claims.

The lithologies and structural elements underlying the B.S. and P.S. claim groups are very simular to those on the Chap group on Saddle Mountain. The impressive geophysical anomalies defined by the airborne survey indicate a follow-up program is warranted.

10.0 RECOMMENDATIONS & COST ESTIMATE

The reconnaissance scale geochemical and geophysical surveys completed on the B.S. and P.S. claim group of Quinto Mining Corporation have successfully located high priority anomalies which warrant further exploration. To this end a detailed follow-up exploration program is recommended. This program should include:

a) Prepare 1:2000 scale blow-ups of the 1:10,000 scale orthophoto over the three main geophysical anomalies.

b) Cut grid lines over the three target areas.

c) Geological mapping of bedrock exposures.

d) Soil sample grids at 100 m. linespacing with 25 m. sample intervals.

e) Conduct horizontal loop or pulse-vector E.M. surveys.

f) Explain other smaller anomalies.

g) Backhoe trench any anomalies discovered by this follow-up work.

COST ESTIMATE

Of Proposed Program

1)	Base Map Production		$ 500.00
2)	Line cutting	145 km @ $75.00	10,875.00
3)	Soil sampling	1900 @ $10.75	31,175.00
4)	Assays	100 @ $10.75	1,075.00
5)	Geological mapping	14 days @ $325.00	4,550.00
6)	Geophysical	145 km at $150.00	21,750.00
7)	Anomaly checking	7 days @ $325.00	2,275.00
8)	Accommodation	21 days @ $40.00	840.00
9)	Truck rental	21 days @ $40.00	840.00
10)	Trenching	100 hrs @ $65.00	6,500.00
11)	Communication		200.00
12)	Report		2,000.00
			82,580.00
		10% Contingency	8,258.00
			$ 90,838.00

11.0 STATEMENT OF COSTS

P.S. GROUP (83 UNITS)

GEOCHEMISTRY		
Soil Samples	93 @ 2.00 acquisition	$ 186.00
Soil samples	93 @ 8.75 ICP Cu Pb Zn Ag Au As	813.75
Rock samples	6 @ 11.00 AA Cu Pb Zn Ag Au As	66.00
Heavy mineral samples	11 @ 12.50 ICP Cu Pb Zn Ag Au	137.50
E.Stranks-Technician	5 days @ 125.00	625.00
D.Kuran-Geologist	2 days @ 200.00	400.00
Accommodation	4 days @ 40.00	160.00
Truck rental	5 days @ 40.00	200.00
GEOPHYSICAL		
150 line kms	@ 81.18	12,177.00
Photomosaic	½ of 4,800.00	2,400.00
D.Kuran	2 days @ 200.00	400.00
E.Stranks	2 days @ 125.00	250.00
Travel		100.00
REPORT		
D.Kuran	2 days @ 200.00	400.00
E.Stranks	2 days @ 125.00	250.00
Reproduction		100.00
PAC		1,131.25
		$19,796.50

STATEMENT OF COSTS

B.S. GROUP (100 UNITS)

GEOCHEMISTRY		
Soil samples	97 @ 2.00 acquisition	$ 194.00
Soil samples	97 @ 8.75 ICP Cu Pb Zn Ag Au As	848.75
Rock samples	12 @ 11.00 AA Cu Pb Zn Ag Au As	132.00
Heavy min: samples	8 @ 12.50 ICP Cu Pb Zn Ag Au	100.00
E. Stranks-Technician	10 days @ 125.00	1,250.00
D. Kuran-Geologist	2 days @ 200.00	400.00
Accommodation	4 days at 40.00	160.00
Truck rental	12 days @ 40.00	480.00
Travel		100.00
GEOPHYSICAL		
150 line kms	@ 81.18	12,177.00
Photomosaic	½ of 4,800	2,400.00
D.Kuran	2 days @ 200.00	400.00
E.Stranks	2 days @ 125.00	250.00
Truck rental	2 days @ 40.00	80.00
REPORT		
D. Kuran	3 days @ 200.00	600.00
E. Stranks	3 days @ 125.00	375.00
Reproduction		100.00
PAC		525.25
		$20,572.00

CERTIFICATE OF QUALIFICATIONS

I, DAVID L. KURAN, of 25630 Bosonworth Avenue, Maple Ridge, British Columbia, hereby certify:

(1) I am a graduate of the University of Manitoba (1978) and hold a BSC,. Degree in Geology.

(2) I am a Fellow of the Geological Association of Canada.

(3) I have been employed in my profession by various mining companies for the past eight years in Canada, U.S.A. and Mexico.

(4) I am presently employed as project geologist for The Quinto Mining Corporation, #807 - 543 Granville Street, Vancouver, British Columbia.

(5) The information contained within this report was obtained by onsite exploration supervision.

(6) I hold no interest in the property and hold no security position in Greyhawk Resources Ltd, or Willcrest Resources Ltd, nor expect to do so.

(7) I hold an employee's option for securities in The Quinto Mining Corporation.

(8) This report may be used in whole by The Quinto Mining Corporation, Willcrest Resources Ltd., or Greyhawk Resources Ltd, for all corporate purposes including public financing.

Dave Kuran

DAVID KURAN

Project Geologist

DATED at Vancouver, British Columbia, this 1st day of December 1986.

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APPENDIX A

Dighem III SURVEY OF THE LUMBY PROJECT

VERNON, B.C.

N.T.S. 82L 7

for

THE QUINTO MINING CORPORATION

Report #262

DIGHEM^{III} SURVEY
OF THE
LUMBY PROJECT
VERNON, B.C.
N.T.S. 82L 7

FOR

THE QUINTO MINING CORPORATION

BY

DIGHEM SURVEYS & PROCESSING INC.

MISSISSAUGA, ONTARIO
October 17, 1986

FRANK KISS
CONSULTING GEOPHYSICIST

P.A. SMITH
GEOPHYSICIST

AB-PAS-190

SUMMARY AND RECOMMENDATIONS

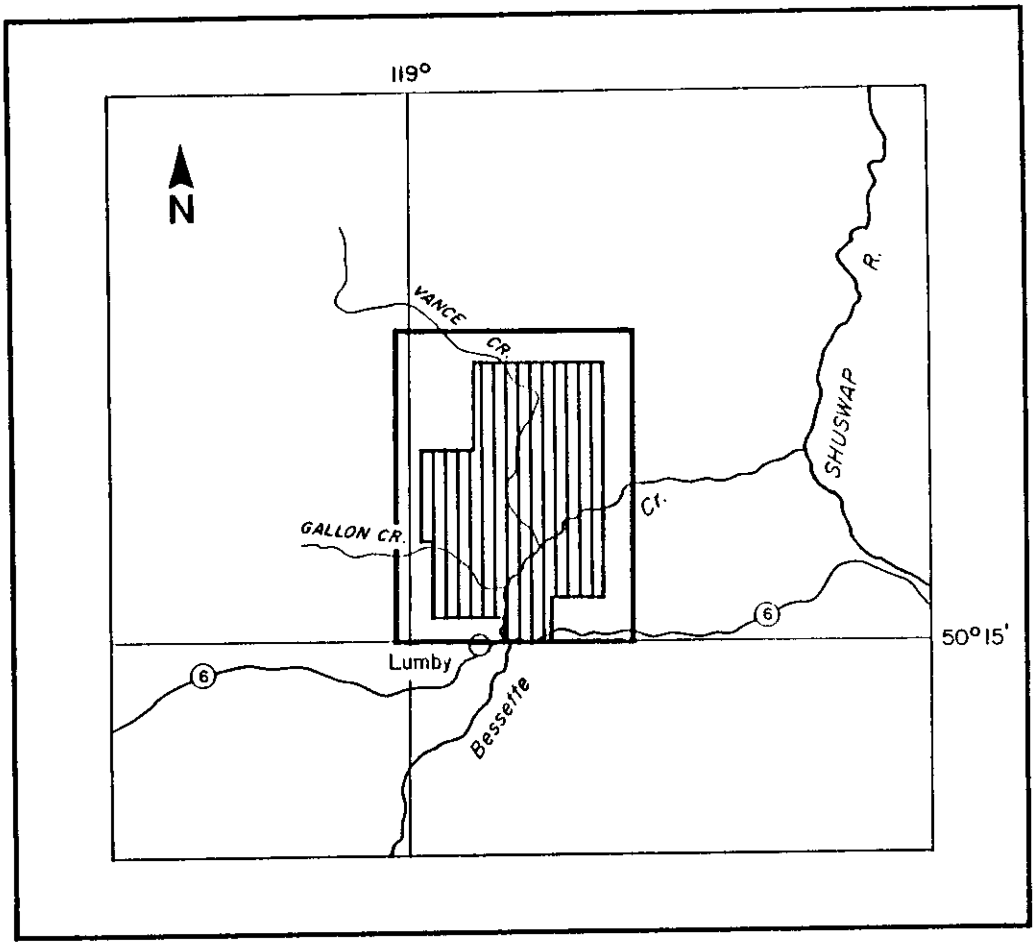
A total of 294 km (183 miles) of survey was flown with the DIGHEM^{III} system from August 22 to August 23, 1986, over a property near Lumby, B.C., for The Quinto Mining Corporation.

The survey outlined numerous bedrock conductors in addition to several weak conductors of possible bedrock origin. Most of the conductors described in Section 1 of this report appear to warrant further investigation using appropriate surface exploration techniques. Areas of interest may be assigned priorities for follow-up work on the basis of supporting geological and/or geochemical information, and by comparing magnetic, resistivity and VLF trends which should aid in mapping the geologic units and structural breaks within the survey area.

The survey area exhibits excellent potential as a host of massive to semi-massive zones of mineralization. Most of the conductors are considered to be of moderate to high priority as exploration targets.

Due to the numerous cultural features in the survey area, any interpreted bedrock conductors, which occur close to cultural sources, should be confirmed as bedrock conductors prior to drilling.

LOCATION MAP



1 : 250000

FIGURE 1

THE SURVEY AREA

CONTENTS

INTRODUCTION

A DIGHEM^{III} electromagnetic/resistivity/magnetic/VLF survey totalling approximately 294 line-km was flown with a 150 m line-spacing for The Quinto Mining Corporation, from August 22 to August 23, 1986. Survey coverage consisted of a single survey grid with traverse lines flown north/south.

The survey results have been presented on separate map sheets for each parameter. The survey block is located on N.T.S. map sheet 82L/7. The approximate center of the survey area occurs at latitude 50° 17' 20"N/ longitude 118° 56' 45"W. (See Figure 1)

An Aerospatiale AS-350B turbine helicopter (Registration C-GFHP) was provided by Frontier Helicopters Limited. The helicopter flew at an average airspeed of 130 km/h with an EM bird height of approximately 30 m. Ancillary equipment consisted of a Sonotek PMH 5010 magnetometer with its bird at an average height of 45 m, a Sperry radio altimeter, a Geocam sequence camera, an RMS GR33 digital graphics recorder, a Sonotek SDS 1200 digital data acquisition system, a Herz Industries Totem-2A VLF-electromagnetometer with its sensor towed at an average height of 52 m, and a DigiData 1640 9-track 800-bpi magnetic tape recorder. The analog equipment recorded four channels of EM data at approximately 900 Hz, two channels of EM data at approximately 7200 Hz, four channels of VLF-EM (total field and quadrature components), two ambient EM noise channels (for the coaxial and coplanar receivers), two channels of magnetics (coarse and fine count), and a channel of radio altitude. The digital equipment recorded the EM data with a sensitivity of 0.20 ppm at 900 Hz and 0.40 ppm at 7200 Hz, the VLF field to 0.1%, and the magnetic field to one nT (i.e., one gamma). The VLF-EM receivers were tuned to 24.0 kHz (Cutler, Maine - NAA) as the primary station and 24.8 kHz (Seattle, Washington - NLK) as an alternate transmitter source.

Appendix A provides details on the data channels, their respective sensitivities, and the navigation/flight path recovery procedure. Noise levels of less than 2 ppm are generally maintained for wind speeds up to 35 km/h. Higher winds may cause the system to be grounded because excessive bird swinging produces difficulties in flying the helicopter. The swinging results from the 5 m^2 of area which is presented by the bird to broadside gusts. The

DIGHEM system nevertheless can be flown under wind conditions that seriously degrade other AEM systems.

In areas where EM responses are evident primarily on the quadrature components, zones of poor conductivity are indicated. Where these responses are coincident with strong magnetic anomalies, it is possible that the inphase component amplitudes have been suppressed by the effects of magnetite. Most of these poorly conductive magnetic features give rise to resistivity anomalies which are only slightly below background. If it is expected that poorly conductive economic mineralization may be associated with magnetite-rich units, some of these weakly anomalous features may be of interest. In areas where magnetite causes the inphase components to become negative, the apparent conductance and depth of EM anomalies may be unreliable.

Anomalies which occur near the ends of the survey lines should be viewed with caution. Some of the weaker anomalies could be due to aerodynamic noise, i.e., bird bending, which is created by abnormal stresses to which the bird is subjected during the climb and turn of the aircraft between lines. Such aerodynamic noise is usually manifested by an anomaly on the coaxial inphase channel only, although severe stresses can affect the coplanar inphase channels as well.

Numerous cultural sources, such as powerlines, metal fences and buildings, occur within the survey area. These cultural sources may influence the resistivity and electromagnetic anomaly patterns but can usually be identified on the profiles due to their characteristic signatures. A separate map showing probable bedrock conductors can be produced for the survey area, if requested. The resulting map would display only those anomalies which have been attributed to discrete bedrock conductors. All other anomalies attributed to horizontal layers and cultural features would be intentionally deleted from this presentation to provide an uncluttered view of the more interesting anomalies.

SECTION I: SURVEY RESULTS

General Discussion

Anomalous electromagnetic responses were picked and analysed by computer to provide preliminary electromagnetic anomaly maps. The resulting maps were used in conjunction with the computer processed digital data profiles during the interpretation stage. Table I-1 summarizes the EM responses in the survey area, with respect to conductance grade and interpretation.

The anomalies shown on the electromagnetic anomaly map are based on a near-vertical, half plane model. This model best reflects "discrete" bedrock conductors. Wide bedrock conductors or flat-lying conductive units, whether from surficial or bedrock sources, may give rise to very broad anomalous responses on the EM profiles. These may not appear on the electromagnetic anomaly map if they have a regional character rather than a locally anomalous character. These broad conductors, which more closely approximate a half space model, will be maximum coupled to the horizontal (coplanar) coil-pair and should be more

TABLE I-1

EM ANOMALY STATISTICS FOR THE LUMBY PROJECT

CONDUCTOR GRADE	CONDUCTANCE RANGE	NUMBER OF RESPONSES
6	> 99 MHOS	1
5	50-99 MHOS	3
4	20-49 MHOS	83
3	10-19 MHOS	104
2	5- 9 MHOS	117
1	< 5 MHOS	160
X	INDETERMINATE	123
TOTAL		591

CONDUCTOR MODEL	MOST LIKELY SOURCE	NUMBER OF RESPONSES
D	DISCRETE BEDROCK CONDUCTOR	54
B	DISCRETE BEDROCK CONDUCTOR	185
S	CONDUCTIVE COVER	160
H	ROCK UNIT OR THICK COVER	78
L	CULTURE	114
TOTAL		591

(SEE EM MAP LEGEND FOR EXPLANATIONS)

evident on the resistivity parameter. The resistivity map, therefore, may be more valuable than the electromagnetic anomaly map, in areas where broad or flat-lying conductors are considered to be of importance. A coloured resistivity map, based on the 7200 Hz coplanar data, is included with this report.

Excellent resolution and discrimination of conductors was made possible employing a common frequency (900 Hz) on two orthogonal coil-pairs (coaxial and coplanar). The resulting "difference channel" parameter often permits differentiation of bedrock and surficial conductors, even though they may exhibit extremely weak conductance in many cases.

The local geology of the area consists primarily of a series of highly metamorphosed rocks of the Monashee Group. Gneisses form the bulk of the assemblage. Schist, quartzite and slate are also found. The local strike is generally easterly to southeasterly, although in the northeastern quadrant of the survey area, the strike of several prominent conductors is northeasterly. Intrusions of small gabbroic or dioritic bodies are mapped at the centre of the survey area and immediately to the northeast of the town of Lumby. Faulting is predominantly northwest or northeast.

Magnetics

A Geometrics 826 proton precession magnetometer was operated at the survey base to record diurnal variations of the earth's magnetic field. The clock of the base station was synchronized with that of the airborne system to permit subsequent removal of diurnal drift.

The corrected data were interpolated onto a regular grid at a 2.5 mm interval using a cubic spline technique. The resulting grid provided the basis for presenting the magnetic contours.

Although there was no correction applied to the magnetic data for local variations in the IGRF field across the survey grid, the background levels have been related to the mean IGRF value for the survey area.

The total field magnetic data have been presented as contours on the photomosaic base map using a contour interval of 10 nT where gradients permit. The maps show the magnetic properties of the rock units underlying the survey area.

The total field magnetic information can be subjected to a processing algorithm which enhances near-surface magnetic units and suppresses regional gradients. This procedure not only provides better definition and resolution of magnetic units, but also develops weak magnetic features which may not be clearly evident on the total field map. Although the enhancement procedure emphasizes positive magnetic anomalies, it does not directly highlight relative magnetic lows which may be due to non-magnetic units, faults or alteration zones. Such features are more evident on the total field magnetic map.

Total magnetic relief is minor, ranging from a background level of approximately 57,600 nT, to a high of more than 57,900 nT.

There is evidence on the magnetic maps which suggests the area has been subjected to deformation and/or alteration. There are several minor displacements which may be due to faulting and/or folding. These structural complexities are evident on the contour maps as offsets or distortions of contour patterns.

The magnetic maps show several anomalous features which are attributed to metavolcanic units and/or concentrations of magnetic minerals. If a specific magnetic intensity can be assigned to the rock type which is believed to host the target mineralization, it may be possible to select areas of higher priority on the basis of the total field magnetic maps. This is based on the assumption that the magnetite content of the host rocks will give rise to a limited range of contour values which will permit differentiation of various lithologic units.

The magnetic results, in conjunction with the other geophysical parameters, should provide valuable information which can be used to effectively map the geology and structure in the survey area.

VLF-EM

A coloured map of the filtered total field from the VLF transmitter at Cutler, Maine, is presented with this report. As the VLF method is quite sensitive to the angle of coupling between the conductor and the propogated EM field, conductors which strike towards the VLF station will usually yield a stronger response than conductors which are nearly orthogonal to it. The general strike in the survey area, inferred from the geological data, appears to be approximately west-northwest/east-southeast, and therefore provides moderately good coupling with the VLF signal sources available from Cutler or Annapolis. The anomalous

VLF trends shown on the colour map exhibit two major alignment directions; east-northeast/west-southwest and east-southeast/west-northwest.

In general, the VLF trends over most of the survey area are quite well-defined, showing moderately good correlation with EM conductor axes and poor correlation with magnetic features. This implies that there is little or no direct relationship between conductive and magnetic trends. VLF anomalies often appear to transect the magnetic features, suggesting that the conductive units differ in age from the magnetic units.

The VLF parameter does not normally provide the same degree of resolution available from the EM data. Closely-spaced conductors, conductors of short strike length or conductors which are poorly coupled to the VLF field, may escape detection with this method. Erratic signals from the VLF transmitters can also give rise to strong, isolated anomalies which should be viewed with caution. Regardless of these limitations, however, the VLF results have provided additional structural information, particularly within the more resistive portions of the survey area. The VLF method could probably be used as an exploration tool in this area although its effectiveness may be limited in areas of conductive overburden.

Resistivity

A coloured resistivity map, based on the 7,200 Hz coplanar data has been produced at a scale of 1:20,000. This map shows the conductive properties of the survey area. Most of the resistivity lows (i.e., conductive areas) coincide with discrete bedrock conductors while others are attributed to conductive overburden. In general, the area is quite conductive. The valley areas appear to contain a moderately thick layer of conductive overburden which yields resistivities of 20 to 60 ohm-m. Higher resistivities are evident on the slopes and hills, often exceeding 4,000 ohm-m near the peaks.

Most of the bedrock conductors are conductive enough to allow them to be detected through the conductive overburden. There are more than twelve distinct conductive zones which yield resistivity values of less than 10 ohm-m.

Electromagnetics

The EM anomalies resulting from this survey appear to fall within one of three general categories. The first type consists of moderately well-defined responses which yield marked inflections on the difference channel parameters.

These anomalies, which reflect "discrete" conductors typical of massive sulphides and/or graphite, are usually identified by a "D", "T" or possibly "B", interpretive symbol.

The second class of anomalies reflects moderately broad or flat-dipping zones which may not yield a response in the difference channel. these conductors, which exhibit the characteristics of a half space, have been given a "B", "H" or "S" interpretive symbol. The lack of a difference channel response usually implies a broad conductive source such as overburden.

The third group of anomalies are those which have been attributed to culture. These responses are identified by an "L" interpretive symbol.

The following section provides a brief description of the more interesting anomalies. A proper assessment and evaluation of these anomalies should be carried out by one or more qualified professionals who have access to, and can provide a meaningful compilation of, all available geophysical, geological and geochemical data.

The electromagnetic anomaly map shows the anomaly locations with the interpreted conductor type, dip, conductance and depth being indicated by symbols. Direct magnetic correlation is also shown if it exists. The strike direction and length of the conductors are indicated when anomalies can be correlated from line to line. When studying the map sheets for follow-up planning, consult the anomaly listings appended to this report to ensure that none of the conductors are overlooked.

CONDUCTORS IN THE SURVEY AREA

Where several conductors or conductive trends exhibit similar characteristics, or appear to be related to a common geologic unit, these have been grouped into "zones" for purposes of discussion. The zone outlines shown on the EM map may approximate the limits of conductive units which have been derived from the resistivity parameter.

