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ACTION:	
FILE NO:	

ASSESSMENT REPORT
ON THE
KING-CONSOAT PROPERTY
AIRBORNE GEOPHYSICS PROGRAM
King 1-4, and Nat Claims

Skeena Mining Division
NTS 104B/7
Latitude 56°28'N
Longitude 130°33'W
British Columbia

FILMED

July 24, 1989

SUB-RECORDER
RECEIVED
AUG 17 1989
M.R. # _____ \$
VANCOUVER, B.C.

by

D.W. Mallo
Prime Explorations Ltd.
and
Z. Dvorak
Aerodat Limited

18,987

GEOLOGICAL BRANCH
ASSESSMENT REPORT

Owner:

CREST RESOURCES LTD.
PRIME CAPITAL PLACE
11th Floor, Box 10
808 West Hastings Street
Vancouver, British Columbia
V6C 2X4

Operator:

CORPTECH INDUSTRIES INC.
PRIME CAPITAL PLACE
11th Floor, Box 10
808 West Hastings Street
Vancouver, British Columbia
V6C 2X4

KING-CONSOAT PROPERTY

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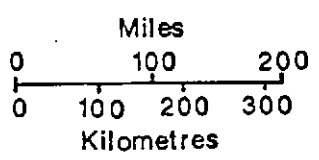
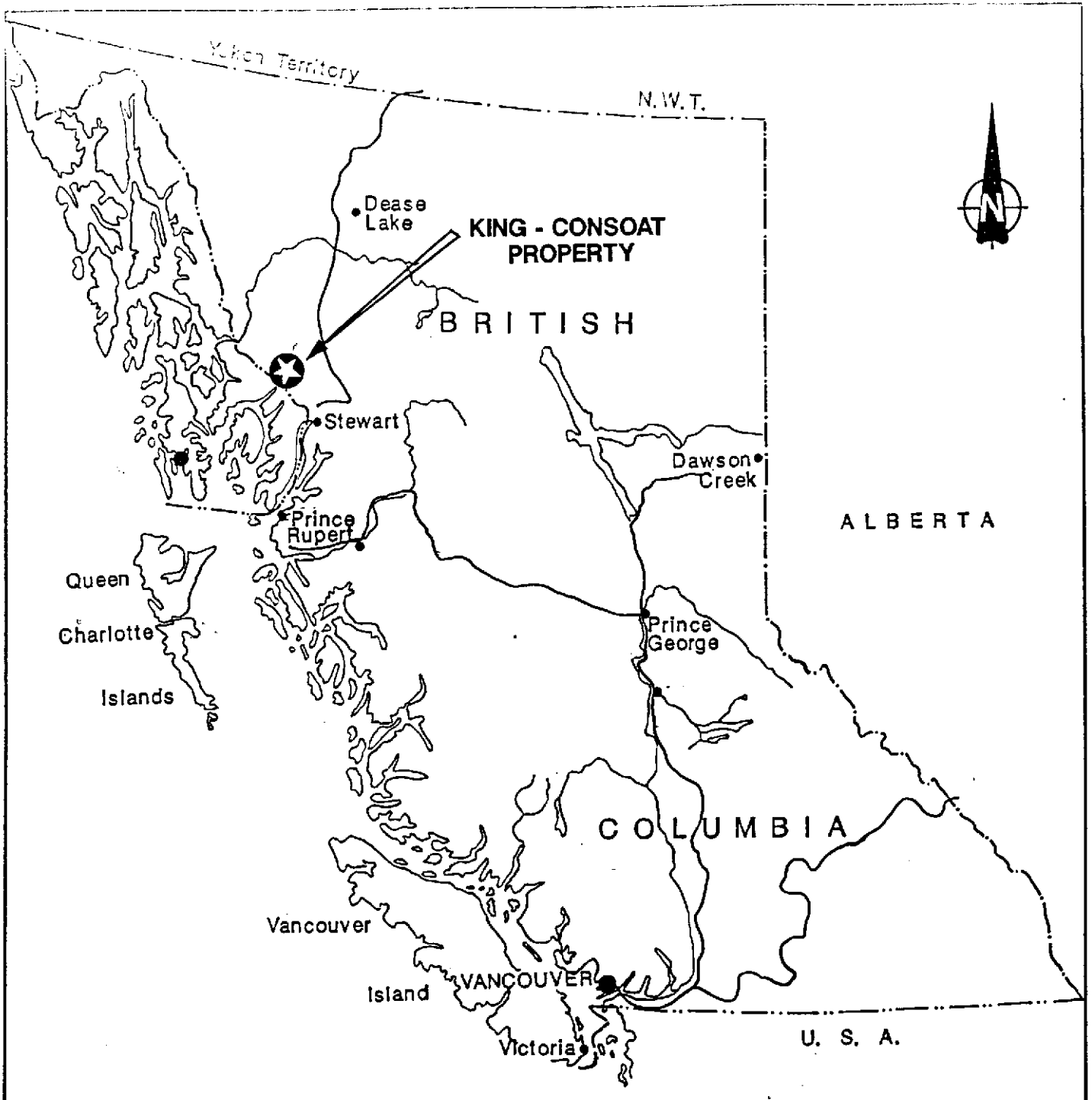
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SUMMARY