Anomalies 10010A-10040B, 10040C-10050xA, 10070E, 10070D-10080D, 10020A

Anomalies in this group occur in the west central portion of the survey area. Most exhibit relatively short strike lengths, with the possible exception of 10010A-10040B, which may be open to the west. Except for 10070D-10080D, all conductors in this group give rise to resistivity lows of 100 ohm-m or less, in a moderately conductive area. Anomalies 10030C, 10040B, 10040C, 10070D and 10070E suggest moderately narrow conductors, with possible dips to the south. Anomaly 10070D-10080D is the only conductor in this group which yields direct magnetic correlation.

Anomalies 10010B-10040D, 10010C-10120G, 10010E-10040F, 10040xC-10060xC, 10050B-10130H, 10070xA-10090E, 10080xB, 10100xB-10150G, 10160K-10170O, 10160I-10180N

A prominent resistivity low, which strikes east-southeast from the north end of line 10010, hosts three or more discontinuous subparallel bedrock conductors. Many of the anomalies in this group are highly conductive and are contained within a relative magnetic low, suggesting graphite as a possible cause. There are several anomalies, however, which coincide with weak, isolated magnetic highs (i.e., 10020E) which may be due to conductive sulphides such as pyrrhotite. Conductors appear to vary in thickness, conductivity and dip.

Conductors in this area are considered to be attractive targets which warrant follow-up, particularly those which yield direct magnetic correlation.

At the eastern end of the conductive unit, anomalies 10160I-10180N and 10160K-10170O both yield strong resistivity lows. These appear to be associated with a broad zone of moderately low resistivity which strikes south-southwest from this area, along a major valley.

Anomalies 10080A, 10080B-10100C, 10090C, 10100B, 10120A, 10120xA, 10120C-10130B, 10120E-10130E, 10160C-10170C, 10160G-10170L, 10170K, 10170J-10180xA, 10180J-10200xF, 10190H, 10200B, 10200D-10210xB, 10210xD, 10231C, 10251xD, 10270H-10280D, 10290G-10300G, 10290J-10310B, 10290L, 10340I, 10360J, 10380xB, 10390xE

Anomalies in this group are situated within a broad resistivity low associated with the valley which dominates the south central portion of the survey area. Most anomalies in this group are poorly-defined, generally reflecting broad or flat-lying sources. Conductive overburden is considered to be a contributing factor. Several responses, however, yield inflections on the difference channel parameters, which are often indicative of buried bedrock conductors.

Several zones yield direct magnetic correlation which may be indicative of bedrock sources. Numerous cultural features within the valley have also influenced the electromagnetic responses. The combined effects of overburden and culture may have masked bedrock conductors in this area. Some anomalies which have been given an "L" interpretive symbol may actualy be due to bedrock conductors near cultural sources.

It is suggested that all possible bedrock conductors, which cannot be directly related to culture, be subjected to further work. Investigation may be focused on those anomalies which yield direct magnetic correlation and/or coincidence with anomalous VLF features. Conductors which give rise to isolated resistivity lows, and do not appear to be related to culture, are considered to be of higher priority. Some of the more attractive anomalies in this group are 10080B-10100C, 10100B, 10120E-10130E and 10170K. With the exception of 10170K, these conductors occur near the western edge of the valley. Anomalies 10231C and 10290G-10300G, which occur on the eastern side of the valley, may also warrant further attention.

Anomalies 10210xA-10251xA, 10210B-10231A, 10231B, 10251B, 10251D, 10231xA, 10330xB

With the exception of the conductors defined by anomalies 10210xA-10250xA and 10210B-10230A, anomalies in this group generally consist of poorly defined responses of short strike length. These poorly defined conductors occur on the east and west slopes of a topographic high, in a moderately conductive area.

Anomalies in this group do not appear to be influenced by culture or conductive overburden, and are therefore attributed to probable bedrock sources, the characteristics of which indicate thin (10210B, 10251B) to broad (10220D, 10231B) sources. Their significance is further enhanced by the reported occurence of mineralization in the vicinity of anomaly 10251B. This anomaly reflects a narrow bedrock conductor with an apparent short strike length, situated on the south flank of a double-peaked magnetic anomaly.

Anomalies 10270D-10280C, 10270xD-10300E, 10290C-10300D

Three bedrock conductors are associated with a strong resistivity low which is situated at or near the crest of a topographic ridge. This ridge dominates the southeastern corner of the survey area. The resistivity low, and the conductors contained within it, may be open to the southeast. Anomalies 10270D-10280C and 10270xD-10300E appear to be separated by a moderately strong, east/west trending magnetic anomaly. Although the conductors are situated near the flanks of the magnetic anomaly, direct correlation is evident with anomaly 10290E. Anomalies 10280C and 10290C are similar in character in that they both reflect narrow sources with probable dips to the south. The former, which may be partially influenced by culture or a spheric spike, is situated on the south flank of the magnetic anomaly while the latter 10290C-10300D, occurs in a relative magnetic low.

Zone A

Zone A is a strong, plug-like resistivity low which is situated on the northeastern face of a ridge. This zone has a "c"-shaped core of highly conductive material. Although the southwestern periphery of the resistivity low is associated with a fairly well-defined west-northwest/east-southeast trending magnetic anomaly, most of the conductors within the zone are non-magnetic. This factor, coupled with the high conductance values, suggests that graphite is a likely cause. Some anomalies, however, yield weak magnetic correlation, suggesting that the lack of magnetic intensity may be due to alteration. This zone should be investigated in detail in order to determine the strikes and causative sources of the numerous conductors in this interesting area. The differences between the resistivity patterns relative to the magnetic and VLF trends, suggests that the conductor strikes may actually be quite different from those indicated on the EM map.

Zone B

The northern half of the survey area is dominated by a strong, complex resistivity low which hosts several strong bedrock conductors. The central axis of this conductive unit appears to strike in an east-southeasterly direction from anomaly 10140Q towards 10231N, beyond which the strike swings to the northeast, continuing beyond the northeastern corner of the claim block. Within this zone of low resistivity, there are several well-defined, highly-conductive units which are attributed to concentrations of conductive material.

There is a loose correlation between magnetic/VLF trends and conductor axes, although few anomalies yield direct magnetic correlation. Both magnetic and VLF trends are discontinuous, with the former exhibiting a strong north/south alignment direction which transects the VLF and EM conductors in many cases.

Most conductors in Zone B are considered to be moderately attractive targets. It is recommended that follow-up work be carried out to check the causative sources of conductors in this area. Anomalies which give rise to strong resistivity lows are attributed to concentrations of conductive material. The most conductive zones occur in the vicinity of anomalies 10140Q, 10160M, 10160N, 10160Q, 10200J, 10220U, 10260F, 10260H, 10270Q, 10300R, 10380P and 10400xI.

Although the above anomalies may reflect the most conductive areas, anomalies which exhibit direct magnetic correlation may be of equal or greater significance. Such targets would include anomalies 10160P, 10170Q, 10200K, 10270Q, 10290Q, 10310J and 10380P, in addition to several weaker magnetic responses such as 10170xH, 10180P and 10190xB.

The magnetic and resistivity contour patterns suggest the northern portion of the survey area may also have been subjected to fairly intense structural deformation and alteration. Although an attempt has been made to correlate conductor axes between lines, they may be different from those indicated on the EM map. This ambiguity results from several contributing factors; namely, variations in conductivity and magnetic correlation along strike, moderately flat dips, shallow angles of intersection between conductors and survey lines, topographic variations, and different alignment directions for the various measured parameters.

Anomalies 10260B-10300Q, 10320H-10340O

These two anomalies give rise to weak, linear, resistivity lows which strike in a north-northeasterly direction. Both conductor segments occur on the western flank of a moderately strong magnetic unit which strikes in a similar direction. The poor definition of anomaly characteristics may be due to the shallow angle of intersection with the survey lines. The apparently "wide" responses may actually be due to a thin, but weak, bedrock conductor. The northern end of the conductor, at anomaly 10340O, yields direct magnetic correlation.

Anomalies 10290xG-10300P, 10300O-10310E, 10310G-10331G, 10310H-10380K, 10350L-10360K, 10350P-10380L, 10360M-10400xE, 10390M-10410H, 10390N-10410xG, 10390xE

A highly resistive rock unit, centered on line 10380 at fiducial 1005, is surrounded by an arcuate ring of highly conductive material. This peripheral resistivity low hosts several moderately strong bedrock conductors. Strike directions are uncertain and further work is required to resolve the complex structure in this area.

Magnetic trends are poorly-defined, but appear to exhibit a change in strike from southwest to southeast through anomaly 10290xG. VLF trends in this area are east/west, possibly reflecting a directional bias towards the transmitting station.

All conductors in this circular zone of low resistivity should be investigated. The most conductive areas occur in the vicinity of anomalies 10310E, 10310G, 10350Q and 10390M. Anomalies 10300N, 10320D, 10331G, 10370P and 10400F all exhibit weak magnetic correlation which may enhance their significance. Responses similar to anomalies 10320D and 10370P are considered to be due to zones of conductive magnetic sulphides, such as pyrrhotite.

Anomalies 10380M-10390P, 10400G-10411B

Anomaly 10380M-10390P is associated with the strongest magnetic anomaly in the survey area. In addition to the direct magnetic correlation, this interesting conductor gives rise to a lens-like resistivity low. Anomaly 10380M reflects a thin conductor, dipping to the southwest, while anomaly 10390P suggests an off-line or thick source. Either the conductor is of limited strike length, and does not extend as far east as line 10390, or it increases in thickness in this direction. This conductor is considered to be one of the more attractive geophysical targets in the survey area and should be subjected to detailed investigation.

Anomaly 10400G-10411B, about 500 m to the south, also exhibits magnetic correlation. Although there is no well-defined resistivity low associated with this conductor, it is also considered to be an attractive target which warrants follow-up. This conductor may be open to the east.

The remaining anomalies in the survey area, which have not been described in the foregoing, have been attributed to conductive overburden, culture, or a combination of both. As mentioned previously, some of the apparent cultural ("L") responses may be due to thin dike-like bedrock conductors which occur in close proximity to cultural sources such as fences, pipes or powerlines. If these anomalies occur in areas of favourable geology, follow-up will obviously be required. Regardless of which ground method is selected as a follow-up tool, it should have excellent noise rejection capabilities to minimize adverse (masking) effects from powerline sources.

SECTION II: BACKGROUND INFORMATION

Section II provides background information on products which are available from your survey data. Those products not obtained as part of the survey contract may be generated later from raw data which is available on your archive digital tape.

ELECTROMAGNETICS

DIGHEM electromagnetic responses fall into two general classes, discrete and broad. The discrete class consists of sharp, well-defined anomalies from discrete conductors such as sulfide lenses and steeply dipping sheets of graphite and sulfides. The broad class consists of wide anomalies from conductors having a large horizontal surface such as flatly dipping graphite or sulfide sheets, saline water-saturated sedimentary formations, conductive overburden and rock, and geothermal zones. A vertical conductive slab with a width of 200 m would straddle these two classes.

The vertical sheet (half plane) is the most common model used for the analysis of discrete conductors. All anomalies plotted on the electromagnetic map are analyzed according to this model. The following section entitled Discrete Conductor Analysis describes this model in detail, including the effect of using it on anomalies caused by broad conductors such as conductive overburden.

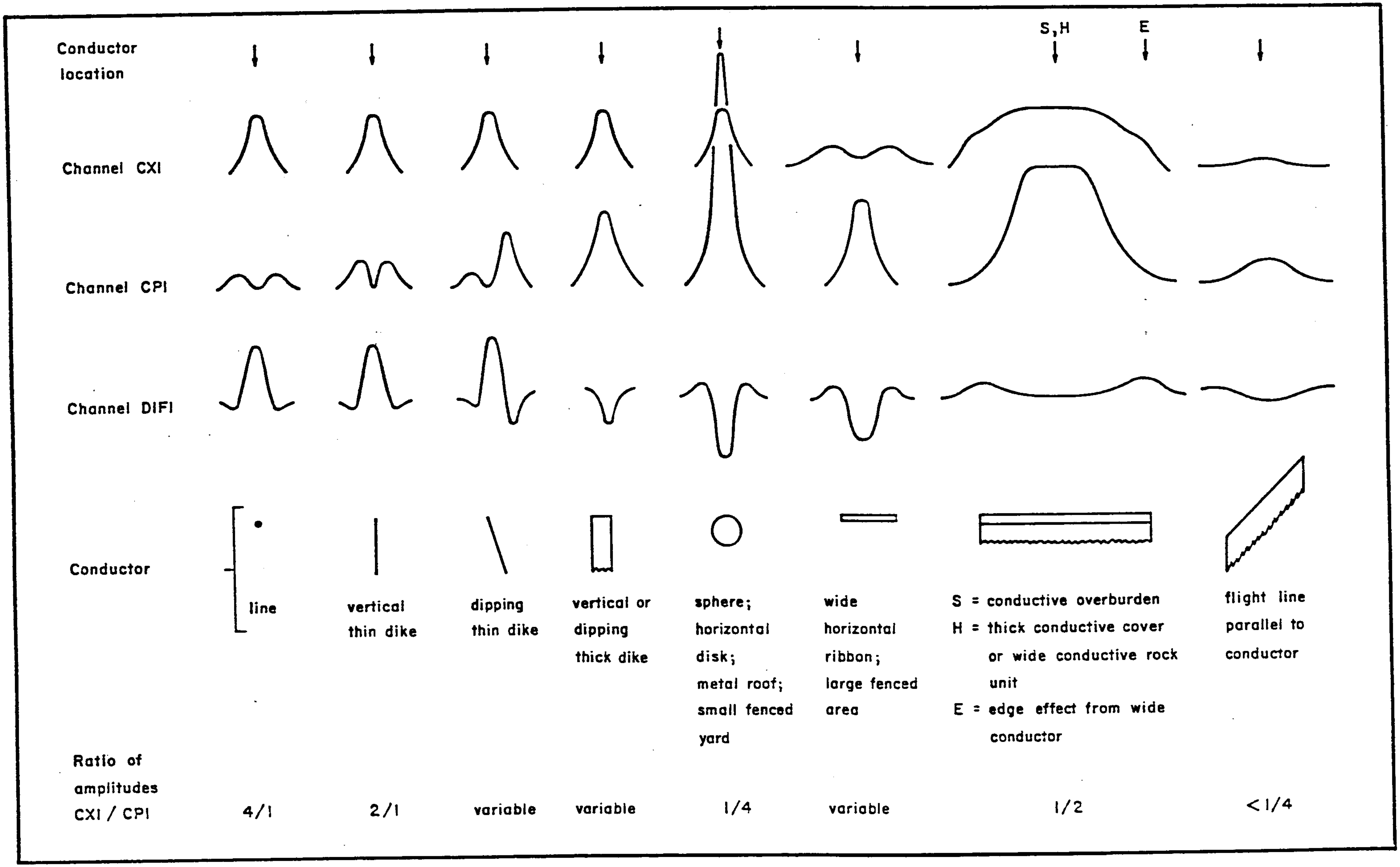
The conductive earth (half space) model is suitable for broad conductors. Resistivity contour maps result from the use of this model. A later section entitled Resistivity Mapping describes the method further, including the effect of using it on anomalies caused by discrete conductors such as sulfide bodies.

Geometric interpretation

The geophysical interpreter attempts to determine the geometric shape and dip of the conductor. Figure II-1 shows typical DIGHEM anomaly shapes which are used to guide the geometric interpretation.

Discrete conductor analysis

The EM anomalies appearing on the electromagnetic map are analyzed by computer to give the conductance (i.e., conductivity-thickness product) in mhos of a vertical sheet model. This is done regardless of the interpreted geometric shape of the conductor. This is not an unreasonable procedure, because the computed conductance increases as the



Typical DIGHEM anomaly shape

electrical quality of the conductor increases, regardless of its true shape. DIGHEM anomalies are divided into six grades of conductance, as shown in Table II-1. The conductance in mhos is the reciprocal of resistance in ohms.

Table II-1. EM Anomaly Grades

Anomaly Grade	Mho Range
6	> 99
5	50 - 99
4	20 - 49
3	10 - 19
2	5 - 9
1	< 5

The conductance value is a geological parameter because it is a characteristic of the conductor alone. It generally is independent of frequency, flying height or depth of burial, apart from the averaging over a greater portion of the conductor as height increases.[1] Small anomalies from deeply buried strong conductors are not confused with small anomalies from shallow weak conductors because the former will have larger conductance values.

Conductive overburden generally produces broad EM responses which may not be shown as anomalies on the EM maps. However, patchy conductive overburden in otherwise

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[1] This statement is an approximation. DIGHEM, with its short coil separation, tends to yield larger and more accurate conductance values than airborne systems having a larger coil separation.

resistive areas can yield discrete anomalies with a conductance grade (cf. Table II-1) of 1, or even of 2 for conducting clays which have resistivities as low as 50 ohm-m. In areas where ground resistivities can be below 10 ohm-m, anomalies caused by weathering variations and similar causes can have any conductance grade. The anomaly shapes from the multiple coils often allow such conductors to be recognized, and these are indicated by the letters S, H, G and sometimes E on the map (see EM legend).

For bedrock conductors, the higher anomaly grades indicate increasingly higher conductances. Examples: DIGHEM's New Insco copper discovery (Noranda, Canada) yielded a grade 4 anomaly, as did the neighbouring copper-zinc Magusi River ore body; Mattabi (copper-zinc, Sturgeon Lake, Canada) and Whistle (nickel, Sudbury, Canada) gave grade 5; and DIGHEM's Montcalm nickel-copper discovery (Timmins, Canada) yielded a grade 6 anomaly. Graphite and sulfides can span all grades but, in any particular survey area, field work may show that the different grades indicate different types of conductors.

Strong conductors (i.e., grades 5 and 6) are characteristic of massive sulfides or graphite. Moderate conductors (grades 3 and 4) typically reflect graphite or sulfides of a less massive character, while weak bedrock conductors (grades 1 and 2) can signify poorly connected graphite or heavily disseminated sulfides. Grade 1 conductors may not respond to ground EM equipment using frequencies less than 2000 Hz.

The presence of sphalerite or gangue can result in ore deposits having weak to moderate conductances. As an example, the three million ton lead-zinc deposit of Restigouche Mining Corporation near Bathurst, Canada, yielded a well defined grade 1 conductor. The 10 percent by volume of sphalerite occurs as a coating around the fine grained massive pyrite, thereby inhibiting electrical conduction.

Faults, fractures and shear zones may produce anomalies which typically have low conductances (e.g., grades 1 and 2). Conductive rock formations can yield anomalies of any conductance grade. The conductive materials in such rock formations can be salt water, weathered products such as clays, original depositional clays, and carbonaceous material.

On the electromagnetic map, a letter identifier and an interpretive symbol are plotted beside the EM grade symbol. The horizontal rows of dots, under the interpretive symbol, indicate the anomaly amplitude on the flight record. The vertical column of dots, under the anomaly letter, gives the estimated depth. In areas where anomalies are crowded, the letter identifiers, interpretive symbols and dots may be obliterated. The EM grade symbols, however, will always be discernible, and the obliterated information can be obtained from the anomaly listing appended to this report.

The purpose of indicating the anomaly amplitude by dots is to provide an estimate of the reliability of the conductance calculation. Thus, a conductance value obtained from a large ppm anomaly (3 or 4 dots) will tend to be accurate whereas one obtained from a small ppm anomaly (no dots) could be quite inaccurate. The absence of amplitude dots indicates that the anomaly from the coaxial coil-pair is 5 ppm or less on both the inphase and quadrature channels. Such small anomalies could reflect a weak conductor at the surface or a stronger conductor at depth. The conductance grade and depth estimate illustrates which of these possibilities fits the recorded data best.

Flight line deviations occasionally yield cases where two anomalies, having similar conductance values but dramatically different depth estimates, occur close together on the same conductor. Such examples illustrate the reliability of the conductance measurement while showing that the depth estimate can be unreliable. There are a number of factors which can produce an error in the depth estimate, including the averaging of topographic variations by the altimeter, overlying conductive overburden, and the location and attitude of the conductor relative to the flight line. Conductor location and attitude can provide an erroneous depth estimate because the stronger part of the conductor may be deeper or to one side of the flight line, or because it has a shallow dip. A heavy tree cover can also produce errors in depth estimates. This is because the depth estimate is computed as the distance of bird from conductor, minus the altimeter reading. The altimeter can lock onto the top of a dense forest canopy. This situation yields an erroneously large depth estimate but does not affect the conductance estimate.

Dip symbols are used to indicate the direction of dip of conductors. These symbols are used only when the anomaly shapes are unambiguous, which usually requires a fairly resistive environment.

A further interpretation is presented on the EM map by means of the line-to-line correlation of anomalies, which is based on a comparison of anomaly shapes on adjacent lines. This provides conductor axes which may define the geological structure over portions of the survey area. The absence of conductor axes in an area implies that anomalies could not be correlated from line to line with reasonable confidence.

DIGHEM electromagnetic maps are designed to provide a correct impression of conductor quality by means of the conductance grade symbols. The symbols can stand alone with geology when planning a follow-up program. The actual conductance values are printed in the attached anomaly list for those who wish quantitative data. The anomaly ppm and depth are indicated by inconspicuous dots which should not distract from the conductor patterns, while being helpful to those who wish this information. The map provides an interpretation of conductors in terms of length, strike and dip, geometric shape, conductance, depth, and thickness (see below). The accuracy is comparable to an interpretation from a high quality ground EM survey having the same line spacing.

The attached EM anomaly list provides a tabulation of anomalies in ppm, conductance, and depth for the vertical sheet model. The EM anomaly list also shows the conductance and depth for a thin horizontal sheet (whole plane) model, but only the vertical sheet parameters appear on the EM map. The horizontal sheet model is suitable for a flatly dipping thin bedrock conductor such as a sulfide sheet having a thickness less than 10 m. The list also shows the resistivity and depth for a conductive earth (half space) model, which is suitable for thicker slabs such as thick conductive overburden. In the EM anomaly list, a depth value of zero for the conductive earth model, in an area of thick cover, warns that the anomaly may be caused by conductive overburden.

Since discrete bodies normally are the targets of EM surveys, local base (or zero) levels are used to compute local anomaly amplitudes. This contrasts with the use of true zero levels which are used to compute true EM amplitudes. Local anomaly amplitudes are shown in the EM anomaly list and these are used to compute the vertical sheet parameters of conductance and depth. Not shown in the EM anomaly list are the true amplitudes which are used to compute the horizontal sheet and conductive earth parameters.

X-type electromagnetic responses

DIGHEM maps contain x-type EM responses in addition to EM anomalies. An x-type response is below the noise threshold of 3 ppm, and reflects one of the following: a weak conductor near the surface, a strong conductor at depth (e.g., 100 to 120 m below surface) or to one side of the flight line, or aerodynamic noise. Those responses that have the appearance of valid bedrock anomalies on the flight profiles are indicated by appropriate interpretive symbols (see EM map legend). The others probably do not warrant further investigation unless their locations are of considerable geological interest.

The thickness parameter

DIGHEM can provide an indication of the thickness of a steeply dipping conductor. The amplitude of the coplanar anomaly (e.g., CPI channel on the digital profile) increases relative to the coaxial anomaly (e.g., CXI) as the apparent thickness increases, i.e., the thickness in the horizontal plane. (The thickness is equal to the conductor width if the conductor dips at 90 degrees and strikes at right angles to the flight line.) This report refers to a conductor as thin when the thickness is likely to be less than 3 m, and thick when in excess of 10 m. Thick conductors are indicated on the EM map by crescents. For base metal exploration in steeply dipping geology, thick conductors can be high priority targets because many massive sulfide ore bodies are thick, whereas non-economic bedrock conductors are often thin. The system cannot sense the thickness when the strike of the conductor is subparallel to the flight line, when the conductor has a shallow dip, when the anomaly amplitudes are small, or when the resistivity of the environment is below 100 ohm-m.

Resistivity mapping

Areas of widespread conductivity are commonly encountered during surveys. In such areas, anomalies can be generated by decreases of only 5 m in survey altitude as well as by increases in conductivity. The typical flight record in conductive areas is characterized by inphase and quadrature channels which are continuously active. Local EM peaks reflect either increases in conductivity of the earth or decreases in survey altitude. For such conductive areas, apparent resistivity profiles and contour maps are necessary for the correct interpretation of the airborne data. The advantage of the resistivity parameter is that anomalies caused by altitude changes are virtually eliminated, so the resistivity data reflect only those anomalies caused by conductivity changes. The resistivity analysis also helps the interpreter to differentiate between conductive trends in the bedrock and those patterns typical of conductive overburden. For example, discrete conductors will generally appear as narrow lows on the contour map and broad conductors (e.g., overburden) will appear as wide lows.

The resistivity profile (see table in Appendix A) and the resistivity contour map present the apparent resistivity using the so-called pseudo-layer (or buried) half space model defined by Fraser (1978)[2]. This model consists of a resistive layer overlying a conductive half space. The depth channel (see Appendix A) gives the apparent depth below surface of the conductive material. The apparent depth is simply the apparent thickness of the overlying resistive layer. The apparent depth (or thickness) parameter will be positive when the upper layer is more resistive than the underlying material, in which case the apparent depth may be quite close to the true depth.

The apparent depth will be negative when the upper layer is more conductive than the underlying material, and will be zero when a homogeneous half space exists. The apparent depth parameter must be interpreted cautiously because it will contain any errors which may exist in the measured altitude of the EM bird (e.g., as caused by a dense tree cover). The inputs to the resistivity algorithm are the inphase and quadrature components of the coplanar coil-pair. The outputs are the apparent resistivity of the

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2 Resistivity mapping with an airborne multicoil electromagnetic system: Geophysics, v. 43, p. 144-172.

conductive half space (the source) and the sensor-source distance. The flying height is not an input variable, and the output resistivity and sensor-source distance are independent of the flying height. The apparent depth, discussed above, is simply the sensor-source distance minus the measured altitude or flying height. Consequently, errors in the measured altitude will affect the apparent depth parameter but not the apparent resistivity parameter.

The apparent depth parameter is a useful indicator of simple layering in areas lacking a heavy tree cover. The DIGHEM system has been flown for purposes of permafrost mapping, where positive apparent depths were used as a measure of permafrost thickness. However, little quantitative use has been made of negative apparent depths because the absolute value of the negative depth is not a measure of the thickness of the conductive upper layer and, therefore, is not meaningful physically. Qualitatively, a negative apparent depth estimate usually shows that the EM anomaly is caused by conductive overburden. Consequently, the apparent depth channel can be of significant help in distinguishing between overburden and bedrock conductors.

The resistivity map often yields more useful information on conductivity distributions than the EM map. In comparing the EM and resistivity maps, keep in mind the following:

(a) The resistivity map portrays the absolute value of the earth's resistivity. (Resistivity = 1/conductivity.)

(b) The EM map portrays anomalies in the earth's resistivity. An anomaly by definition is a change from the norm and so the EM map displays anomalies, (i) over narrow, conductive bodies and (ii) over the boundary zone between two wide formations of differing conductivity.

The resistivity map might be likened to a total field map and the EM map to a horizontal gradient in the direction of flight[3]. Because gradient maps are usually more sensitive than total field maps, the EM map therefore is to be preferred in resistive areas. However, in conductive areas, the absolute character of the resistivity map usually causes it to be more useful than the EM map.

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[3] The gradient analogy is only valid with regard to the identification of anomalous locations.

Interpretation in conductive environments

Environments having background resistivities below 30 ohm-m cause all airborne EM systems to yield very large responses from the conductive ground. This usually prohibits the recognition of discrete bedrock conductors. The processing of DIGHEM data, however, produces six channels which contribute significantly to the recognition of bedrock conductors. These are the inphase and quadrature difference channels (DIFI and DIFQ), and the resistivity and depth channels (RES and DP) for each coplanar frequency; see table in Appendix A.

The EM difference channels (DIFI and DIFQ) eliminate up to 99% of the response of conductive ground, leaving responses from bedrock conductors, cultural features (e.g., telephone lines, fences, etc.) and edge effects. An edge effect arises when the conductivity of the ground suddenly changes, and this is a source of geologic noise. While edge effects yield anomalies on the EM difference channels, they do not produce resistivity anomalies. Consequently, the resistivity channel aids in eliminating anomalies due to edge effects. On the other hand, resistivity anomalies will coincide with the most highly conductive sections of conductive ground, and this is another source of geologic noise. The recognition of a bedrock conductor in a conductive environment therefore is based on the anomalous responses of the two difference channels (DIFI and DIFQ) and the two resistivity channels (RES). The most favourable situation is where anomalies coincide on all four channels.

The DP channels, which give the apparent depth to the conductive material, also help to determine whether a conductive response arises from surficial material or from a conductive zone in the bedrock. When these channels ride above the zero level on the digital profiles (i.e., depth is negative), it implies that the EM and resistivity profiles are responding primarily to a conductive upper layer, i.e., conductive overburden. If both DP channels are below the zero level, it indicates that a resistive upper layer exists, and this usually implies the existence of a bedrock conductor. If the low frequency DP channel is below the zero level and the high frequency DP is above, this suggests that a bedrock conductor occurs beneath conductive cover.

The conductance channel CDT identifies discrete conductors which have been selected by computer for appraisal by the geophysicist. Some of these automatically selected anomalies on channel CDT are discarded by the geophysicist. The automatic selection algorithm is intentionally oversensitive to assure that no meaningful responses are missed. The interpreter then classifies the anomalies according to their source and eliminates those that are not substantiated by the data, such as those arising from geologic or aerodynamic noise.

Reduction of geologic noise

Geologic noise refers to unwanted geophysical responses. For purposes of airborne EM surveying, geologic noise refers to EM responses caused by conductive overburden and magnetic permeability. It was mentioned above that the EM difference channels (i.e., channel DIFI for inphase and DIFQ for quadrature) tend to eliminate the response of conductive overburden. This marked a unique development in airborne EM technology, as DIGHEM is the only EM system which yields channels having an exceptionally high degree of immunity to conductive overburden.

Magnetite produces a form of geological noise on the inphase channels of all EM systems. Rocks containing less than 1% magnetite can yield negative inphase anomalies caused by magnetic permeability. When magnetite is widely distributed throughout a survey area, the inphase EM channels may continuously rise and fall reflecting variations in the magnetite percentage, flying height, and overburden thickness. This can lead to difficulties in recognizing deeply buried bedrock conductors, particularly if conductive overburden also exists. However, the response of broadly distributed magnetite generally vanishes on the inphase difference channel DIFI. This feature can be a significant aid in the recognition of conductors which occur in rocks containing accessory magnetite.

EM magnetite mapping

The information content of DIGHEM data consists of a combination of conductive eddy current response and magnetic permeability response. The secondary field resulting from conductive eddy current flow is frequency-dependent and consists of both inphase and quadrature components, which are positive in sign. On the other hand, the secondary field resulting from magnetic permeability is independent of frequency and consists of only an inphase component which is negative in sign. When magnetic permeability manifests itself by decreasing the measured amount of positive inphase, its presence may be difficult to recognize. However, when it manifests itself by yielding a negative inphase anomaly (e.g., in the absence of eddy current flow), its presence is assured. In this latter case, the negative component can be used to estimate the percent magnetite content.

A magnetite mapping technique was developed for the coplanar coil-pair of DIGHEM. The technique yields channel FEO (see Appendix A) which displays apparent weight percent magnetite according to a homogeneous half space model.[4] The method can be complementary to magnetometer mapping in certain cases. Compared to magnetometry, it is far less sensitive but is more able to resolve closely spaced magnetite zones, as well as providing an estimate of the amount of magnetite in the rock. The method is sensitive to 1/4% magnetite by weight when the EM sensor is at a height of 30 m above a magnetitic half space. It can individually resolve steeply dipping narrow magnetite-rich bands which are separated by 60 m. Unlike magnetometry, the EM magnetite method is unaffected by remanent magnetism or magnetic latitude.

The EM magnetite mapping technique provides estimates of magnetite content which are usually correct within a

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[4] Refer to Fraser, 1981, Magnetite mapping with a multi-coil airborne electromagnetic system: Geophysics, v. 46, p. 1579-1594.

factor of 2 when the magnetite is fairly uniformly distributed. EM magnetite maps can be generated when magnetic permeability is evident as indicated by anomalies in the magnetite channel FEO.

Like magnetometry, the EM magnetite method maps only bedrock features, provided that the overburden is characterized by a general lack of magnetite. This contrasts with resistivity mapping which portrays the combined effect of bedrock and overburden.

Recognition of culture

Cultural responses include all EM anomalies caused by man-made metallic objects. Such anomalies may be caused by inductive coupling or current gathering. The concern of the interpreter is to recognize when an EM response is due to culture. Points of consideration used by the interpreter, when coaxial and coplanar coil-pairs are operated at a common frequency, are as follows:

1. Channels CXS and CPS (see Appendix A) measure 50 and 60 Hz radiation. An anomaly on these channels shows that the conductor is radiating cultural power. Such an indication is normally a guarantee that the conduc-

tor is cultural. However, care must be taken to ensure that the conductor is not a geologic body which strikes across a power line, carrying leakage currents.

2. A flight which crosses a "line" (e.g., fence, telephone line, etc.) yields a center-peaked coaxial anomaly and an m-shaped coplanar anomaly.[5] When the flight crosses the cultural line at a high angle of intersection, the amplitude ratio of coaxial/coplanar (e.g., CXI/CPI) is 4. Such an EM anomaly can only be caused by a line. The geologic body which yields anomalies most closely resembling a line is the vertically dipping thin dike. Such a body, however, yields an amplitude ratio of 2 rather than 4. Consequently, an m-shaped coplanar anomaly with a CXI/CPI amplitude ratio of 4 is virtually a guarantee that the source is a cultural line.

3. A flight which crosses a sphere or horizontal disk yields center-peaked coaxial and coplanar anomalies with a CXI/CPI amplitude ratio (i.e., coaxial/coplanar) of 1/4. In the absence of geologic bodies of this geometry, the most likely conductor is a metal roof or

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5 See Figure II-1 presented earlier.

small fenced yard.[6] Anomalies of this type are virtually certain to be cultural if they occur in an area of culture.

4. A flight which crosses a horizontal rectangular body or wide ribbon yields an m-shaped coaxial anomaly and a center-peaked coplanar anomaly. In the absence of geologic bodies of this geometry, the most likely conductor is a large fenced area.[6] Anomalies of this type are virtually certain to be cultural if they occur in an area of culture.

5. EM anomalies which coincide with culture, as seen on the camera film, are usually caused by culture. However, care is taken with such coincidences because a geologic conductor could occur beneath a fence, for example. In this example, the fence would be expected to yield an m-shaped coplanar anomaly as in case #2 above. If, instead, a center-peaked coplanar anomaly occurred, there would be concern that a thick geologic conductor coincided with the cultural line.

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[6] It is a characteristic of EM that geometrically identical anomalies are obtained from: (1) a planar conductor, and (2) a wire which forms a loop having dimensions identical to the perimeter of the equivalent planar conductor.

6. The above description of anomaly shapes is valid when the culture is not conductively coupled to the environment. In this case, the anomalies arise from inductive coupling to the EM transmitter. However, when the environment is quite conductive (e.g., less than 100 ohm-m at 900 Hz), the cultural conductor may be conductively coupled to the environment. In this latter case, the anomaly shapes tend to be governed by current gathering. Current gathering can completely distort the anomaly shapes, thereby complicating the identification of cultural anomalies. In such circumstances, the interpreter can only rely on the radiation channels CXS and CPS, and on the camera film.

TOTAL FIELD MAGNETICS

The existence of a magnetic correlation with an EM anomaly is indicated directly on the EM map. An EM anomaly with magnetic correlation has a greater likelihood of being produced by sulfides than one that is non-magnetic. However, sulfide ore bodies may be non-magnetic (e.g., the Kidd Creek deposit near Timmins, Canada) as well as magnetic (e.g., the Mattabi deposit near Sturgeon Lake, Canada).

The magnetometer data are digitally recorded in the aircraft to an accuracy of one nT (i.e., one gamma). The digital tape is processed by computer to yield a total field magnetic contour map. When warranted, the magnetic data also may be treated mathematically to enhance the magnetic response of the near-surface geology, and an enhanced magnetic contour map is then produced. The response of the enhancement operator in the frequency domain is illustrated in Figure II-2. This figure shows that the passband components of the airborne data are amplified 20 times by the enhancement operator. This means, for example, that a 100 nT anomaly on the enhanced map reflects a 5 nT anomaly for the passband components of the airborne data.

The enhanced map, which bears a resemblance to a downward continuation map, is produced by the digital bandpass filtering of the total field data. The enhancement is equivalent to continuing the field downward to a level (above the source) which is 1/20th of the actual sensor-source distance.

Because the enhanced magnetic map bears a resemblance to a ground magnetic map, it simplifies the recognition of trends in the rock strata and the interpretation of

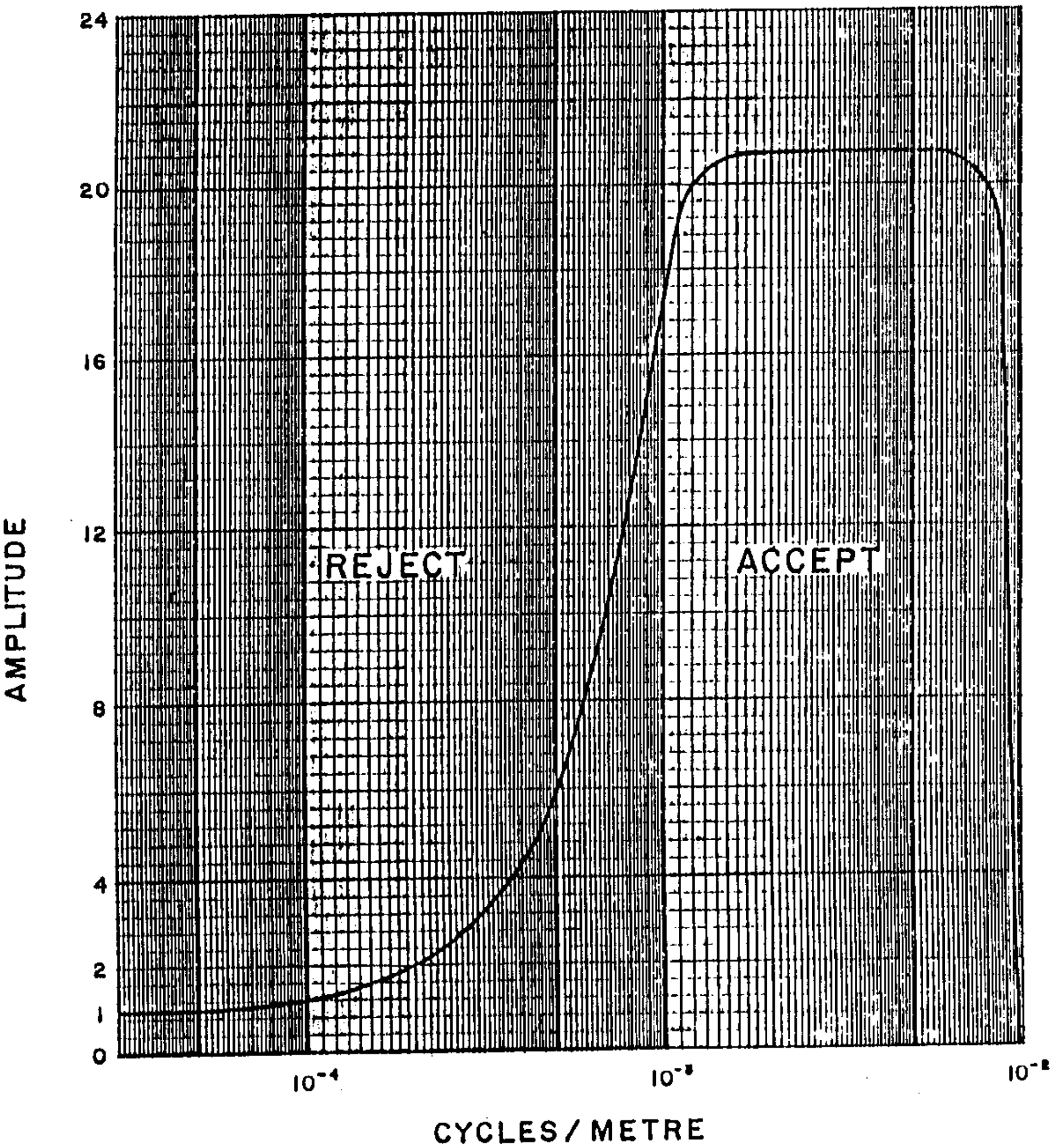

Figure 2 Frequency response of magnetic operator.

geological structure. It defines the near-surface local geology while de-emphasizing deep-seated regional features. It primarily has application when the magnetic rock units are steeply dipping and the earth's field dips in excess of 60 degrees.

VLF-EM

VLF-EM anomalies are not EM anomalies in the conventional sense. EM anomalies primarily reflect eddy currents flowing in conductors which have been energized inductively by the primary field. In contrast, VLF-EM anomalies primarily reflect current gathering, which is a non-inductive phenomenon. The primary field sets up currents which flow weakly in rock and overburden, and these tend to collect in low resistivity zones. Such zones may be due to massive sulfides, shears, river valleys and even unconformities.