This report covers an airborne geophysical survey: Magnetic, Electromagnetic and VLF-EM, flown on the King-Consoat Property on behalf of Corptech Industries Inc., between February 6 and 11, 1989. The survey cost \$19,000 and covered 196.87 line-kilometres over six claims. This work is submitted for assessment credit on five of the claims, King 1-4 and Nat.

The claims are owned by Crest Resources Ltd. They lie approximately 80 kilometres northwest of Stewart, British Columbia and 35 kilometres southeast of the Cominco Limited SNIP Deposit, on the north side of the Unuk River.

Minor geological mapping, and geochemical and ground geophysical surveys have been conducted on the property since the 1970's. Copper-gold soil anomalies were defined and mineralization appears to be associated with a discordant intrusive body on the King claims and a fault zone on the Consoat claim.



PRIME EXPLORATIONS LTD.
 CORPTECH INDUSTRIES INC.
KING - CONSOAT PROPERTY
LOCATION MAP
 Figure 1

Date: July 17, 1989
 Drafted by: E.R.

INTRODUCTION

Objective

The objective of the 1989 airborne geophysical survey was to define areas of possible precious metal anomalies reflected by magnetic, electromagnetic and VLF-EM surveys, so that further exploration on the property will have a basis. The geophysical report and maps are included as Appendix I in this report.

Location and Access

The King-Consoat Property is located immediately north of the Unuk River and west of Harrymel Creek, between the active gold camps of the Iskut River and Sulphurets in northwestern British Columbia. The property is approximately 80 kilometres northwest of Stewart, British Columbia and lies at Latitude 56 28'N and Longitude 130 33'W, NTS Reference Map 104B/7. (Figure 1)

Access is by helicopter only, either from the Skyline or Cominco airstrips, 35 kilometres to the northwest, which are serviced by frequent scheduled and charter flights from Smithers and Terrace.

Property Description

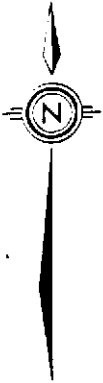
The King-Consoat Property consists of six claims totalling 62 units, situated within the Skeena Mining Division. (Figure 2) The recorded owner of all the claims is Crest Resources Ltd. Pertinent claim information is as follows:

Table 1
LIST OF CLAIMS

<u>Claim Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Record Date</u>	<u>Expiry Date *</u>
KING 1	5454	8	July 28, 1986	July 28, 1991
KING 2	5455	8	July 28, 1986	July 28, 1991
KING 3	5456	8	July 28, 1986	July 28, 1991
KING 4	5457	8	July 28, 1986	July 28, 1991
NAT	6308	10	July 31, 1987	July 31, 1991
CONSOAT	6044	20	April 6, 1987	April 6, 1992

* Based on this assessment report - 2 years on each of the KING 1-4 and NAT claims.