The Herz Industries Ltd Totem VLF-electromagnetometer measures the total field and vertical quadrature components. Both these components are digitally recorded in the aircraft with a sensitivity of 0.1 percent. The total field yields peaks over VLF-EM current concentrations

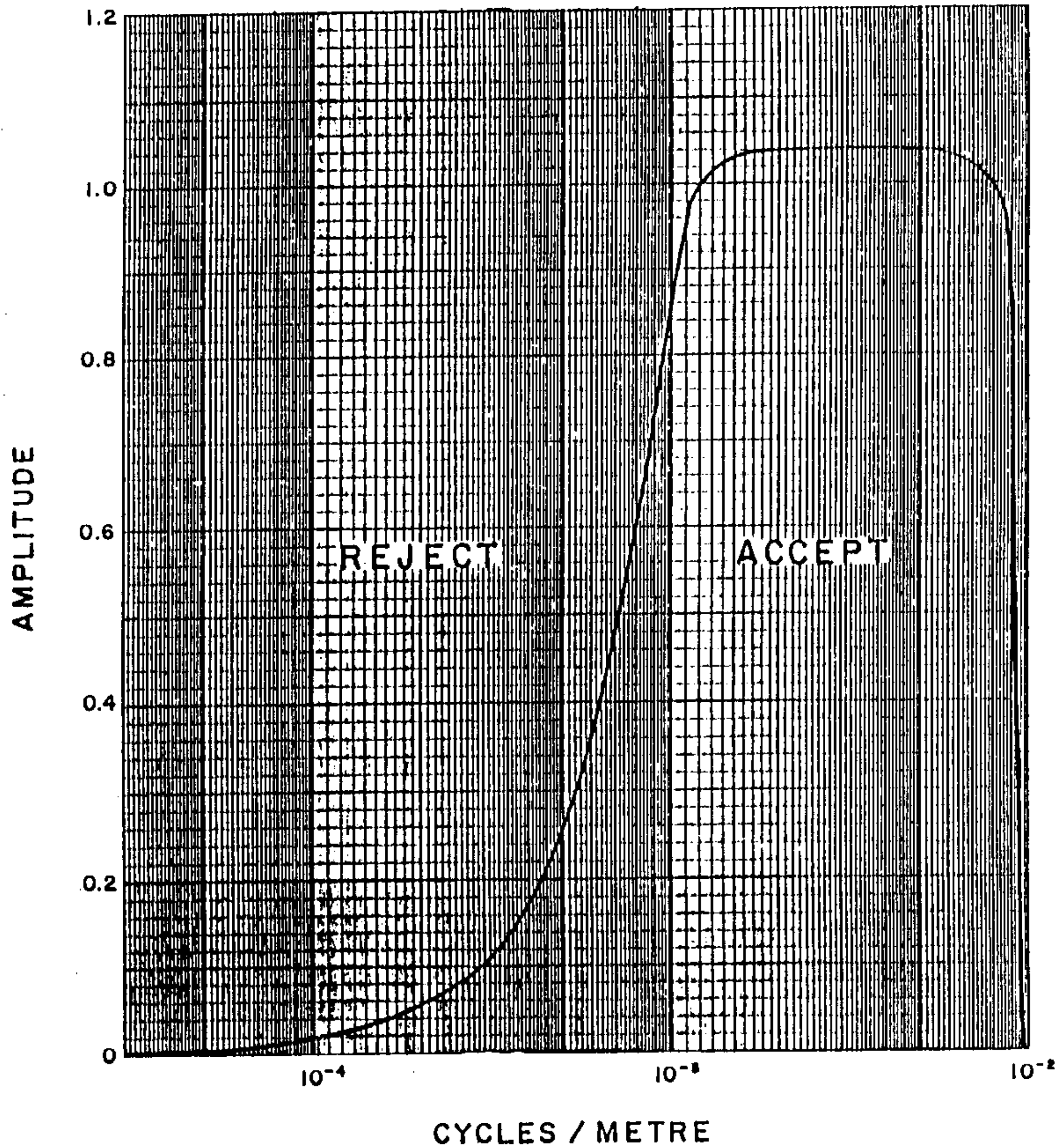

Figure 3 Frequency response of VLF-EM operator.

whereas the quadrature component tends to yield crossovers. Both appear as traces on the profile records. The total field data also are filtered digitally and displayed on a contour map, to facilitate the recognition of trends in the rock strata and the interpretation of geologic structure.

The response of the VLF-EM total field filter operator in the frequency domain (Figure II-3) is basically similar to that used to produce the enhanced magnetic map (Figure II-2). The two filters are identical along the abscissa but different along the ordinant. The VLF-EM filter removes long wavelengths such as those which reflect regional and wave transmission variations. The filter sharpens short wavelength responses such as those which reflect local geological variations. The filtered total field VLF-EM contour map is produced with a contour interval of one percent.

MAPS ACCOMPANYING THIS REPORT

Three map sheets at a scale of 1:10,000 accompany this report.

ELECTROMAGNETIC ANOMALIES	1 map sheet
TOTAL FIELD MAGNETICS (CONTOURS)	1 map sheet
VLF (CONTOURED TOTAL FIELD)	1 map sheet

In addition to the above, colour maps at a scale of 1:20,000 were processed for the following parameters:

Resistivity (7,200 Hz)

Total field Magnetics

VLF (Total Field - Cutler)

Respectfully submitted,
DIGHEM SURVEYS & PROCESSING INC.

Frank Kiss
Consulting Geophysicist

Paul A. Smith
Geophysicist

AB-PAS-190

APPENDIX A

THE FLIGHT RECORD AND PATH RECOVERY

Both analog and digital flight records were produced. The analog profiles were recorded on chart paper in the aircraft during the survey. The digital profiles were generated later by computer and plotted on electrostatic chart paper at a scale of 1:10,000. The analog and digital profiles are listed in Tables A-1 and A-2 respectively.

In Table A-2, the log resistivity scale of 0.06 decade/mm means that the resistivity changes by an order of magnitude in 16.5 mm. The resistivities at 0, 33 and 67 mm up from the bottom of the digital flight record are respectively 1, 100 and 10,000 ohm-m.

VISUAL FLIGHT PATH RECOVERY PROCEDURE

Correlation of geophysical data to ground position is accomplished through the use of a fiducial system, which is an incremental counter updating every two seconds. Each fiducial number is registered on the analog record, the digital recording system, and as an individually numbered camera frame. Recognizable topographic or cultural features are then used to plot fiducials on the base maps to locate the track of the aircraft.

Table A-1. The Analog Profiles

Channel Number	Parameter	Sensitivity per mm	Designation on digital profile
01	coaxial inphase (900 Hz)	2.5 ppm	CXI (900 Hz)
02	coaxial quad (900 Hz)	2.5 ppm	CXQ (900 Hz)
03	coplanar inphase (900 Hz)	2.5 ppm	CPI (900 Hz)
04	coplanar quad (900 Hz)	2.5 ppm	CPQ (900 Hz)
05	coplanar inphase (7200 Hz)	5.0 ppm	CPI (7200 Hz)
06	coplanar quad (7200 Hz)	5.0 ppm	CPQ (7200 Hz)
07	coaxial inphase (56000 Hz)	15.0 ppm	
08	coplanar quad (56000 Hz)	15.0 ppm	
09	altimeter	3 m	ALT
00,10	magnetics, coarse	10 nT	MAG
11	magnetics, fine	2 nT	
12	VLF-total: Cutler	2%	
13	VLF-quad: Cutler	2%	
14	VLF-total: Seattle	2%	
15	VLF-quad: Seattle	2%	

Table A-2. The Digital Profiles

Channel Name (Freq)	Observed parameters	Scale units/mm
MAG	magnetics	20 nT
ALT	bird height	6 m
CXI (900 Hz)	vertical coaxial coil-pair inphase	2 ppm
CXQ (900 Hz)	vertical coaxial coil-pair quadrature	2 ppm
CXS (900 Hz)	ambient noise monitor (coaxial receiver)	2 ppm
CPI (900 Hz)	horizontal coplanar coil-pair inphase	2 ppm
CPQ (900 Hz)	horizontal coplanar coil-pair quadrature	2 ppm
CPI (7200 Hz)	horizontal coplanar coil-pair inphase	2 ppm
CPQ (7200 Hz)	horizontal coplanar coil-pair quadrature	2 ppm
	Computed Parameters	
DIFI (900 Hz)	difference function inphase from CXI and CPI	2 ppm
DIFQ (900 Hz)	difference function quadrature from CXQ and CPQ	2 ppm
CDT	conductance	1 grade
RES (900 Hz)	log resistivity	.06 decade
RES (7200 Hz)	log resistivity	.06 decade
DP (900 Hz)	apparent depth	6 m
DP (7200 Hz)	apparent depth	6 m

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The fiducial locations on both the flight records and flight path maps were examined by a computer for unusual helicopter speed changes. Such speed changes may denote an error in flight path recovery. The resulting flight path locations therefore reflect a more stringent checking than is normally provided by manual flight path recovery techniques.

In mountainous areas, where scalar distortions between photo segments give rise to "excess ground" or "lost ground" at the photo joins, accurate anomaly location is difficult. It is recommended that EM anomaly fiducials be checked against the film and photomosaic to ensure accurate anomaly location.

APPENDIX B

STATEMENT OF QUALIFICATIONS

I, Frank G. Kiss, of the City of Ottawa, Province of Ontario, do hereby certify that:

1. I am a Geophysicist, residing at 70 Aero Drive, Nepean, Ontario K2H 5E4.

2. I have graduated from McGill University, Montreal, Quebec.

3. I have been actively engaged in geophysical exploration since 1971.

4. I am presently employed as a consultant to Dighem Surveys & Processing Inc.

5. I was personally responsible for the interpretation of the survey data described in this report.

6. The statements made in this report represent my best opinion and judgement.

Dated at Toronto this 20th day of October, 1986.

Frank G. Kiss
Geophysicist

AB-PAS-190

APPENDIX C

STATEMENT OF COST

Date: October 20, 1986 JOB NO. 262

The Quinto Mining Corporation
807 - 543 Granville Street
Vancouver, B.C.
V6C 1X8

IN ACCOUNT WITH
DIGHEM SURVEYS & PROCESSING INC.

To: Dighem flying of Agreement dated August 12, 1986, pertaining to an Airborne Geophysical Survey near Lumby B.C.

Survey Charges

294 km of flying @ $80.83/km from August 22 to August 23, 1986, including VLF	$23,764.02
Three colour maps @ $200.00 each	$ 600.00
	$24,364.02

Allocation of Costs

- Data Acquisition (60%)
- Data Processing (20%)
- Interpretation, Report and Maps (20%)

DIGHEM SURVEYS & PROCESSING INC.

P.A. Smith
Geophysicist

AB-PAS-190

APPENDIX D

LIST OF PERSONNEL

The following personnel were involved in the acquisition, processing, interpretation and presentation of data, relating to a DIGHEM^{III} airborne geophysical survey carried out for The Quinto Mining Corporation, over a property near Lumby, B.C.

Bill Blight	Survey Operations Supervisor
M. Barry	Geophysical Operator
M. Carey	Pilot (Frontier Helicopters Ltd.)
Bill Droine	Computer Processor
Paul Smith	Interpretation Supervisor
Frank Kiss	Geophysicist
Reinhard Zimmermann	Draftsman
Jayne Crawford	Word Processing Operator

The survey consisted of 294 km of coverage, flown on August 22 and August 23, 1986. Geophysical data were compiled utilizing a VAX 11-780 computer.

All personnel are employees of Dighem Surveys & Processing Inc., except for the pilot who is an employee of Frontier Helicopters Ltd.

DIGHEM SURVEYS & PROCESSING INC.

P.A. Smith
Geophysicist

Ref: Report #262

AB-PAS-185

A P P E N D I X   E

EM ANOMALY LIST

ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 10010 (FLIGHT 3)												
A 771 H	2	5	2	11	29	36	2	0	1	32	165	0
B 799 D	9	8	21	2	6	6	26	24	2	75	54	42
C 802 D	11	16	29	38	60	35	8	11	2	53	29	29
E 804 B	15	16	29	38	60	35	10	0	2	45	53	15
LINE 10020 (FLIGHT 3)												
C 645 B?	3	17	4	28	57	123	1	6	1	30	217	2
D 613 D	27	24	4	29	37	83	9	10	2	41	44	16
E 610 B	38	46	37	45	152	109	12	3	3	30	16	12
F 608 B	3	26	55	32	118	81	8	11	2	40	29	19
LINE 10030 (FLIGHT 3)												
B 526 S	2	2	2	6	18	26	3	41	1	138	579	39
C 537 D	6	14	3	10	29	19	3	0	1	32	409	0
D 566 D	44	34	99	14	57	117	48	4	3	45	21	24
F 569 D	55	38	119	98	161	59	25	0	4	17	10	2
G 572 B	26	25	59	74	115	2	13	0	2	45	34	20
LINE 10040 (FLIGHT 3)												
B 396 D	3	10	3	6	4	10	2	10	1	52	374	7
C 384 D	2	9	3	12	27	10	2	7	1	64	299	18
D 368 D	12	13	9	1	87	22	12	16	2	48	50	19
E 366 H	15	13	10	33	86	4	7	0	3	39	19	18
F 363 D	7	7	16	20	37	6	8	5	1	83	119	39
LINE 10050 (FLIGHT 3)												
A 283 S	1	3	3	5	13	16	1	0	1	68	178	42
B 326 D	28	29	61	71	59	23	13	0	3	37	20	16
C 329 B	8	14	11	44	19	24	3	0	1	59	134	19
LINE 10060 (FLIGHT 2)												
A 3330 S	1	8	1	13	37	60	1	0	1	29	395	0
B 3317 S	2	4	2	2	8	20	1	0	1	61	136	38
C 3304 S	1	2	2	4	13	1	1	0	1	51	141	28
D 3289 S	1	6	3	7	17	9	2	8	1	41	265	1
E 3274 B	10	9	5	20	18	8	6	5	2	50	25	26
LINE 10070 (FLIGHT 2)												
A 3172 S?	2	7	2	14	34	55	1	8	1	30	295	0
B 3179 S	3	4	2	8	15	33	3	29	1	47	243	7
C 3193 H	0	3	1	5	15	23	1	0	1	60	233	34

* ESTIMATED DEPTH MAY BE UNRELIABLE BECAUSE THE STRONGER PART OF THE CONDUCTOR MAY BE DEEPER OR TO ONE SIDE OF THE FLIGHT LINE, OR BECAUSE OF A SHALLOW DIP OR OVERBURDEN EFFECTS.

	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 10070 (FLIGHT 2)												
D 3212 D	1	10	1	9	14	63	1	0	1	21	545	0
E 3219 D	3	6	8	12	33	12	4	23	1	64	92	28
G 3231 B	12	5	49	27	39	10	29	15	3	46	13	28
H 3233 B?	9	12	21	11	18	20	12	10	2	46	38	20
LINE 10080 (FLIGHT 2)												
A 3128 H	5	6	3	4	3	36	6	30	1	39	61	11
B 3125 H	5	6	2	3	5	36	5	28	1	41	54	13
C 3108 S	1	5	2	10	22	45	1	4	1	35	264	0
D 3079 S?	0	5	2	7	13	42	1	0	1	23	530	0
E 3069 S	1	3	2	5	14	12	1	10	1	48	219	6
F 3063 D	10	10	5	20	8	12	6	12	1	62	96	26
G 3059 D	18	13	42	8	54	14	38	15	4	49	9	32
H 3056 D	16	10	42	52	16	8	13	8	3	43	16	24
LINE 10090 (FLIGHT 2)												
B 2945 H	10	25	25	57	130	42	5	7	2	35	44	13
C 2949 B	3	8	2	7	25	31	2	14	1	43	140	8
D 2989 S	0	2	1	6	13	13	1	10	1	52	531	0
E 3014 D	21	11	40	18	45	15	31	18	2	62	26	38
G 3018 B	6	7	12	17	90	11	6	21	3	57	18	36
H 3020 B	13	4	33	17	90	15	36	27	2	51	23	28
LINE 10100 (FLIGHT 2)												
B 2914 D	7	16	12	25	98	43	4	3	1	25	77	0
C 2908 B	7	13	13	30	65	22	4	6	1	35	85	6
D 2899 S	2	2	2	22	49	76	2	6	1	20	166	0
E 2887 S	2	5	2	8	24	11	2	7	1	58	105	21
F 2858 S	2	2	1	4	8	7	1	0	1	46	124	23
G 2840 B	4	6	4	6	14	11	5	19	2	78	57	44
H 2838 H	4	5	9	6	14	11	8	23	1	66	67	32
LINE 10110 (FLIGHT 2)												
A 2734 S	3	11	6	23	58	35	2	14	1	39	116	11
B 2735 S	3	6	5	17	52	27	2	3	1	22	111	0
C 2745 S	1	13	5	53	133	235	1	0	1	13	121	0
D 2762 S	5	4	11	7	12	13	12	35	3	78	19	54
E 2765 S	7	4	8	14	24	16	9	26	3	70	17	47
F 2783 S	2	5	1	4	15	17	1	0	1	66	131	44
G 2795 D	9	8	28	19	31	3	15	4	2	73	36	43
I 2798 D	5	2	22	18	30	8	15	18	2	72	54	39

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 10070	(FLIGHT	2)										
D 3212 D	1	10	1	9	14	63	1	0	1	21	545	0
E 3219 D	3	6	8	12	33	12	4	23	1	64	92	28
G 3231 B	12	5	49	27	39	10	29	15	3	46	13	28
H 3233 B?	9	12	21	11	18	20	12	10	2	46	38	20
LINE 10080	(FLIGHT	2)										
A 3128 H	5	6	3	4	3	36	6	30	1	39	61	11
B 3125 H	5	6	2	3	5	36	5	28	1	41	54	13
C 3108 S	1	5	2	10	22	45	1	4	1	35	264	0
D 3079 S?	0	5	2	7	13	42	1	0	1	23	530	0
E 3069 S	1	3	2	5	14	12	1	10	1	48	219	6
F 3063 D	10	10	5	20	8	12	6	12	1	62	96	26
G 3059 D	18	13	42	8	54	14	38	15	4	49	9	32
H 3056 D	16	10	42	52	16	8	13	8	3	43	16	24
LINE 10090	(FLIGHT	2)										
B 2945 H	10	25	25	57	130	42	5	7	2	35	44	13
C 2949 B	3	8	2	7	25	31	2	14	1	43	140	8
D 2989 S	0	2	1	6	13	13	1	10	1	52	531	0
E 3014 D	21	11	40	18	45	15	31	18	2	62	26	38
G 3018 B	6	7	12	17	90	11	6	21	3	57	18	36
H 3020 B	13	4	33	17	90	15	36	27	2	51	23	28
LINE 10100	(FLIGHT	2)										
B 2914 D	7	16	12	25	98	43	4	3	1	25	77	0
C 2908 B	7	13	13	30	65	22	4	6	1	35	85	6
D 2899 S	2	2	2	22	49	76	2	6	1	20	166	0
E 2887 S	2	5	2	8	24	11	2	7	1	58	105	21
F 2858 S	2	2	1	4	8	7	1	0	1	46	124	23
G 2840 B	4	6	4	6	14	11	5	19	2	78	57	44
H 2838 H	4	5	9	6	14	11	8	23	1	66	67	32
LINE 10110	(FLIGHT	2)										
A 2734 S	3	11	6	23	58	35	2	14	1	39	116	11
B 2735 S	3	6	5	17	52	27	2	3	1	22	111	0
C 2745 S	1	13	5	53	133	235	1	0	1	13	121	0
D 2762 S	5	4	11	7	12	13	12	35	3	78	19	54
E 2765 S	7	4	8	14	24	16	9	26	3	70	17	47
F 2783 S	2	5	1	4	15	17	1	0	1	66	131	44
G 2795 D	9	8	28	19	31	3	15	4	2	73	36	43
I 2798 D	5	2	22	18	30	8	15	18	2	72	54	39

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	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 10110 (FLIGHT 2)												
J 2802 H	5	6	8	14	15	21	5	7	1	47	130	9
LINE 10120 (FLIGHT 2)												
A 2712 B?	3	9	3	9	48	37	2	12	1	38	116	7
B 2707 L	19	25	16	37	89	44	7	0	1	21	81	0
C 2702 B?	3	6	7	7	16	11	5	15	1	37	115	3
D 2681 S	5	1	16	12	49	17	18	31	3	59	17	37
E 2677 B?	13	17	44	35	51	2	13	0	5	46	6	29
F 2655 D	6	11	2	8	17	14	3	0	1	78	167	30
G 2651 D	4	12	2	18	51	30	2	0	1	76	89	38
I 2645 B?	3	15	6	6	18	45	3	4	1	34	191	0
LINE 10130 (FLIGHT 2)												
A 2547 L	27	25	18	28	62	31	11	0	1	32	51	5
B 2555 B?	4	6	3	5	9	3	5	27	1	64	109	26
C 2560 S	2	8	5	16	41	22	2	0	1	39	71	7
D 2570 S	8	6	11	12	28	20	10	23	3	81	15	57
E 2578 B?	11	4	22	5	9	18	47	29	7	69	4	54
F 2590 S	1	3	2	3	12	7	1	0	1	68	94	47
G 2598 D	8	13	7	12	29	11	5	5	1	70	110	30
H 2609 B?	2	6	1	8	26	23	2	0	1	50	626	0
LINE 10140 (FLIGHT 2)												
B 2525 L	11	12	37	34	86	117	12	0	1	27	53	0
C 2525 L	11	13	27	34	53	56	9	1	2	28	22	7
D 2523 L	13	17	33	37	57	13	9	0	2	31	29	8
E 2523 L	40	23	33	37	64	2	21	0	2	29	31	5
F 2520 L	2	1	23	16	38	6	13	18	3	39	22	17
G 2517 L	7	7	14	11	33	20	11	5	1	34	74	2
H 2514 L	4	8	14	11	8	16	7	22	2	53	50	24
I 2512 L	6	8	34	22	45	19	13	0	2	34	38	8
J 2510 L	20	15	36	25	45	19	18	0	3	28	14	8
K 2510 L	20	15	36	25	45	5	18	0	2	34	27	10
L 2491 S	6	7	31	19	42	33	14	23	4	61	8	43
M 2486 S	12	11	29	21	53	11	15	14	4	62	9	43
N 2471 D	6	11	3	9	21	23	3	14	1	67	73	33
O 2443 H	10	11	5	7	16	12	8	10	3	56	22	31
P 2437 H	6	2	10	5	6	10	31	43	3	69	13	48
Q 2431 H	14	6	20	12	12	23	26	6	5	54	7	36
R 2421 H	17	7	5	9	20	2	19	18	5	49	6	33
T 2416 B?	7	8	6	17	49	12	5	6	2	68	26	41

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	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M

LINE 10150 (FLIGHT 2)												
B 2214 L	85	71	28	77	162	115	16	0	2	12	22	0
C 2215 L	24	71	28	74	162	115	5	0	2	13	24	0
D 2229 L	26	15	12	15	54	44	19	0	2	49	49	18
E 2231 L	6	7	12	15	20	6	7	14	2	73	35	44
F 2247 S	10	11	26	22	30	15	11	12	4	57	10	38
G 2269 H	4	13	25	24	64	13	6	0	2	32	26	9
H 2287 B?	4	8	2	16	33	13	2	1	1	66	68	32
I 2294 H	7	1	19	11	10	2	30	34	6	64	5	48
J 2300 B?	6	6	15	20	36	25	7	21	3	53	17	32
K 2306 H	12	7	29	17	24	13	22	16	5	52	7	35
L 2314 H	7	13	12	9	53	11	6	14	3	45	16	25
M 2318 H	4	8	44	0	12	24	53	24	4	51	10	33
N 2319 B?	4	14	44	4	77	24	1	0	1	53	15	42
O 2326 S	2	3	2	7	13	9	3	2	1	50	96	12

LINE 10160 (FLIGHT 2)												
B 2194 L	47	13	20	23	131	98	42	6	2	13	31	0
C 2190 B?	7	21	18	63	140	121	3	0	2	12	26	0
D 2187 L	15	21	13	59	136	188	5	0	2	15	25	0
E 2181 S	9	42	34	148	384	343	3	0	1	13	53	0
F 2177 L	28	19	13	25	69	83	14	0	2	47	50	18
G 2160 H	13	5	18	63	185	155	6	10	2	25	34	5
H 2152 L	32	28	29	26	62	34	16	0	2	46	35	20
I 2142 H	3	5	37	13	33	38	23	10	5	39	7	22
K 2134 B	27	31	58	70	22	107	12	0	3	23	18	5
M 2111 B	15	6	41	19	28	4	35	15	7	52	3	39
M'2106 B	4	5	8	8	21	11	7	26	3	53	13	32
N 2100 B	12	7	26	19	36	8	18	7	4	39	11	20
P 2092 B	8	5	16	15	31	14	12	23	2	49	32	24
Q 2088 B	16	12	35	41	48	24	13	5	2	39	23	17

LINE 10170 (FLIGHT 2)												
C 1933 B?	13	64	24	132	315	347	3	0	2	12	27	0
D 1940 L	14	30	43	41	66	114	9	0	3	18	18	0
E 1941 L	14	15	43	41	28	84	12	3	2	18	27	0
F 1944 S	10	11	17	9	214	151	13	17	1	13	48	0
G 1948 S?	17	7	12	19	43	39	17	12	2	41	35	16
H 1949 L	17	9	12	19	43	39	15	11	1	51	63	20
I 1955 S	5	2	8	49	112	248	3	9	1	35	53	10
J 1959 H	8	13	19	41	168	120	5	14	2	23	32	4
K 1964 B	61	37	147	82	155	15	38	7	6	28	4	16

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 10170 (FLIGHT 2)												
L 1969 B?	19	23	58	38	60	2	16	12	3	30	15	13
M 1971 L	76	42	49	33	80	53	34	2	2	33	28	12
O 1990 H	7	11	12	10	78	4	7	12	1	32	55	5
P 1998 S	1	7	3	10	29	35	1	0	1	33	197	0
Q 2016 B	6	4	38	7	13	11	51	19	5	49	7	32
R 2022 H	7	6	12	6	17	8	14	24	3	50	15	29
S 2027 B	4	5	14	13	30	7	8	21	2	47	25	24
T 2040 B	12	8	15	25	31	14	10	10	2	47	34	21
V 2054 S	2	3	4	7	8	11	4	24	1	64	104	25
LINE 10180 (FLIGHT 2)												
A 1914 S?	6	9	8	65	173	123	2	0	2	14	38	0
B 1912 L	30	1	14	37	102	97	27	10	2	16	37	0
C 1901 L	24	3	18	7	54	28	95	20	2	18	22	0
D 1899 L	13	26	27	26	54	46	8	2	2	20	22	1
E 1897 S	2	9	8	22	205	101	2	0	2	22	41	0
F 1891 L	21	11	16	22	15	94	16	4	2	47	38	20
G 1889 S?	4	2	6	22	15	106	4	21	2	46	30	23
H 1886 S	6	14	10	34	88	197	3	1	2	34	40	10
I 1878 L	9	3	18	11	33	28	22	29	5	62	6	46
J 1873 B?	15	7	4	5	95	39	21	23	3	35	19	14
K 1872 S?	15	5	8	5	95	39	31	27	2	30	28	8
L 1871 S	5	5	5	5	87	39	8	31	2	32	29	10
M 1868 L	5	6	11	20	50	56	5	11	1	40	53	13
N 1862 H	15	4	33	17	33	0	39	10	4	48	8	30
O 1831 H	7	9	2	9	36	4	4	14	2	51	41	24
P 1828 H	4	3	4	12	36	18	4	26	2	57	31	32
Q 1811 H	8	5	24	16	23	7	18	25	3	66	16	44
R 1810 B	10	5	24	15	23	6	20	18	2	53	36	27
S 1806 S	2	4	3	2	5	6	1	0	1	64	55	47
T 1795 S	3	4	3	6	19	17	3	25	1	57	121	19
LINE 10190 (FLIGHT 2)												
C 1660 L	13	13	17	35	94	17	7	0	1	17	52	0
D 1668 L	12	18	22	18	35	18	9	0	2	16	35	0
E 1670 L	3	7	6	12	35	67	3	5	2	22	45	0
F 1675 L	8	13	21	40	92	2	5	0	2	32	28	8
G 1676 L	12	19	21	40	92	52	6	0	2	37	27	14
H 1678 B	2	6	16	21	48	9	5	14	2	65	36	37
J 1684 L	26	17	20	22	48	46	17	19	3	75	17	52
K 1694 H	13	22	24	49	110	142	6	1	3	39	16	20

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LINE 10190 (FLIGHT 2)												
L 1700 L	7	6	17	11	40	37	13	29	2	66	46	37
M 1726 S	2	4	2	21	20	93	1	0	1	25	189	0
N 1740 B?	2	7	9	21	56	20	3	14	2	54	51	26
O 1760 B	24	10	58	31	61	23	36	11	4	52	9	34
P 1766 S	2	4	1	7	14	17	2	17	1	58	190	17
LINE 10200 (FLIGHT 2)												
B 1559 H	12	15	13	12	27	191	9	11	2	18	39	0
C 1551 L	12	7	13	7	14	21	22	9	3	52	13	30
D 1550 B?	12	7	13	7	14	21	22	9	3	56	17	33
E 1543 S	3	4	5	7	13	21	5	27	2	72	30	45
G 1494 H	5	5	13	11	21	9	9	17	2	52	54	22
H 1487 B	10	7	11	13	27	4	11	15	3	50	21	27
I 1478 B?	13	4	57	23	39	14	47	11	4	46	9	28
J 1476 B	15	16	57	43	77	21	16	5	3	41	19	20
K 1475 B?	15	16	44	43	77	21	12	4	2	42	38	17
L 1461 S	1	4	3	7	18	15	2	0	1	44	119	7
LINE 10210 (FLIGHT 2)												
A 1287 S	1	3	0	6	12	32	1	8	1	24	673	0
B 1321 D	6	18	10	24	42	27	3	0	1	30	102	0
C 1331 S	4	19	7	109	289	211	1	0	2	12	41	0
D 1336 L	10	15	20	57	178	62	5	4	2	16	31	0
E 1338 S	3	24	15	57	186	93	2	0	1	12	41	0
G 1346 L	19	16	31	95	161	351	7	0	3	64	18	41
H 1353 L	5	2	7	0	4	43	47	49	3	78	14	55
I 1357 H	4	2	19	34	84	90	6	10	2	40	24	18
K 1375 L	8	7	6	5	13	10	9	29	1	59	67	27
L 1381 S	0	4	10	15	32	21	3	20	1	56	65	25
M 1383 L	7	4	10	15	31	20	9	8	1	31	186	0
N 1393 S	0	4	1	6	11	12	1	0	1	37	214	0
O 1415 B	33	15	61	41	66	19	31	5	4	39	11	21
LINE 10220 (FLIGHT 2)												
C 1214 B?	3	6	5	11	31	29	3	22	1	40	241	4
D 1208 H	3	7	1	16	40	57	1	3	1	25	226	0
E 1199 S	6	6	17	91	262	153	3	0	1	13	73	0
F 1197 S	1	18	7	37	107	153	1	0	1	12	63	0
H 1194 L	10	11	12	19	21	80	7	5	2	15	44	0
I 1192 L	15	16	18	50	129	145	6	0	2	10	40	0
J 1191 S	9	26	20	39	118	34	4	0	2	15	41	0

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	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 10220 (FLIGHT 2)												
K 1188 S	3	23	20	39	118	34	3	0	2	16	38	0
L 1185 L	18	13	14	80	232	220	5	0	2	50	26	24
M 1180 L	8	19	9	17	41	46	4	0	3	49	21	26
N 1179 L	7	4	19	5	21	46	32	30	4	53	12	33
O 1177 S	2	9	8	6	30	54	3	17	2	44	28	21
P 1176 S	3	3	19	26	29	54	6	16	2	41	34	17
Q 1167 S	2	5	3	7	21	28	3	1	1	41	69	8
R 1161 L	8	7	4	4	10	4	10	12	1	47	103	10
S 1157 S	2	3	6	5	3	12	6	31	1	46	108	11
T 1155 L	12	5	5	7	11	7	17	6	1	28	185	0
U 1129 B	11	24	100	50	116	21	19	1	6	35	4	22
V 1114 S	1	5	5	4	20	27	1	0	1	30	123	12
LINE 10231 (FLIGHT 2)												
A 970 B?	3	10	2	11	37	48	2	0	1	14	213	0
B 980 H	2	9	3	11	28	52	2	0	1	42	123	7
C 989 B?	8	29	15	69	215	103	3	0	1	26	55	0
D 992 L	20	13	8	21	5	103	11	9	2	16	37	0
E 994 L	6	3	23	9	39	166	28	29	1	17	48	0
F 999 L	25	10	56	28	83	32	38	0	3	41	16	20
G 1000 L	25	10	56	28	83	17	38	0	5	32	6	17
H 1001 L	16	9	56	28	83	17	30	0	3	38	17	17
I 1011 L	14	5	10	6	12	3	32	25	1	66	60	33
J 1023 L	7	6	4	6	11	7	8	25	1	72	69	37
L 1032 L	8	6	7	16	36	41	7	14	1	54	161	14
M 1038 S	2	3	1	5	15	16	2	14	1	51	128	12
N 1053 H	8	3	17	5	16	5	40	19	4	56	9	37
O 1061 H	6	7	14	20	37	13	7	11	2	42	44	15
LINE 10240 (FLIGHT 2)												
A' 836 B?	2	6	1	5	15	5	1	12	1	38	375	0
C 821 S	1	5	2	8	21	38	1	2	1	45	181	5
D 810 L	5	28	9	27	68	9	2	0	2	22	35	0
E 810 L	3	28	7	27	68	9	1	0	1	18	46	0
F 809 L	8	28	7	27	68	9	3	0	2	22	36	0
G 804 L	51	24	37	31	95	46	31	2	2	41	35	16
H 796 L	19	8	11	9	23	11	25	6	1	52	64	19
J 756 B	5	5	30	29	56	13	11	2	3	43	14	23
L 735 S	3	5	3	8	21	22	3	17	1	53	123	16
LINE 10251 (FLIGHT 2)												
B 515 D	3	12	2	7	13	51	2	0	1	29	300	0

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	QUAD PPM	COPLANAR 900 HZ REAL PPM	QUAD PPM	COPLANAR 7200 HZ REAL PPM	QUAD PPM	VERTICAL DIKE COND MHOS	DEPTH* M	HORIZONTAL SHEET COND MHOS	DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	DEPTH M
LINE 10251 (FLIGHT 2)												
C 519 S	1	7	2	14	36	56	1	0	1	16	435	0
D 527 B?	2	10	3	14	29	75	1	1	1	19	431	0
E 535 S	4	5	9	15	30	29	5	23	1	58	68	26
F 541 S	5	31	4	66	180	222	1	0	1	20	51	0
G 544 L	18	28	15	2	47	201	9	5	2	34	45	9
H 547 S	17	5	18	14	42	34	29	14	3	52	21	28
I 550 L	17	6	14	14	34	19	22	16	2	72	50	40
K 556 L	15	9	15	9	14	5	20	12	2	64	40	34
L 601 B	10	2	22	3	20	29	112	10	4	55	9	35
M 604 B	15	6	20	31	71	20	13	0	4	31	12	12
N 606 B?	10	10	34	29	65	5	13	4	4	56	10	37
O 607 B	10	10	34	29	63	5	13	8	3	72	19	48
Q 628 B	8	7	20	8	24	17	18	17	1	68	64	34
LINE 10260 (FLIGHT 1)												
A 3155 L	27	15	15	6	20	28	26	15	2	66	33	39
B 3131 H	6	6	4	2	20	1	9	30	2	63	25	37
C 3126 S	2	7	4	5	15	4	3	17	1	59	103	23
D 3105 H	12	3	4	21	52	13	10	7	5	57	8	38
E 3100 B?	5	1	34	19	13	14	26	3	6	46	5	30
F 3099 H	13	9	34	19	45	13	21	9	4	57	9	38
H 3079 B	12	13	28	7	24	13	19	17	2	65	25	40
LINE 10261 (FLIGHT 2)												
A 325 S	1	9	-1	11	26	46	1	0	1	24	606	0
B 313 S	0	4	4	9	28	31	1	5	1	41	350	0
C 302 L	10	8	6	13	30	53	8	4	1	34	60	4
D 301 L	8	5	6	13	30	52	8	8	1	40	66	8
E 297 L	21	7	14	14	30	13	27	12	2	53	54	23
LINE 10262 (FLIGHT 2)												
C 420 L	8	10	19	138	382	510	10	0	1	52	112	14
LINE 10270 (FLIGHT 1)												
D 2916 B	5	10	9	20	56	30	4	0	1	40	93	6
E 2930 S	1	3	1	5	11	24	1	0	1	49	280	22
F 2946 S	2	4	5	9	19	12	3	21	2	74	54	41
G 2953 S?	4	19	11	11	77	90	3	1	1	43	54	15
H 2954 B?	6	10	12	13	48	90	6	15	2	47	28	23
I 2955 L	3	7	10	12	48	78	4	14	2	50	33	24
K 2958 L	40	24	27	19	46	100	25	4	2	52	25	28

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M

LINE 10270	(FLIGHT	1)										
L 2965 L	2	38	9	22	29	213	1	0	1	34	70	8
M 2989 S	4	6	8	8	2	16	6	26	1	42	99	10
N 3009 S	4	4	10	8	24	15	8	22	5	104	8	83
O 3014 B	6	8	11	13	20	9	6	15	6	86	5	69
P 3028 S?	4	10	0	1	30	5	1	0	1	67	24	54
Q 3033 H	16	5	15	15	20	9	24	21	5	74	6	56
R 3035 B	16	12	15	15	20	10	14	10	2	59	26	34

LINE 10280	(FLIGHT	1)										
B 2810 L	54	53	51	53	92	260	16	0	1	46	78	15
C 2772 D	10	15	12	27	81	52	5	0	1	26	115	0
D 2732 B?	5	13	5	23	59	51	2	0	2	47	51	18
E 2731 S	1	14	8	1	59	51	1	0	1	29	47	15
F 2727 L	14	3	13	8	9	15	38	15	2	54	35	26
G 2726 L	14	3	13	8	9	17	38	18	3	50	18	27
H 2700 H	5	5	13	14	14	5	7	17	2	55	27	30
J 2675 S	1	5	3	7	8	29	2	21	2	115	38	82
K 2667 B	10	7	7	11	3	5	9	22	4	85	12	63

LINE 10290	(FLIGHT	1)										
C 2476 D	12	20	16	26	34	11	6	5	1	62	98	26
E 2482 B?	2	7	2	17	60	35	1	0	1	62	200	19
F 2486 S	4	1	7	29	90	35	4	0	1	20	146	0
G 2525 B?	2	12	5	12	42	22	2	0	1	58	70	25
I 2530 H	3	24	5	43	132	154	1	0	1	26	62	1
J 2536 B?	16	16	29	27	66	41	12	8	2	36	21	16
K 2538 L	18	15	30	34	72	41	13	17	2	53	28	30
L 2540 B?	1	3	7	19	115	97	3	7	1	41	65	12
M 2567 B	9	8	18	20	36	19	10	21	3	67	16	45
O 2587 S	2	6	4	8	15	34	3	18	1	98	65	61
P 2593 B	12	5	26	16	25	5	23	20	5	76	6	58
Q 2604 H	3	5	9	7	13	0	6	9	3	84	21	56

LINE 10300	(FLIGHT	1)										
C 2429 L	25	37	4	88	139	260	4	0	1	38	80	6
D 2408 B	12	14	7	13	15	36	7	0	1	35	85	3
E 2399 D	4	7	3	11	13	30	3	0	1	32	254	0
F 2361 S	2	7	3	7	13	17	2	10	1	52	220	11
G 2354 B	4	8	5	2	13	22	5	25	1	66	105	29
H 2349 S	5	12	2	27	90	85	2	0	1	36	68	7
J 2344 H	5	20	60	38	4	92	11	8	1	30	54	5

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 10300	(FLIGHT 1)											
L 2341 L	85	57	63	52	79	92	27	0	3	36	16	17
M 2340 L	12	19	44	12	102	32	18	6	2	38	22	16
N 2325 H	8	16	7	29	61	19	3	0	1	41	55	13
O 2324 B	8	10	7	29	61	25	4	0	2	28	44	2
P 2316 H	4	14	3	8	44	70	2	4	1	53	65	22
Q 2304 H	3	8	10	4	21	21	7	35	2	67	41	39
R 2274 B	15	8	31	19	48	25	23	4	5	64	6	46
S 2273 B	15	9	31	19	48	25	22	4	2	59	25	33
U 2266 H	3	6	1	5	15	14	2	19	1	103	105	60
LINE 10310	(FLIGHT 1)											
A 2098 S?	0	1	-1	3	9	13	1	0	1	47	355	20
B 2145 B?	9	20	19	32	195	157	5	8	1	25	51	2
D 2149 L	25	22	26	18	24	59	16	1	2	42	45	14
E 2161 B	16	19	41	17	81	10	18	8	2	45	23	22
G 2166 H	8	4	19	9	24	48	23	33	4	64	9	45
H 2171 B?	6	4	18	9	41	51	18	29	1	50	63	20
I 2182 S	3	3	5	7	11	9	5	25	1	70	71	34
J 2207 B	19	9	39	23	25	1	27	11	5	64	6	48
K 2208 B	17	11	39	23	57	16	23	5	2	63	26	37
L 2213 S	4	5	3	9	23	11	4	21	1	105	79	64
LINE 10320	(FLIGHT 1)											
A 1981 S?	2	6	5	6	20	10	3	8	1	102	109	56
B 1971 S	5	3	15	23	91	105	8	16	1	26	72	0
C 1968 L	33	18	25	29	61	110	20	0	3	51	21	27
D 1957 B	4	20	44	55	92	24	6	6	3	46	18	26
E 1943 B	7	7	11	11	3	21	9	0	1	43	83	7
F 1941 S	4	4	2	1	11	21	1	0	1	39	130	18
H 1918 H	3	5	5	11	24	11	4	14	1	55	131	16
I 1901 B	15	9	32	20	38	6	21	17	4	70	9	50
J 1900 B	15	9	32	20	38	9	22	16	2	68	28	42
K 1896 S	2	6	4	10	12	17	2	6	1	62	237	16
LINE 10321	(FLIGHT 1)											
B 2027 H	1	7	3	22	60	42	1	0	1	43	313	3
LINE 10331	(FLIGHT 1)											
A 1715 B	6	4	6	18	8	10	5	5	2	34	25	10
B 1718 D	5	14	52	23	25	5	15	0	4	28	10	11
C 1719 D	16	12	52	23	25	32	27	0	2	27	25	5

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	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 10331 (FLIGHT 1)												
D 1723 D	5	18	9	34	79	60	2	0	1	29	93	0
E 1738 H	3	13	7	6	65	87	3	3	1	30	66	2
F 1742 L	47	24	30	5	19	29	43	1	2	33	44	7
G 1749 B	2	11	14	20	47	28	3	1	2	51	52	21
I 1766 H	5	6	6	17	10	5	4	12	2	54	48	25
J 1770 H	3	3	9	18	45	28	4	23	1	46	107	13
K 1795 H	4	9	6	21	49	33	3	2	1	50	66	19
M 1804 B?	5	8	12	11	6	11	7	15	3	83	15	59
N 1807 B	14	4	8	6	6	9	30	15	2	61	30	34
O 1819 S	2	7	3	8	22	16	2	2	1	74	164	29
LINE 10340 (FLIGHT 1)												
A 1616 B?	4	6	10	11	2	8	6	10	1	61	404	5
B 1610 D	11	3	21	37	97	40	10	15	3	77	14	54
C 1606 B	15	6	4	16	36	27	13	22	3	37	16	18
E 1603 B	9	18	84	68	149	40	14	5	4	35	11	18
G 1600 B	37	10	84	68	149	3	33	5	3	39	20	19
H 1581 L	34	14	12	14	37	12	29	3	1	37	62	7
I 1579 B?	7	13	7	21	60	59	4	0	1	25	75	0
J 1573 B	14	12	13	20	74	30	10	0	2	32	46	5
K 1563 S	3	14	4	24	40	126	1	0	1	35	121	3
M 1554 H	4	11	3	14	49	26	2	0	1	29	67	0
O 1526 B	3	11	4	20	52	27	2	0	1	48	72	17
Q 1515 B?	2	8	5	10	28	12	2	2	1	53	173	12
R 1504 S	3	6	3	9	8	1	3	9	1	47	553	0
LINE 10350 (FLIGHT 1)												
A 1372 B	10	11	17	2	39	26	1	0	1	39	69	21
B 1377 B	24	13	2	10	22	8	16	5	5	48	5	32
B'1380 B	25	19	47	12	83	11	31	0	6	31	5	16
C 1381 B	25	19	47	12	83	11	31	2	7	31	3	18
D 1385 B	12	9	4	5	58	12	12	12	4	30	11	12
E 1389 B?	5	8	22	30	57	3	7	0	2	32	37	5
F 1395 S	4	10	9	19	42	36	3	0	1	34	53	6
G 1400 L	18	15	7	5	19	2	13	0	1	35	56	4
H 1401 L	24	15	11	9	7	2	19	3	2	55	42	26
I 1404 S	2	6	5	9	32	19	3	0	1	28	70	0
L 1421 B	14	37	25	52	132	53	5	0	1	28	48	3
O 1434 D	6	13	3	26	39	10	2	7	1	45	126	12
P 1442 B?	5	9	3	4	11	18	5	17	1	46	229	5
Q 1471 B	6	7	13	16	22	28	7	20	1	55	138	18