130°32'



TERWILLIGEN CREEK

56°30'

CONSOAT
CLAIM
6044(4)

NAT
6308(7)

KING 1
5454(7)

KING 2
5455(7)

HARRYMEL CREEK

LEN KING CREEK

56°28.5'

HAWILSON LAKE

KING 3
5456(7)

KING 4
5457(7)

PEARLY LAKE

UNUK RIVER



PRIME EXPLORATIONS LTD
CORPTECH INDUSTRIES INC.

KING-CONSOAT PROPERTY

CLAIM MAP Fig: 2

BRITISH COLUMBIA
DATE: JULY 17, 1989

NTS:104 B/7E
DRAFTED By: B.R.

Physiography, Vegetation and Climate

Relief in the area of the property varies from approximately 470 to 1,620 metres above sea level. King Creek bisects the property from west to east and deeply incised, steep-walled creeks drain into it. The precipitous nature of this area makes ground surveying difficult, however, the northern and southern portions of the claims are on broad ridge tops.

Treeline is at approximately 1,200 metres with stunted alpine spruce above this level and dense growths of slide alder, devils club, willows and mature conifers below 1,200 metres.

Snowfall is heavy in the area and remains generally until early July, creating a relatively short field season until mid-September.

Property History

Most of the activity to date in this area has centred around Bronson Creek on the Iskut River where the SNIP Deposit and the Johnny Mountain Mine are located. Discovery of these properties created a staking rush in the mid-1980's that spread south to the Unuk River. Previous work on this ground in the 1970's and early 1980's consisted primarily of geological mapping and geochemical surveys. A limited ground Induced Polarization survey was conducted in 1976-77.

A government reconnaissance geochemical silt sampling program in 1987 resulted in four sample sites that lie within or drain areas covered by the King 1-4, Nat, and Consoat claims. These samples produced anomalous values in gold, copper, cadmium and antimony. A 1987 geological report for Crest Resources Ltd. determined that chalcopyrite, malachite, azurite, and gold-silver occur with an intrusive in association with quartz micro-veining or stockworks. Cominco conducted a 1988 geological and geochemical survey on the claims further proved the occurrence of a gold anomaly on the King claims and delineated mineralization associated with the Gossan Creek fault zone on the Consoat claim.

Property and Regional Geology

The property is underlain by members of the upper Triassic Takla Group ranging from siltstone to conglomerate. The south-west quadrant of the property features undifferentiated volcanic sediments, tuffs, limestone and chert of the lower Jurassic Unuk River Formation, as well as an elongate phyllite/semischist/schist unit of Jurassic age. An Eocene granodiorite plug

encroaches on the northwestern part of the claims.

The most prominent faults trend north-northeasterly and are clearly evident as strong topographic linears. The Gossan Creek Fault can be traced up the creek and across flatter areas on the broad ridge top, on the Consoat claim.

The regional geology has been defined as the Stewart Complex, which encompasses some late Paleozoics and a thick succession of Mesozoic strata. This is bounded by the Coast Plutonic Complex to the west, the Bowser Basin to the east, and geographic margins of Alice Arm to the south and the Iskut River to the north.

The oldest units in the complex are Upper Triassic epiclastic volcanics, marbles, sandstones and siltstones, overlain by sedimentary and volcanic rocks of the Jurassic Hazelton Group. The Unuk River Formation consists predominantly of volcanic rocks and sediments and forms an angular unconformity with the underlying late Triassic rocks. Betty Creek volcanoclastics unconformably overlie the Unuk River Formation and the Salmon River Formation of siltstones and lithic wackes form a conformable to disconformable contact with the underlying Betty Creek Formation. The Nass Formation of argillites overlies the Salmon River Formation. These volcanic and sedimentary successions were intruded by the Coast Plutonic Complex during the Cretaceous and Tertiary periods with a wide variety of intrusive phases, including granodiorite, quartz monzonite and diorite. Small satellite plugs from the main batholith can be important for localizing mineralization.

Conclusions and Recommendations

The results of this survey will be used for delineating anomalous areas on the property where ground surveys will proceed to further define mineralized zones.

Bibliography

DEWONCK, B; 1988, Report on the King-Consoat Claims for Majorteck Industries Incorporated.

GEOLOGICAL SURVEY OF CANADA, BRITISH COLUMBIA MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES; 1988, National Geochemical Reconnaissance, 1:250,000 Map Series, Iskut River, B.C. (NTS 104B).

POLONI, J.R.; 1987, Report on the King (1-4) Mineral Claims, Skeena Mining Division, B.C. for Crest Resources Ltd.

WESTCOTT, M.G.; 1988, Assessment Report on Geological and Geochemical Work on the King (1-4) and Consoat Mineral Claims, Skeena Mining Division, B.C. for Cominco Ltd.



3883 NASHUA DRIVE • MISSISSAUGA • ONTARIO • CANADA • L4V 1R3
Telephone: (416) 671-2446 Telex: 06-968872 Fax: (416) 671-8160

Invoice No: 20-8901-0149

Date: April 28, 1989

Corptech Industries
c/o Prime Capital Place
10th floor, 808 West Hastings St.
Vancouver, B.C.

Attn: Mr. J. Foster

In Account With:

Aerodat Limited
3883 Nashua Drive
Mississauga, Ontario
L4V 1R3

Re: Airborne Geophysical Survey - Iskut River Area, B.C.
King-Corsical Claims

Total cost of survey \$19,182.67

Amount Due \$19,182.67



3883 NASHUA DRIVE • MISSISSAUGA • ONTARIO • CANADA • L4V 1R3
Telephone: (416) 671-2446 Telex: 06-968872 Fax: (416) 671-8160

June 9, 1989

Corptech Industries Inc.
11th Floor - Box 10
808 West Hastings Street
Vancouver, British Columbia
V6C 2X6

Dear Sirs:

We would like to confirm that the following claims were surveyed by Aerodat during the time period listed below.

<u>Claim Name</u>	<u>Record No.</u>	<u>Survey Dates</u>
King 1	5454	February 6-11, 1989
King 2	5455	February 6-11, 1989
King 3	5456	February 6-11, 1989
King 4	5457	February 6-11, 1989
Consoat	6044	February 6-11, 1989
Nat	6308	February 6-11, 1989

Preliminary estimated cost of the survey is calculated to be \$19,000.00. Survey data is currently being compiled and interpreted, and Aerodat anticipates the delivery of a finished report, meeting claim assessment requirements, within about one month.

Thank you for choosing Aerodat, and should you require further information in regards to the survey, please do not hesitate to contact us.

Yours truly,

AERODAT LIMITED

A handwritten signature in cursive script, reading "Douglas H. Pitcher".

**Douglas H. Pitcher,
Vice President**

DP/ml

APPENDIX I
Airborne Geophysical Survey

**REPORT ON A
COMBINED HELICOPTER-BORNE
MAGNETIC, ELECTROMAGNETIC AND VLF
SURVEY
UNUK RIVER-AREA 1
BRITISH COLUMBIA**

**FOR
GOLDNEV RESOURCES INC.
AND
CORPTECH INDUSTRIES INC.
BY
AERODAT LIMITED
July 19, 1989**

J8901-3

**Z. Dvorak
Consulting Geophysicist**

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LIST of MAPS
(Scale 1:10,000)

Basic Maps : (As described under Appendix "B" of Contract)