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 10350	(FLIGHT	1)										
R 1483 S	2	6	1	10	26	23	1	0	1	44	618	0
LINE 10360	(FLIGHT	1)										
A 1344 S	4	4	1	6	18	30	4	29	1	22	589	0
B 1338 D	37	22	108	86	179	35	25	6	4	48	10	30
C 1337 D	43	22	108	86	179	22	28	6	4	40	8	24
D 1327 B	18	30	78	52	124	22	15	1	8	38	2	27
D' 1325 B	18	30	78	52	124	22	15	0	7	53	4	38
E 1320 D	29	19	25	39	83	44	14	7	4	50	9	32
F 1317 B	9	12	25	25	57	17	9	10	4	46	8	29
G 1315 B	1	5	23	25	57	17	6	14	5	57	6	41
H 1312 B	34	17	74	45	69	16	31	1	6	40	5	25
I 1299 L	23	14	11	10	20	33	18	0	1	32	65	2
J 1297 B?	14	22	21	20	92	85	8	0	2	30	49	3
K 1279 B	5	5	18	27	34	23	7	0	2	35	43	6
M 1274 H	3	3	10	17	36	12	5	0	2	29	52	0
P 1268 D	11	21	19	41	31	43	5	2	1	35	60	8
Q 1261 B	9	7	15	19	44	13	10	4	2	49	36	21
R 1230 D	9	15	25	11	36	82	11	7	2	31	46	5
S 1227 B	11	11	30	77	195	99	6	0	2	29	45	5
T 1226 D	9	30	30	77	195	99	4	0	1	19	65	0
LINE 10370	(FLIGHT	1)										
A 1087 B	12	7	23	5	14	1	35	22	1	63	57	32
B 1089 B	3	7	23	5	10	24	15	22	3	70	18	46
C 1092 B	12	4	32	15	45	5	35	4	3	57	13	35
D 1096 B	11	10	49	19	27	11	27	2	9	39	2	28
E 1097 B	19	9	33	13	38	19	37	7	6	51	4	36
F 1101 D	31	20	46	44	102	20	19	1	4	43	9	26
G 1103 B	37	33	69	70	137	20	17	0	5	33	6	18
H 1107 B	5	10	14	16	36	15	5	0	4	35	10	17
I 1109 H	3	1	8	3	36	1	24	27	7	39	4	24
J 1114 S	6	14	11	25	66	96	4	0	2	30	39	5
K 1120 L	27	6	13	15	20	13	39	0	2	37	35	10
L 1146 D	5	15	12	20	42	23	4	2	1	57	72	24
N 1151 B	8	8	13	22	45	14	7	4	1	42	86	9
P 1158 D	13	15	18	20	34	15	9	7	1	56	94	21
Q 1187 H	4	8	8	16	34	40	4	2	2	34	30	10
R 1192 D	12	40	37	96	243	133	4	0	1	11	54	0
LINE 10380	(FLIGHT	1)										
A 1056 B	20	19	33	15	36	22	18	4	6	46	5	30

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 10380 (FLIGHT 1)												
B 1050 D	19	15	15	5	42	38	18	21	4	54	10	36
B' 1047 D	5	7	18	18	38	57	8	18	3	48	13	29
C 1044 D	6	6	18	18	38	57	9	17	3	58	18	36
D 1040 H	8	10	12	16	25	9	7	6	4	40	9	22
E 1039 B	8	9	9	16	25	2	6	5	4	41	9	24
F 1036 H	3	7	31	11	28	75	16	0	5	34	6	17
G 1031 S	3	13	11	20	55	46	3	0	2	27	43	0
H 1029 L	17	10	11	20	53	41	12	0	1	32	61	1
I 1026 L	13	42	11	13	18	51	4	0	2	28	41	1
J 995 B	6	13	6	3	20	34	5	0	1	38	87	5
K 990 B	18	21	37	56	102	14	9	0	2	24	37	1
L 981 D?	8	10	10	11	24	18	7	12	1	51	94	16
M 961 D	6	10	9	14	30	19	5	0	1	41	117	3
N 946 H	4	22	6	27	111	80	2	0	2	32	27	10
O 944 B	3	4	15	27	110	80	5	13	3	50	22	27
P 941 B	11	17	46	44	76	15	11	0	3	22	14	3
LINE 10390 (FLIGHT 1)												
A 744 B?	13	9	26	16	42	13	19	10	5	69	8	50
B 745 B	4	8	26	16	42	13	10	9	4	65	13	43
C 747 D	9	9	19	20	6	4	10	7	3	50	17	28
D 749 H	9	3	19	20	6	19	16	15	4	47	12	27
E 750 B?	14	9	4	3	25	19	16	17	3	41	19	20
F 752 B	9	18	2	24	10	22	3	0	3	44	20	22
H 762 S	26	23	10	19	57	49	12	0	2	31	32	6
I 763 L	26	23	10	19	57	49	12	0	2	33	50	4
J 766 L	26	14	4	2	24	19	27	0	1	35	59	3
K 770 S	2	14	2	8	30	46	1	0	1	32	95	0
L 787 B?	6	8	13	16	40	13	7	3	1	53	62	20
M 791 D	39	35	114	87	160	14	22	0	5	21	5	7
N 792 D	49	35	114	87	160	15	26	0	4	32	10	15
O 818 S	3	4	3	8	19	18	4	25	1	43	336	1
P 827 B	3	11	13	27	61	27	3	0	1	28	76	0
R 844 H	7	7	16	6	22	18	17	14	3	56	22	31
T 847 H	10	7	12	6	3	2	17	15	3	63	20	39
LINE 10400 (FLIGHT 1)												
A 713 L	5	5	3	4	10	15	6	13	1	86	224	32
B 701 D	14	2	8	16	10	6	20	22	3	47	20	25
C 699 H	14	17	8	30	18	40	5	0	3	40	20	18
D 684 L	41	19	23	29	79	58	24	0	2	26	40	1

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	QUAD PPM	COPLANAR 900 HZ REAL PPM	QUAD PPM	COPLANAR 7200 HZ REAL PPM	QUAD PPM	VERTICAL DIKE COND MHOS	DEPTH* M	HORIZONTAL SHEET COND MHOS	DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	DEPTH M
LINE 10400 (FLIGHT 1)												
E 681 L	11	21	8	2	26	3	6	0	2	46	43	17
F 658 B	14	20	10	34	49	22	5	0	2	27	28	3
G 638 B	8	9	2	7	19	17	6	2	1	57	259	8
I 611 H	7	5	15	10	26	10	14	14	2	57	28	31
LINE 10410 (FLIGHT 1)												
A 349 L	9	4	17	22	38	48	11	2	2	46	36	18
B 366 B	15	19	25	43	106	28	8	0	2	28	22	7
C 372 B?	5	15	6	15	65	31	3	0	2	35	41	10
D 380 L	32	28	27	35	106	87	14	0	2	31	39	6
E 383 L	12	14	27	7	60	2	17	0	2	36	48	8
F 393 L	7	3	25	12	24	3	26	11	2	51	52	20
G 395 L	9	4	25	12	24	19	25	16	2	61	41	31
H 403 H	3	8	5	7	33	27	3	8	2	47	28	23
I 409 H	9	4	14	2	38	22	1	0	1	50	38	36
LINE 10411 (FLIGHT 1)												
A 467 B	3	6	6	7	17	5	4	19	1	67	78	31
B 473 B	6	8	3	7	2	11	5	19	1	65	689	0

* ESTIMATED DEPTH MAY BE UNRELIABLE BECAUSE THE STRONGER PART OF THE CONDUCTOR MAY BE DEEPER OR TO ONE SIDE OF THE FLIGHT LINE, OR BECAUSE OF A SHALLOW DIP OR OVERBURDEN EFFECTS.

APPENDIX B

GEOCHEMICAL RESULTS

ACME ANALYTICAL LABORATORIES LTD.
2 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: AUG 18 1986

DATE REPORT MAILED: Aug.23/86..

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOIL -80MESH AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

P.S - soils & Rocks Pb-core

ASSAYER: ...D.Toye...DEAN TOYE. CERTIFIED B.C. ASSAYER.

QUINTO MINING PROJECT - LUMBY FILE # 86-1939

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
A3 0	16	10	136	.2	6	1
A3 25	26	18	102	.3	11	1
A3 50	22	12	107	.4	9	1
A3 75	24	8	116	.2	8	1
A3 100	25	10	124	.4	14	1
A3 125	90	10	217	.5	4	1
A3 150	27	9	109	.3	9	1
A3 175	20	12	136	.4	7	2
A3 200	16	11	118	.4	6	1
A3 225	27	9	107	.1	11	1
A3 250	22	11	152	.3	7	1
A3 275	22	11	147	.4	12	1
A3 300	28	7	165	.4	9	1
A3 325	26	8	101	.3	3	1
A3 350	18	5	113	.1	5	1
A3 375	22	8	102	.5	4	2
A3 400	28	11	124	.4	11	1
A3 425	26	7	101	.2	8	1
A3 450	25	7	97	.2	8	1
A3 475	22	11	157	.5	8	10
A3 500	24	7	99	.1	4	3
A3 525	21	8	105	.2	2	1
A3 550	22	7	164	.3	6	1
A3 575	19	8	152	.4	10	3
A3 600	51	10	227	.7	4	1
A3 625	16	11	237	.3	11	1
A3 650	38	11	177	.3	6	1
A3 675	13	8	140	.2	5	1
A3 700	12	7	135	.2	8	1
A3 725	18	8	129	.2	9	1
A3 750	26	12	180	.2	8	1
A3 775	31	10	178	.5	7	1
A3 800	18	9	171	.3	5	1
A3 825	15	8	163	.3	6	1
A3 850	15	6	193	.2	3	1
A3 875	15	6	150	.3	2	1
STD C/AU 0.5	61	39	140	7.1	42	500

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
A3 900	20	5	112	.1	2	1
A3 925	21	9	166	.1	7	34
A3 950	13	9	135	.2	4	1
A3 975	18	10	140	.4	7	1
A3 1000	11	3	99	.2	7	1
A3 1025	13	7	144	.2	6	1
A3 1050	18	12	163	.2	9	1
A3 1075	16	9	159	.2	6	1
A3 1100	13	5	147	.1	3	1
A3 1125	16	12	118	.2	4	1
A3 1150	19	10	160	.3	5	1
A3 1175	25	11	193	.2	4	1
A3 1200	74	13	193	.1	8	1
A3 1225	27	11	236	.3	8	35
A3 1250	24	10	193	.3	4	1
A3 1275	21	7	162	.3	5	1
A3 1300	22	7	126	.1	2	1
A3 1325	21	10	209	.3	7	1
A3 1350	32	12	157	.2	6	2
A3 1375	18	9	165	.2	2	1
A3 1400	26	10	138	.1	4	50
A3 1425	23	11	161	.4	6	1
A3 1450	19	9	119	.5	6	1
A3 1475	18	11	114	.3	2	1
A3 1500	77	4	124	.6	3	1
A3 1525	24	10	210	.6	10	1
A3 1550	16	9	139	.2	7	1
B 200E	15	10	107	.1	3	1
B 225E	20	10	113	.1	8	1
B 250E	9	10	68	.1	2	1
B 275E	17	6	202	.2	7	1
B 300E	21	11	167	.3	9	1
B 325E	24	9	144	.2	4	1
B 350E	24	12	159	.3	9	1
B 375E	25	8	128	.1	6	1
B 400E	25	13	134	.3	2	1
STD C/AU 0.5	62	43	137	7.0	41	500

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
B 425E	36	10	107	.5	9	1
B 450E	21	8	102	.2	7	1
B 475E	15	6	119	.1	4	1
B 500E	17	7	121	.3	5	1
B 525E	17	6	102	.2	2	1
B 550E	42	8	133	.3	3	1
B 575E	18	6	74	.3	3	1
B 600E	42	7	141	.3	7	1
B 625E	34	6	151	.4	5	2
B 650E	29	12	164	.2	6	3
B 675E	33	9	182	.3	7	1
B 700E	31	15	150	.6	9	1
B 725E	34	11	137	.4	6	2
B 750E	32	10	125	.3	4	1
B 775E	27	7	116	.1	5	1
B 800E	29	10	82	.2	5	1
B 825E	33	11	119	.3	7	1
B 850E	33	8	124	.2	10	1
B 875E	38	10	124	.3	10	2
B 900E	36	9	122	.4	5	1
B 925E	42	10	121	.4	4	1
B 950E	36	6	107	.3	2	1
B 975E	46	12	162	.5	7	1
B 1000E	46	12	121	.5	4	1
B 1025E	49	11	129	.5	6	1
B 1050E	45	12	155	.5	7	1
B 1075E	47	9	94	.9	3	1
B 1100E	45	6	98	.5	6	1
B 1125E	44	12	94	.9	6	1
B 1150E	31	5	76	.3	6	1
B 1175E	21	3	44	.1	2	1
B 1200E	20	4	54	.2	4	1
B 1225E	26	9	56	.5	4	1
B 1250E	30	12	91	.3	5	1
B 1275E	34	9	109	.4	6	1
B 1300E	29	6	101	.5	6	1
STD C/AU-0.5	62	40	138	7.0	40	500

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
B 1325E	53	11	164	.6	5	1
B 1350E	39	8	131	.3	2	4
B 1375E	40	10	145	.2	2	1
B 1400E	49	11	143	.4	2	1
B 1425E	37	12	159	.2	2	1
B 1450E	41	13	141	.3	2	1
B 1475E	36	11	161	.1	2	1
B 1500E	45	9	142	.5	2	2
B 1525E	43	8	151	.3	2	1
B 1550E	61	11	204	.4	2	1
B 1575E	67	9	228	.8	7	1
B 1600E	46	13	263	.4	2	1
B 1625E	63	11	275	1.0	3	1
B 1650E	52	11	181	.7	2	1
B 1675E	42	11	136	.6	2	1
B 1700E	46	14	155	.4	4	1
B 1725E	37	10	138	.3	2	1
B 1750E	37	10	140	.3	2	1
B 1775E	33	7	125	.2	2	2
B 1800E	30	10	175	.2	2	2
B 1825E	35	7	117	.2	6	1
B 1850E	56	10	141	.3	5	1
B 1875E	27	10	128	.3	6	1
B 1900E	32	7	120	.3	5	1
B 1925E	31	11	147	.2	6	1
B 1950E	35	9	124	.3	5	1
B 1975E	36	10	129	.3	3	1
B 2000E	30	7	118	.3	2	1
B 2025E	34	11	124	.3	2	1
B 2050E	32	7	149	.2	2	1
B 2075E	34	12	160	.2	4	1
B 2100E	32	9	128	.3	2	1
B 2125E	30	8	148	.1	5	1
B 2150E	37	7	107	.6	4	1
B 2175E	28	7	87	.2	2	1
B 2200E	36	13	141	.3	4	1
STD C/AU 0.5	60	41	141	6.9	40	490

QUINTO MINING PROJECT - LUMBY FILE # 86-1939

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
B 2225E	41	10	141	.3	3	1
B 2250E	48	16	241	.3	3	48
B 2275E	44	10	179	.3	2	1
B 2300E	37	8	119	.4	9	1
2680	26	5	7	.4	3	2

QUINTO MINING PROJECT - LUMBY FILE # 86-1939 PAGE 6 ✓

SAMPLE#	Ag PPM	Au* PPB
2670	.8	2
2671	1.0	3
2672	.3	6
2673	.4	1
2674	.5	2
2675	.7	1
2676	.4	27
2677	.5	1
2678	.5	18
2679	.1	9
STD C/AU-0.5	7.0	510

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
500E 1125N	162	83	516	1.1	75	8
500E 1075N	227	113	171	1.8	213	25
500E 1025N	79	26	92	.4	149	1
500E 975N	57	30	125	.9	52	26
500E 925N	71	48	167	.9	104	34
B-1	148	10	210	.8	18	2
B-2	247	20	998	4.9	22	2
B-3	109	11	345	2.1	2	5
B-4	146	16	282	1.1	11	1
B-5	139	13	228	1.8	4	2
B-6	100	11	173	.5	8	2
B-7	97	12	178	.8	2	1
B-8	138	11	102	2.2	2	2
B-9	169	14	172	1.7	2	2
B-11	134	10	106	1.9	2	2
B-12	64	7	141	.8	2	1
B-13	101	15	167	1.0	2	1
B-14	184	20	206	1.8	12	2
B-15	139	13	180	.9	6	1
B-16	180	17	150	.5	2	1
B-17	113	7	223	.3	6	2
B-18	180	7	247	.6	8	2
B-19	184	6	275	.4	5	1
B-20	156	7	235	.4	4	1
B-21	167	36	4863	4.5	17	7
B-22	170	8	289	.5	16	8
B-23	131	9	251	.5	6	8
B-24	176	13	160	.6	10	2
B-25	177	13	465	.4	6	4
B-26	98	9	190	.7	4	4
B-27	177	11	213	1.0	6	1
B-28	167	11	262	.3	8	1
B-29	107	8	182	.5	5	2
B-30	100	10	225	.8	12	3
B-31	75	8	311	.5	7	1
B-32	200	13	249	.4	8	1
STD C/AU-S	59	39	133	7.0	37	49

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
B-33	150	11	197	.4	8	5
B-34	90	12	254	.8	8	1
B-35	114	10	328	.5	10	1
B-36	127	11	257	.5	9	2
B-37	90	13	334	.6	2	1
B-38	86	12	293	.6	11	2
B-39	87	16	394	.6	2	1
B-40	73	14	436	.4	2	1
C.E.1	54	7	63	.2	2	1
C.M.S.1	98	11	100	.9	2	4
C.M.S.2	111	10	151	.5	2	1
STD C/AU-S	58	38	131	7.0	38	49

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB	H.m. %	H.m. GM
2651	55	25	133	.9	26	1	1.12	10.40
2652	90	40	210	1.4	53	440	1.55	12.90
2653	140	44	388	9.0	77	26000	2.40	21.80
2654	126	47	321	3.9	80	350	6.99	51.70
2655	13	12	55	.3	2	2120	2.86	16.90
2656	9	11	40	.2	2	2	8.49	39.80
2657	27	25	70	.3	3	14	2.63	15.00
STD C/AU 0.5	60	41	141	7.1	38	510	-	-

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB	H.m. %	H.m. GM
2658	127	29	325	2.6	445	6.05	55.70
2659	60	17	116	.8	5	3.29	16.10
2660	27	12	68	.3	3	1.60	8.50
2661	44	19	86	.5	365	5.33	28.80
2662	27	17	76	.3	4100	6.04	28.40
2663	128	33	315	3.4	2110	5.24	40.90
2664	74	28	143	1.4	440	3.38	23.30
2665	120	34	305	2.6	4050	6.79	29.20
STD C/AU 0.5	61	43	139	7.0	510	-	-

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB	H.m. %	H.m. GM
2666	48	24	97	.8	5	3.05	24.10
2667	9	13	32	.3	1	2.44	12.70
2668	30	21	84	1.0	180	2.91	10.20
2669	77	28	208	18.9	58500	4.87	30.20
STD C/AU 0.5	55	41	129	6.7	495	-	-

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
0168	21	13	72	.1	2	2
0169	48	5	91	.1	4	1
0170	18	17	20	.2	2	2
0171	6	28	34	.1	5	1
0172	88	24	196	.8	2	1
0173	101	321	2009	3.7	4512	1450
0174	234	1647	9358	19.1	9988	2450
0175	67	948	15020	8.7	6820	2200
STD C/AU-R	58	37	139	7.1	38	490

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au* PPB
0176	18	14	17	2.7	4	1
0177	22	2	11	.2	2	1
0178	47	10	98	.9	8	1
0179	52	10	66	.8	16	14
0180	228	30	757	1.8	2	15
0181	34	9	42	.3	15	2
STD C/AU-R	57	43	135	7.2	42	490

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	FA/AA Au** PPB
2856	683	21	7	3.6	41	4
2857	9	3	35	.4	30	8
2858	14	10	23	.2	13	4
2859	9	10	26	.1	6	1
2860	20	6	5	.4	10	3
2861	5	2	20	.1	6	1
2862	24	9	39	1.2	2	1
2863	137	18	180	.5	82	25
2864	151	11	75	.4	34	31
2865	104	15	155	.5	31	46
2866	135	10	47	.5	3	24
2867	149	13	88	.4	138	6
2868	178	11	61	.4	72	1
2869	90	10	22	.8	4	30
2870	142	10	93	.4	19	28
STD C/AU-R	58	38	130	6.9	36	500

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2
PHONE:(604)980-5814 OR (604)988-4524
TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:QUINTO MINING CORP.
Project:LUMBY
Attention:D.KURAN

File:6-1008
Date:OCT 17/86
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

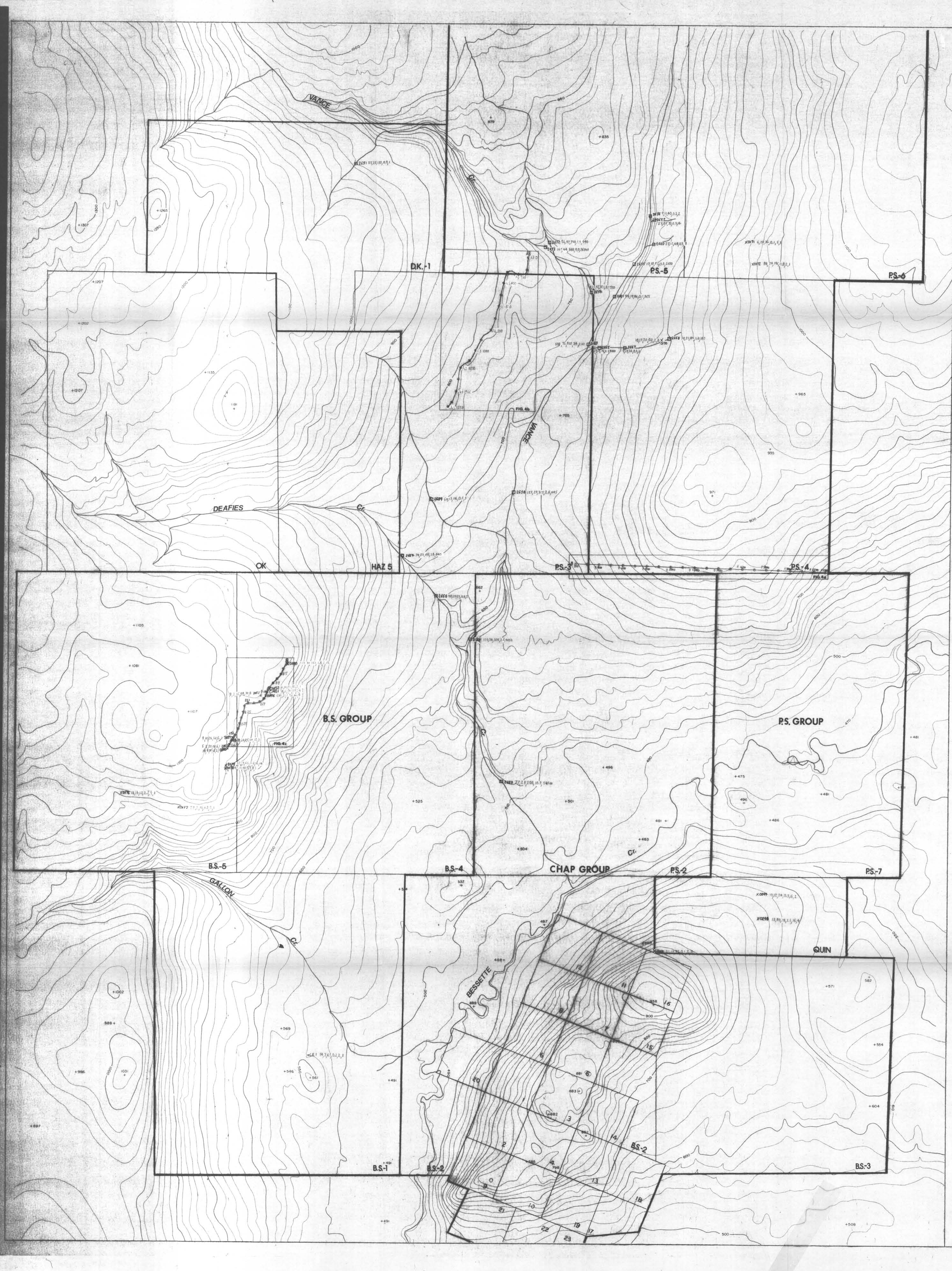
86-24

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM	AU-FIRE PPB
2832				0.7		6
2833				0.9		2
2834				0.8		5
2835				1.3		215
2836				0.5		126
2837				1.1		113
2838				0.6		109
2839				1.2		137
2840				0.5		12
2841				0.3		23
2842				1.1		56
[illegible]43				0.8		1
[illegible]44				0.6		3
190	1520	185	235	52.0	12500	16000
191	157	48	70	17.8	1800	1200
192	100	33	34	4.2	1000	285
193	195	46	165	10.7	5800	800
194	24	30	20	1.3	100	35
195	19	2	7	0.2	450	48
248	12	80	78	1.1	16	4
249	10	12	24	0.3	6	1

*Some of these samples should have been requested for assay.

Certified by ______

MIN-EN LABORATORIES LTD.



SOIL SAMPLES

SYMBOL ○

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au# PPB
A3 0	16	10	136	.2	6	1
A3 25	26	18	102	.3	11	1
A3 50	22	12	107	.4	9	1
A3 75	24	8	116	.2	8	1
A3 100	25	10	124	.4	14	1
A3 125	90	10	217	.5	4	1
A3 150	27	9	109	.3	9	1
A3 175	20	12	136	.4	7	2
A3 200	16	11	118	.4	6	1
A3 225	27	9	107	.1	11	1
A3 250	22	11	152	.3	7	1
A3 275	22	11	147	.4	12	1
A3 300	28	7	165	.4	9	1
A3 325	26	8	101	.3	3	1
A3 350	18	5	113	.1	5	1
A3 375	22	8	102	.5	4	2
A3 400	28	11	124	.4	11	1
A3 425	26	7	101	.2	8	1
A3 450	25	7	97	.2	8	1
A3 475	22	11	157	.5	8	10
A3 500	24	7	99	.1	4	3
A3 525	21	8	105	.2	2	1
A3 550	22	7	164	.3	6	1
A3 575	19	8	152	.4	10	3
A3 600	51	10	227	.7	4	1
A3 625	16	11	237	.3	11	1
A3 650	38	11	177	.3	6	1
A3 675	13	8	140	.2	5	1
A3 700	12	7	135	.2	8	1
A3 725	18	8	129	.2	9	1
A3 750	26	12	180	.2	8	1
A3 775	31	10	178	.5	7	1
A3 800	18	9	171	.3	5	1
A3 825	15	8	163	.3	6	1
A3 850	15	6	193	.2	3	1
A3 875	15	6	150	.3	2	1
A3 900	20	5	112	.1	2	1
A3 925	21	9	166	.1	7	34
A3 950	13	9	135	.2	4	1
A3 975	18	10	140	.4	7	1
A3 1000	11	3	99	.2	7	1
A3 1025	13	7	144	.2	6	1
A3 1050	18	12	163	.2	9	1
A3 1075	16	9	159	.2	6	1
A3 1100	13	5	147	.1	3	1
A3 1125	16	12	118	.2	4	1
A3 1150	19	10	160	.3	5	1
A3 1175	25	11	193	.2	4	1
A3 1200	74	13	193	.1	8	1
A3 1225	27	11	236	.3	8	35
A3 1250	24	10	193	.3	4	1
A3 1275	21	7	162	.3	5	1
A3 1300	22	7	126	.1	2	1
A3 1325	21	10	209	.3	7	1
A3 1350	32	12	157	.2	6	2
A3 1375	18	9	165	.2	2	1
A3 1400	26	10	138	.1	4	50
A3 1425	23	11	161	.4	6	1
A3 1450	19	9	119	.5	6	1
A3 1475	18	11	114	.3	2	1
A3 1500	77	4	124	.6	3	1
A3 1525	24	10	210	.6	10	1
A3 1550	16	9	139	.2	7	1
B 200E	15	10	107	.1	3	1
B 225E	20	10	113	.1	8	1
B 250E	9	10	68	.1	2	1
B 275E	17	6	202	.2	7	1
B 300E	21	11	167	.3	9	1
B 325E	24	9	144	.2	4	1
B 350E	24	12	159	.3	9	1
B 375E	25	8	128	.1	6	1
B 400E	25	13	134	.3	2	1
B 425E	36	10	107	.5	9	1
B 450E	21	8	102	.2	7	1
B 475E	15	6	119	.1	4	1
B 500E	17	7	121	.3	5	1
B 525E	17	6	102	.2	2	1
B 550E	42	8	133	.3	3	1
B 575E	18	6	74	.3	3	1
B 600E	42	7	141	.3	7	1
B 625E	34	6	151	.4	5	2
B 650E	29	12	164	.2	6	3
B 675E	33	9	182	.3	7	1
B 700E	31	15	150	.6	9	1
B 725E	34	11	137	.4	6	2
B 750E	32	10	125	.3	4	1
B 775E	27	7	116	.1	5	1
B 800E	29	10	82	.2	5	1
B 825E	33	11	119	.3	7	1
B 850E	33	8	124	.2	10	1
B 875E	38	10	124	.3	10	2
B 900E	36	9	122	.4	5	1
B 925E	42	10	121	.4	4	1
B 950E	36	6	107	.3	2	1
B 975E	46	12	162	.5	7	1
B 1000E	46	12	121	.5	4	1
B 1025E	49	11	129	.5	6	1
B 1050E	45	12	155	.5	7	1
B 1075E	47	9	94	.9	3	1
B 1100E	45	6	98	.5	6	1
B 1125E	44	12	94	.9	6	1
B 1150E	31	5	76	.3	6	1
B 1175E	21	3	44	.1	2	1
B 1200E	20	4	54	.2	4	1
B 1225E	26	9	56	.5	4	1
B 1250E	30	12	91	.3	5	1
B 1275E	34	9	109	.4	6	1
B 1300E	29	6	101	.5	6	1
B 1325E	53	11	164	.6	5	1
B 1350E	39	8	131	.3	2	4
B 1375E	40	10	145	.2	2	1
B 1400E	49	11	143	.4	2	1
B 1425E	37	12	159	.2	2	1
B 1450E	41	13	141	.3	2	1
B 1475E	36	11	161	.1	2	1
B 1500E	45	9	142	.5	2	2
B 1525E	43	8	151	.3	2	1
B 1550E	61	11	204	.4	2	1
B 1575E	67	9	228	.8	7	1
B 1600E	46	13	263	.4	2	1
B 1625E	63	11	275	1.0	3	1
B 1650E	52	11	181	.7	2	1
B 1675E	42	11	136	.6	2	1
B 1700E	46	14	155	.4	4	1
B 1725E	37	10	138	.3	2	1
B 1750E	37	10	140	.3	2	1
B 1775E	33	7	125	.2	2	2
B 1800E	30	10	175	.2	2	2
B 1825E	35	7	117	.2	6	1
B 1850E	56	10	141	.3	5	1
B 1875E	27	10	128	.3	6	1
B 1900E	32	7	120	.3	5	1
B 1925E	31	11	147	.2	6	1
B 1950E	35	9	124	.3	5	1
B 1975E	36	10	129	.3	3	1
B 2000E	30	7	118	.3	2	1
B 2025E	34	11	124	.3	2	1
B 2050E	32	7	149	.2	2	1
B 2075E	34	12	160	.2	4	1
B 2100E	32	9	128	.3	2	1
B 2125E	30	8	148	.1	5	1
B 2150E	37	7	107	.6	4	1
B 2175E	28	7	87	.2	2	1
B 2200E	36	13	141	.3	4	1
B 2225E	41	10	141	.3	3	1
B 2250E	48	16	241	.3	3	48
B 2275E	44	10	179	.3	2	1
B 2300E	37	8	119	.4	8	1
B-1	148	10	210	.8	18	2
B-2	247	20	998	4.9	22	2
B-3	109	11	345	2.1	2	5
B-4	146	16	282	1.1	11	1
B-5	139	13	228	1.8	4	3
B-6	100	11	173	.5	8	2
B-7	97	12	178	.8	2	1
B-8	138	11	102	2.2	2	2
B-9	169	14	172	1.7	2	2
B-11	134	10	106	1.9	2	2
B-12	64	7	141	.8	2	1
B-13	101	15	167	1.0	2	1
B-14	184	20	206	1.8	12	2
B-15	139	13	180	.9	6	1
B-16	180	17	150	.5	2	1
B-17	113	7	223	.3	6	2
B-18	180	7	247	.6	8	2
B-19	184	6	275	.4	5	1
B-20	156	7	235	.4	4	1
B-21	167	36	4863	4.5	17	7
B-22	170	8	209	.5	16	8
B-23	131	9	251	.5	6	8
B-24	176	13	160	.6	10	2
B-25	177	13	465	.4	6	4
B-26	98	9	190	.7	4	4
B-27	177	11	213	1.0	6	1
B-28	167	11	262	.3	8	1
B-29	107	8	192	.5	5	2
B-30	100	10	225	.8	12	2
B-31	75	8	311	.5	7	1
B-32	200	13	249	.4	8	1
B-33	150	11	197	.4	8	5
B-34	90	12	254	.8	8	1
B-35	114	10	328	.5	10	1
B-36	127	11	257	.5	9	2
B-37	90	13	334	.6	2	1
B-38	86	12	293	.6	11	2
B-39	87	16	394	.6	2	1
B-40	73	14	436	.4	2	1
C.E.1	54	7	63	.2	2	1
C.M.S.1	98	11	100	.9	2	8
C.M.S.2	111	10	151	.5	2	1

HEAVY STREAM SAMPLES

SYMBOL □

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au# PPB	H.m. %	H.m. GM
2651	55	25	133	.9	1	1.12	10.40
2652	90	40	210	1.4	440	1.55	12.90
2653	140	44	388	9.0	26000	2.40	21.80
2654	126	47	321	3.9	350	6.99	51.70
2655	13	12	55	.3	2120	2.86	16.90
2656	9	11	40	.2	2	8.49	39.80
2657	27	25	70	.3	14	2.63	15.00
2658	127	29	325	2.6	445	6.05	55.70
2659	60	17	116	.8	5	3.29	16.10
2660	27	12	68	.3	3	1.60	8.50
2661	44	19	86	.5	365	5.33	28.80
2662	27	17	76	.3	4100	6.04	28.40
2663	128	33	315	3.4	2110	5.24	40.90
2664	74	28	143	1.4	440	3.38	23.30
2665	120	34	305	2.6	4050	6.79	29.20
2666	48	24	97	.8	5	3.05	24.10
2667	9	13	32	.3	1	2.44	12.70
2668	30	21	84	1.0	180	2.91	10.20
2669	77	28	208	18.9	58500	4.87	30.20

ROCK SAMPLES

SYMBOL X

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Au# PPB
0168	21	13	72	.1	2	2
0169	48	5	91	.1	4	1
0170	18	17	20	.2	2	2
0171	6	28	34	.1	5	1
0172	88	24	196	.8	2	1
0176	18	14	17	2.7	4	1
0177	22	2	11	.2	2	1
0178	47	10	98	.9	8	1
0179	52	19	66	.8	16	14
0180	228	30	757	1.8	2	15
2856	682	21	7	3.6	41	4
2857	9	3	35	.4	30	8
2858	14	10	23	.2	13	4
2859	9	10	26	.1	6	1
2860	20	6	5	.4	10	3
2861	5	2	20	.1	6	1
2862	24	9	39	1.2	2	1

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM	AU-FIRE PPB
248	12	80	78	1.1	16	4
249	10	12	24	0.3	6	1

GEOLOGICAL BRANCH ASSESSMENT REPORT

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SCALE 1:10000

100 300 500

0 200 800 1000m

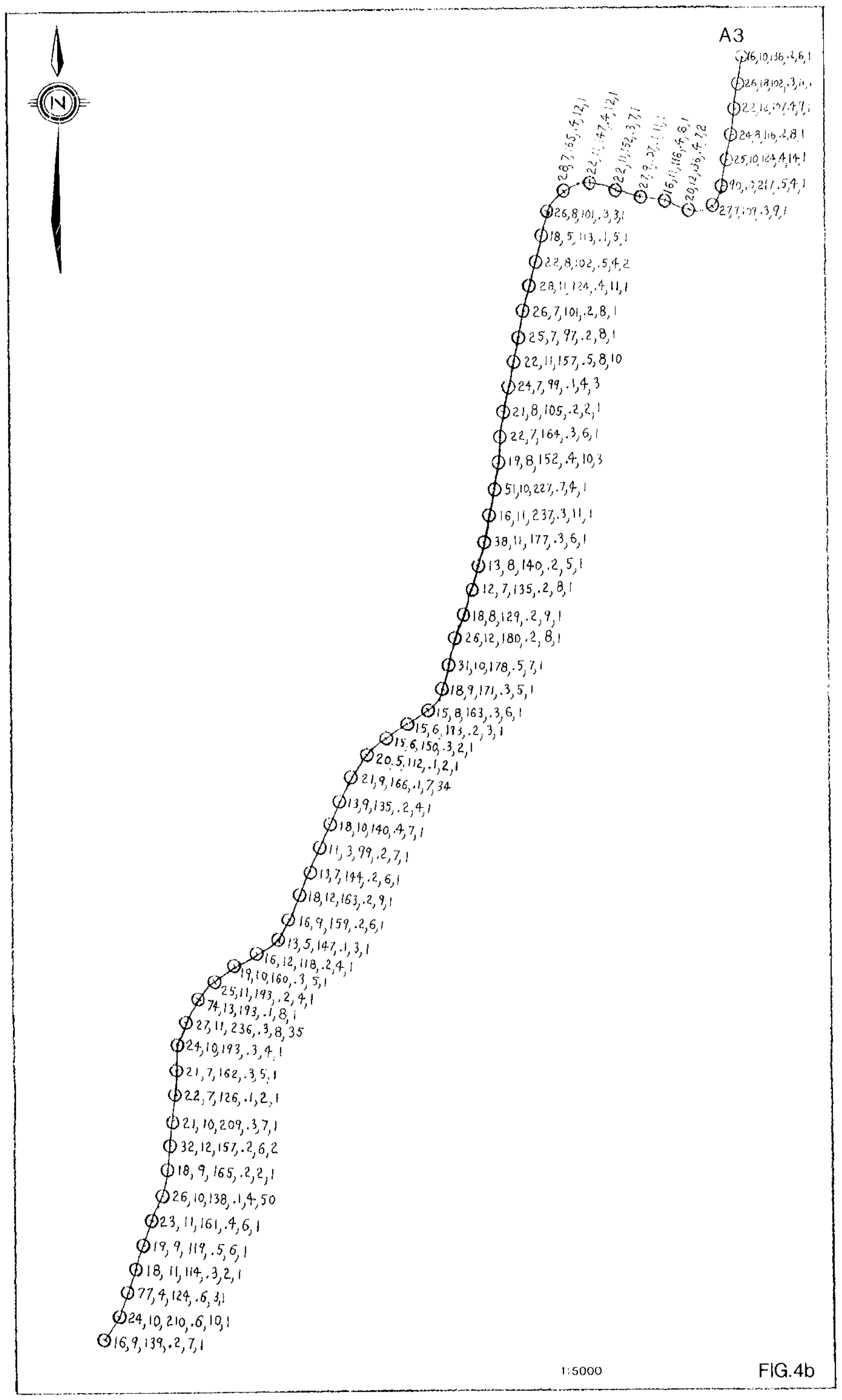
QUINTO MINING CORP.