- 1. PHOTOMOSAIC BASE MAP;**
Showing registration crosses corresponding to NTS coordinates on survey maps, on stable Cronaflex film.
- 2. FLIGHT LINES;**
Photocombination of flight lines, anomalies and fiducials with base map.
- 3. AIRBORNE ELECTROMAGNETIC SURVEY INTERPRETATION MAP;**
showing conductor axes and anomaly peaks along with conductivity thickness values; on a Cronaflex base; Interpretation Report.
- 4. TOTAL FIELD MAGNETIC CONTOURS;**
showing magnetic values contoured at 2 nanoTesla intervals; on a Cronaflex base map.
- 5. VERTICAL MAGNETIC GRADIENT CONTOURS;**
showing vertical gradient values contoured at 0.1 nanoTesla per metre intervals showing flight lines and fiducials; on a Cronaflex base map.
- 6. RESISTIVITIES CALCULATED FROM 4175 Hz COPLANAR COILS;**
contoured data at logarithmic spaced resistivity intervals (in ohm.m.), on a base map.
- 7. VLF-EM TOTAL FIELD CONTOURS;**
of the VLF Total field from the Cutler, Maine transmitter; as a Cronaflex base map.
- 8. ELECTROMAGNETIC ANOMALIES;**
showing anomaly peaks along with conductivity thickness values on clear acetate film.

1. INTRODUCTION

This report describes an airborne geophysical survey carried out on behalf of Prime Explorations Limited by Aerodat Limited. Equipment operated during the survey included a four frequency electromagnetic system, a high sensitivity cesium vapour magnetometer, a two frequency VLF-EM system, a video tracking camera, and a radar altimeter.

Electromagnetic, magnetic, and altimeter data were recorded both in digital and analog forms. Positioning data was encoded on VHS format video tape, as well as being marked on the flight path mosaic by the operator while in flight.

The survey area, comprising a single survey block in the Iskut-Unuk Rivers area, and situated approximately 80 kilometres northwest of Stewart, British Columbia, was flown during the period of February 2 to April 17, 1989. Data from eighteen flights were used to compile the survey results. The flight line orientation was east-west, and the nominal flight line spacing was 100 metres. Coverage and data quality were considered to be well within the specifications described in the service contract.

The purpose of the survey was to record airborne geophysical data over and around ground that is of interest to Prime Explorations Limited.

A total of 1,348 line kilometres of the recorded data were compiled in map form. The maps are presented as part of this report according to specifications laid out by Prime Explorations Limited.

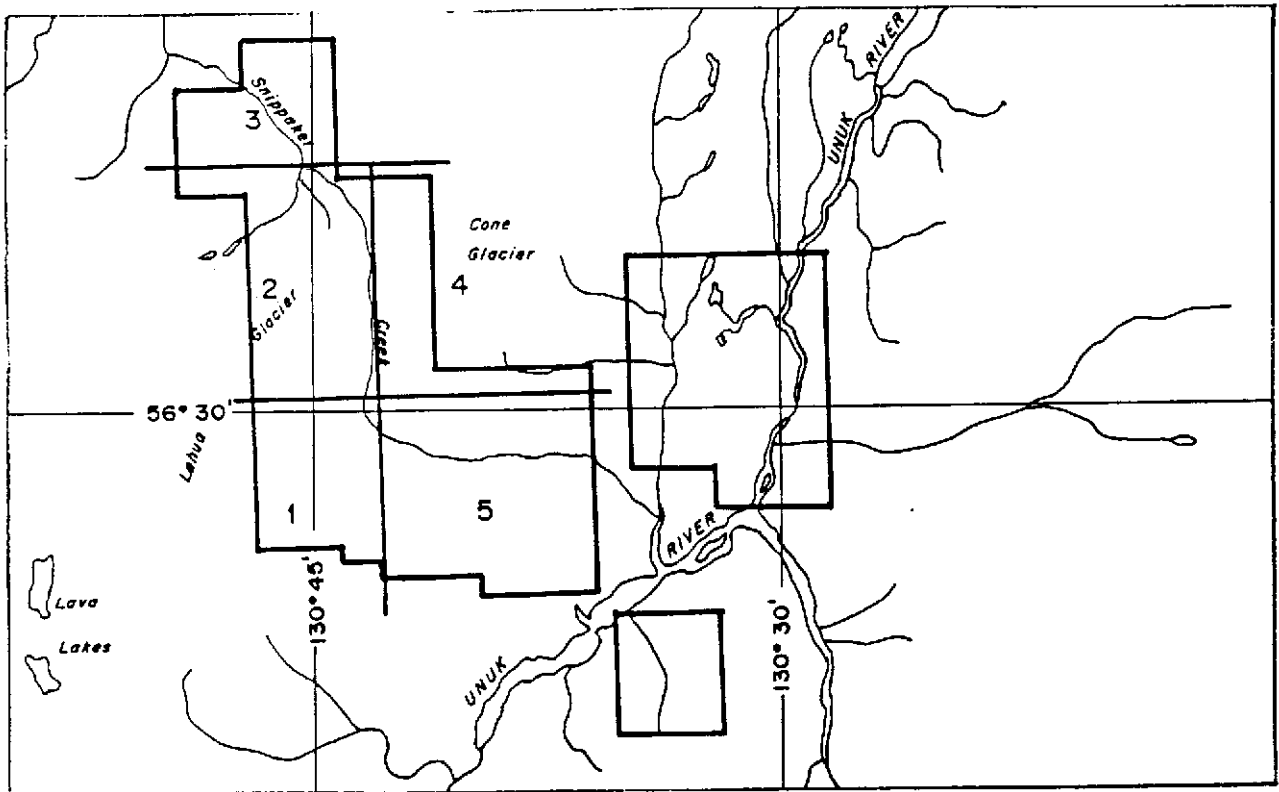
2. SURVEY AREA LOCATION AND CLAIMS COVERED