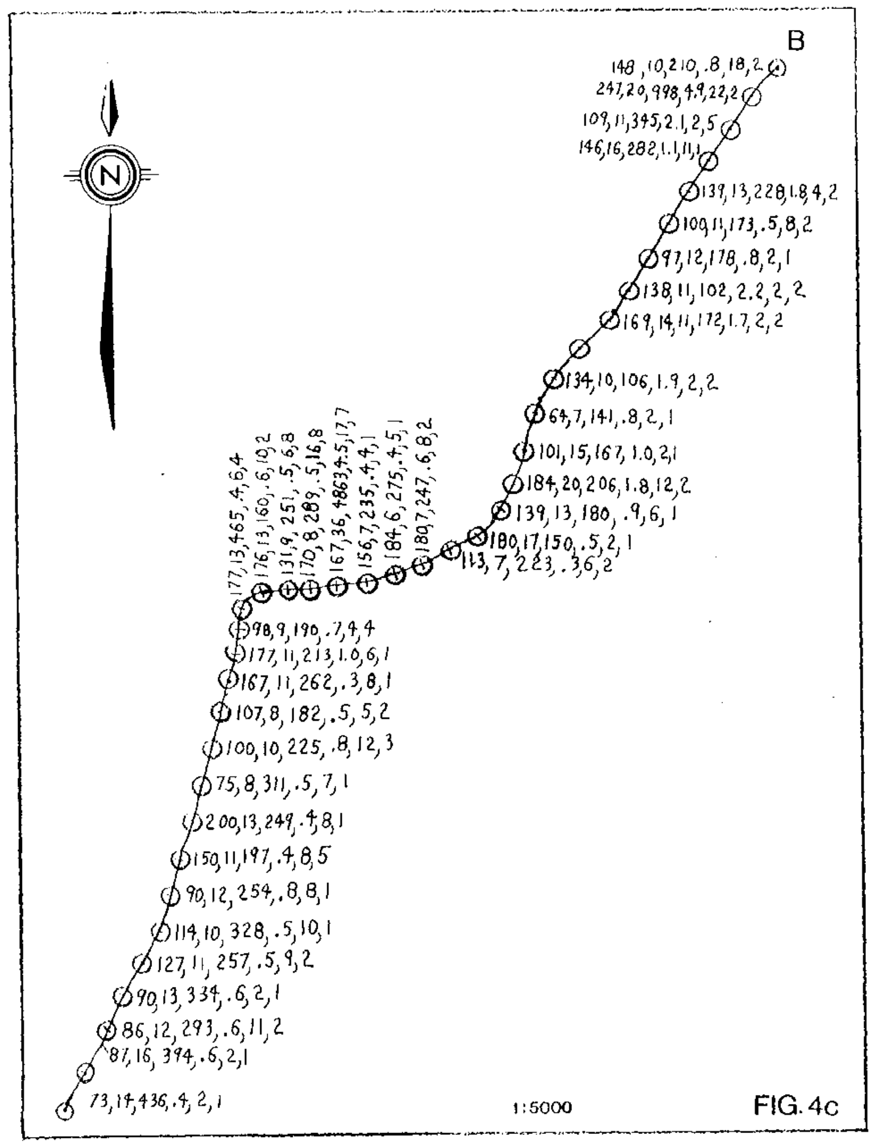
LUMBY PROJECT

PROPERTY GEOCHEMISTRY

SAMPLE LOCATIONS

E J S	DEC.1, 86	1: 10,000	82L/7	FIG. 4





GEOLOGICAL BRANCH
ASSESSMENT REPORT

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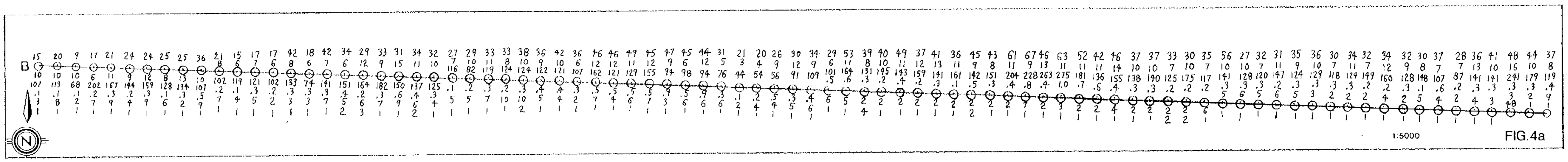
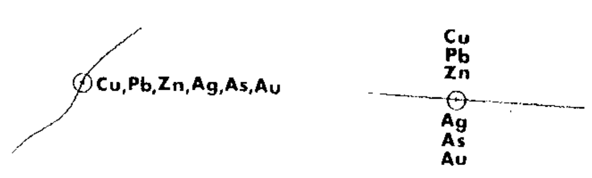


Symbols



Scale 1:5000

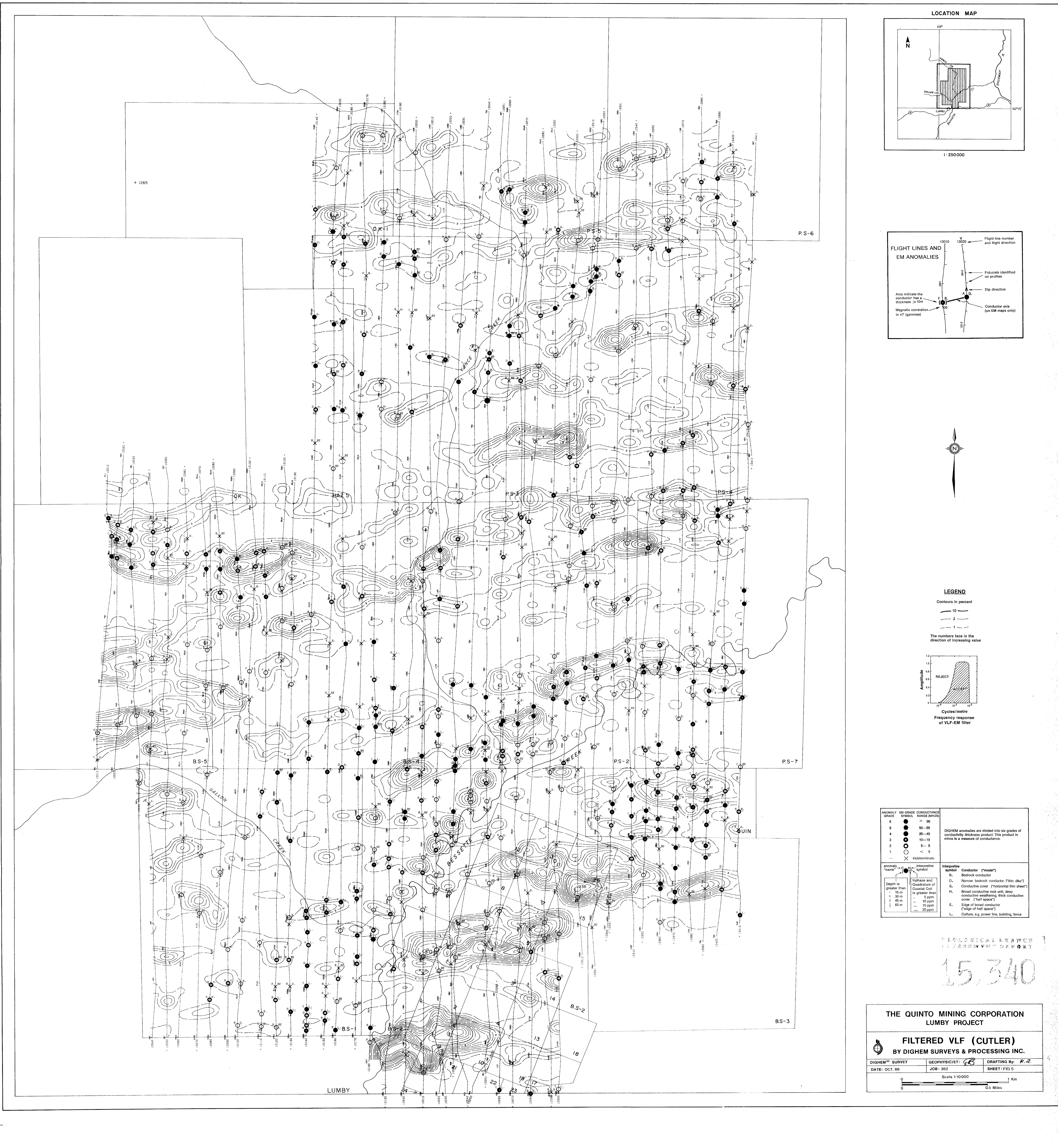
0m 100 200 300 400 500

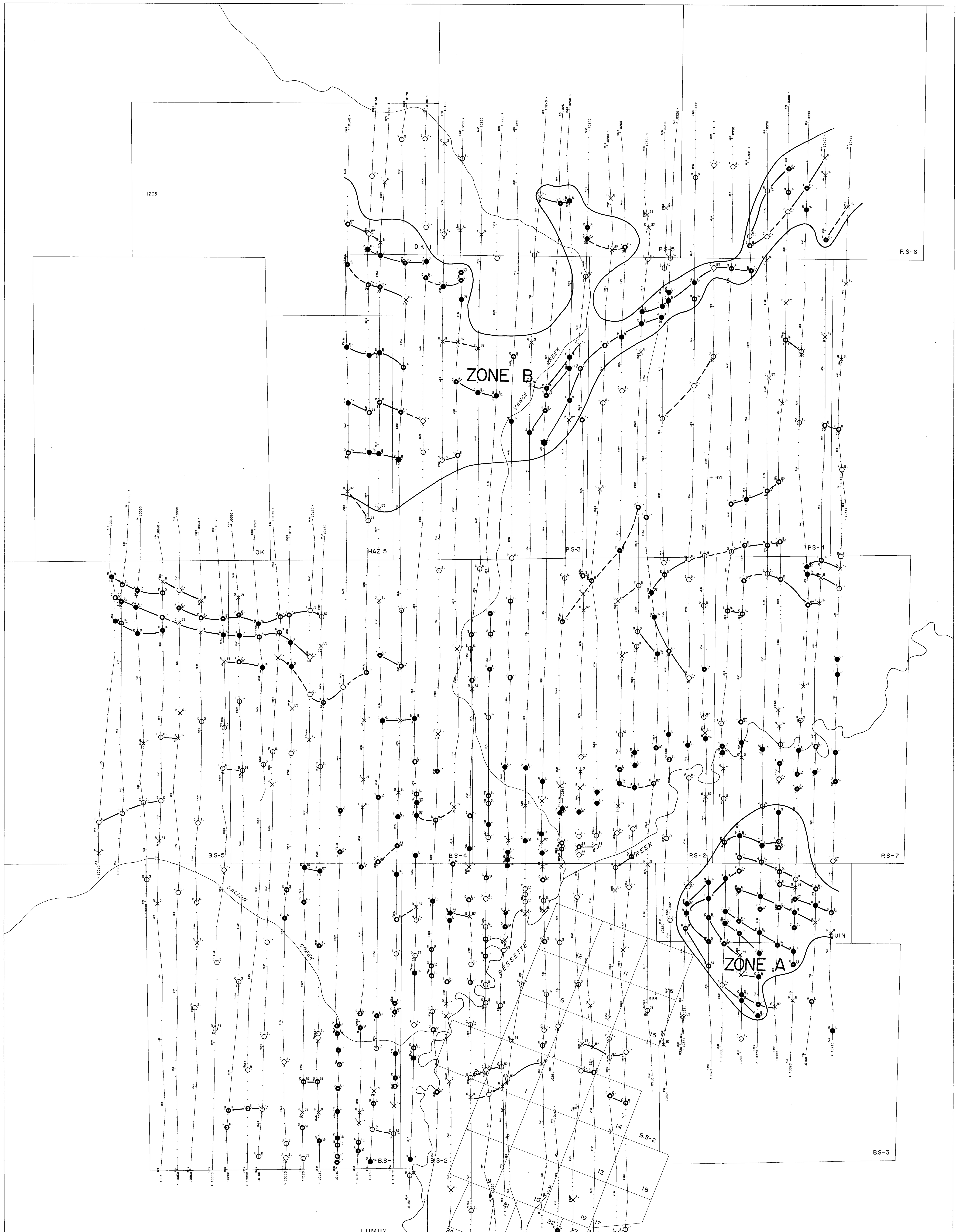
QUINTO MINING CORP

SOIL GEOCHEMISTRY

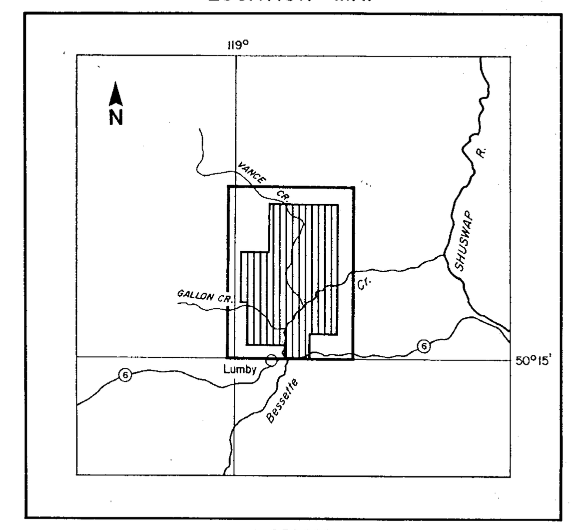
FIG. 4a,4b,4c

E. J. S.	DEC.1, 86	1:5000	FIG.4:a,b,c

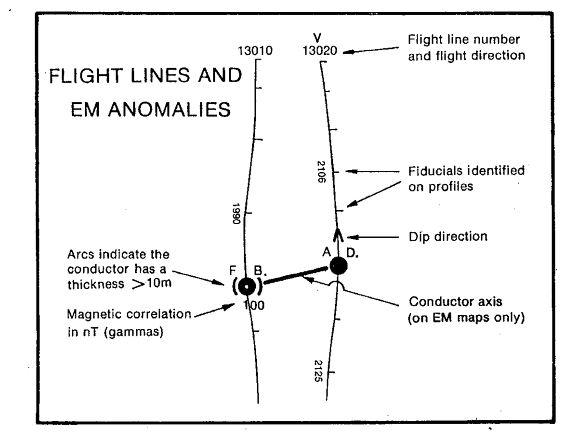

LOCATION MAP
N
Lumby
50°15'
1:250000
+ 1265
P.S-6
D.K-1
P.S-5
VANCE CREEK
OK
HAZ 5
P.S-3
P.S-4
B.S-5
B.S-4
P.S-2
P.S-7
GALLON CREEK
BESSETTE CREEK
QUIN
B.S-1
B.S-2
B.S-3
LUMBY
FLIGHT LINES AND EM ANOMALIES
13010
V 13020
Flight line number and flight direction
Fiducials identified on profiles
Dip direction
Arcs indicate the conductor has a thickness >10m
Magnetic correlation in nT (gammas)
Conductor axis (on EM maps only)
LEGEND
Contours in percent
10
2
1
The numbers face in the direction of increasing value
Amplitude
REJECT
ACCEPT
Cycles/metre
Frequency response of VLF-EM filter
ANOMALY GRADE | EM GRADE SYMBOL | CONDUCTANCE RANGE (MHOS)
6 > 99
5 50—99
4 20—49
3 10—19
2 5— 9
1 < 5
--- Indeterminate
DIGHEM anomalies are divided into six grades of conductivity-thickness product. This product in mhos is a measure of conductance.
anomaly "name"
interpretive symbol
Depth is greater than · 15 m : 30 m ⋮ 45 m ⋮ 60 m
Inphase and Quadrature of Coaxial Coil is greater than . 5 ppm .. 10 ppm ... 15 ppm .... 20 ppm
Interpretive symbol | Conductor ("model")
B. Bedrock conductor
D. Narrow bedrock conductor ("thin dike")
S. Conductive cover ("horizontal thin sheet")
H. Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space")
E. Edge of broad conductor ("edge of half space")
L. Culture, e.g. power line, building, fence
GEOLOGICAL BRANCH
ASSESSMENT REPORT
15,340
THE QUINTO MINING CORPORATION
LUMBY PROJECT
FILTERED VLF (CUTLER)
BY DIGHEM SURVEYS & PROCESSING INC.
DIGHEM III SURVEY
GEOPHYSICIST:
DRAFTING By: R.2.
DATE: OCT. 86
JOB: 262
SHEET: FIG 5
Scale 1:10000
0 1 Km
0 0.5 Miles



LOCATION MAP



1:250 000



ANOMALY GRADE	EM GRADE SYMBOL	CONDUCTANCE RANGE (MHOS)
6	●	> 99
5	✸	50—99
4	●	20—49
3	◉	10—19
2	○	5—9
1	○	< 5
—	X	Indeterminate

DIGHEM anomalies are divided into six grades of conductivity-thickness product. This product in mhos is a measure of conductance.

anomaly "name" → C ● H. ← interpretive symbol

Depth is greater than	
·	15 m
:	30 m
⋮	45 m
⁞	60 m

Inphase and Quadrature of Coaxial Coil is greater than	
.	5 ppm
..	10 ppm
...	15 ppm
....	20 ppm

Interpretive symbol	Conductor ("model")
B.	Bedrock conductor
D.	Narrow bedrock conductor ("thin dike")
S.	Conductive cover ("horizontal thin sheet")
H.	Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space")
E.	Edge of broad conductor ("edge of half space")
L.	Culture, e.g. power line, building, fence

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THE QUINTO MINING CORPORATION
LUMBY PROJECT

ELECTROMAGNETIC ANOMALIES
BY DIGHEM SURVEYS & PROCESSING INC.

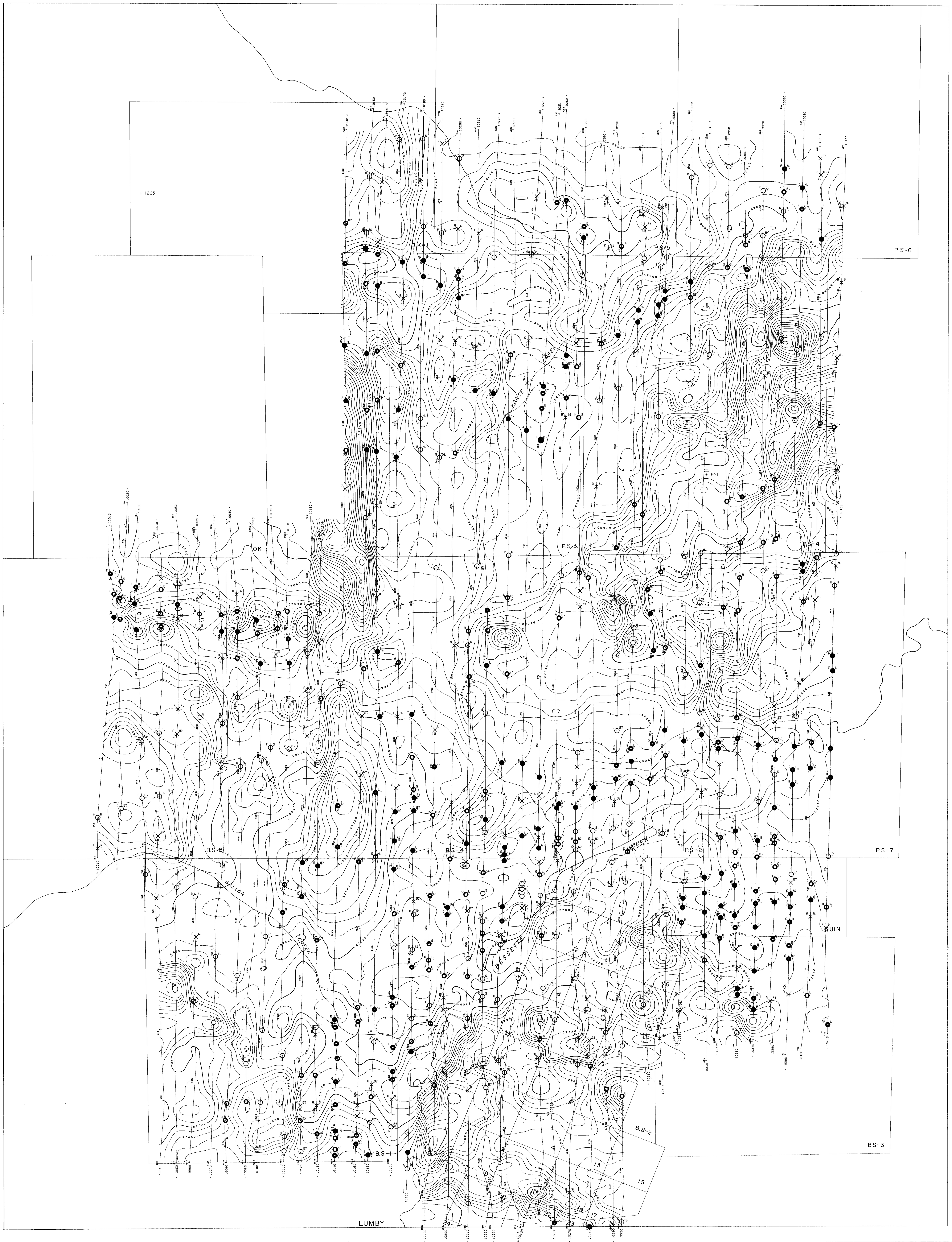
DIGHEM III SURVEY	GEOPHYSICIST:	DRAFTING By: R.Q.
DATE: OCT. 86	JOB: 262	SHEET: FIG 6

Scale 1:10000

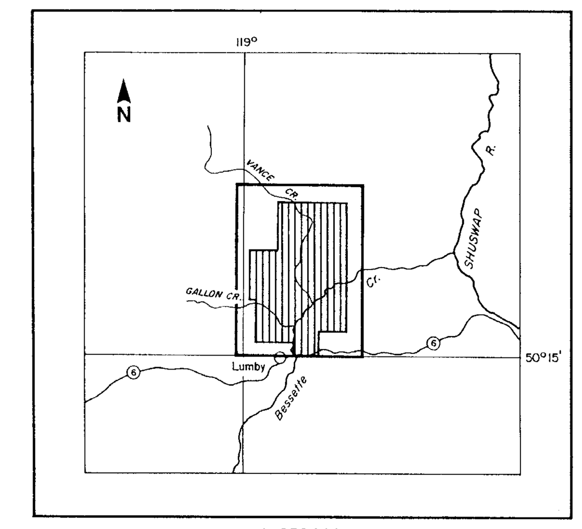
0 — 1 Km

0 — 0.5 Miles

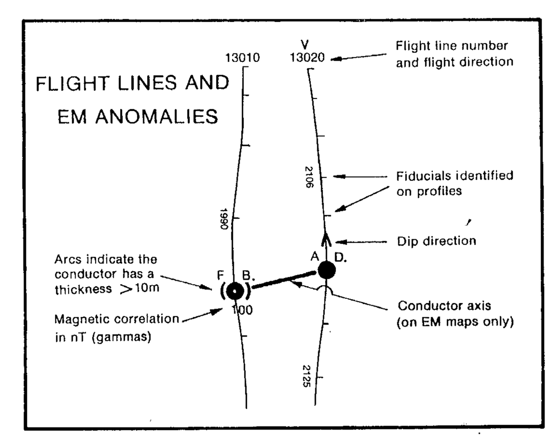
6



LOCATION MAP



1:250000



ISOMAGNETIC LINES
(total field)

500	500 nT
100	100 nT
20	20 nT
- - - -	10 nT
	magnetic depression

Magnetic Inclination within the survey area: 73°

ANOMALY GRADE	EM GRADE SYMBOL	CONDUCTANCE RANGE (MHOS)
6	●	> 99
5	✸	50—99
4	●	20—49
3	◉	10—19
2	O	5— 9
1	○	< 5
—	X	Indeterminate

DIGHEM anomalies are divided into six grades of conductivity-thickness product. This product in mhos is a measure of conductance.

anomaly "name" → C ● H. ← interpretive symbol

Depth is greater than	Inphase and Quadrature of Coaxial Coil is greater than
· 15 m	, 5 ppm
: 30 m	.. 10 ppm
⋮ 45 m	... 15 ppm
⋮ 60 m	.... 20 ppm

Interpretive symbol	Conductor ("model")
B.	Bedrock conductor
D.	Narrow bedrock conductor ("thin dike")
S.	Conductive cover ("horizontal thin sheet")
H.	Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space")
E.	Edge of broad conductor ("edge of half space")
L.	Culture, e.g. power line, building, fence

GEOLOGICAL BRANCH ASSESSMENT REPORT

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THE QUINTO MINING CORPORATION
LUMBY PROJECT

TOTAL FIELD MAGNETICS
BY DIGHEM SURVEYS & PROCESSING INC.

DIGHEM III SURVEY	GEOPHYSICIST: [signature]	DRAFTING By: R. 2.
DATE: OCT. 86	JOB: 262	SHEET: FIG 7

Scale 1:10000

0 — 1 Km

0 — 0.5 Miles