The survey area is depicted on the index map shown below. It is centred at approximate geographic latitude 56 degrees 30 minutes north, longitude 130 degrees 45 minutes west, approximately 80 kilometres northwest of the town of Stewart, British Columbia, and 35 kilometres east of the Bronson Creek (Snip) airstrip (NTS Reference Maps Nos. 104B and 104C). The area is accessed by helicopter from Bronson, Stewart, or Bell II on the Cassiar-Stewart Highway.

The Golden Nevada claim group block consists of the following claim blocks:

Julian Lake	Golden Nevada (ARGO)
King-Consoat	CORPTECH.

The terrain in the area is very rugged with elevation varying from approximately 475 m a.s.l. to in excess of 2,050 m a.s.l. Extensive areas are covered by icefields which may adversely affect the electromagnetic responses.



3. AIRCRAFT AND EQUIPMENT

3.1 Aircraft

An Aerospatiale SA 315B Lama helicopter, (C-GXYM), piloted by R. Hage and J. Kamphaus, owned and operated by Peace Helicopters Limited, was used for the survey. The Aerodat equipment operators and navigators were J. Huisman, K. McCart and V. Cole. Installation of the geophysical and ancillary equipment was carried out by Aerodat. The survey helicopter was flown at a mean terrain clearance of 60 metres, while the EM sensors have a ground clearance of 30 metres.

3.2 Equipment

3.2.1 Electromagnetic System

The electromagnetic system was an Aerodat 4 frequency system. Two vertical coaxial coil pairs are operated at 935 Hz and 4600 Hz and two horizontal coplanar coil pairs at 4175 Hz and 32 kHz. The transmitter-receiver separation was 7 metres. Inphase and quadrature signals were measured simultaneously for the 4 frequencies with a time constant of 0.1 seconds. The electromagnetic bird was towed 30 metres below the helicopter.

3.2.2 VLF-EM System

The VLF-EM System was a Herz Totem 2 A. This instrument measures the total field and quadrature component of the selected frequency. The sensor was towed in a bird 12 metres below the helicopter. The transmitting station used was NAA, Cutler, Maine broadcasting at 24.0 kHz. This station is maximum coupled with E-W striking conductors and provides usable results for strikes +/- 30 degrees.

3.2.3 Magnetometer

The magnetometer employed a Scintrex Model VIW 2321 H8 cesium, optically pumped magnetometer sensor. The sensitivity of this instrument was 0.1 nanoTeslas at a 0.1 second sampling rate. The sensor was towed in a bird 12 metres below the helicopter.

3.2.4 Magnetic Base Station

An IFG (GEM 8) proton precession magnetometer was operated at the base of operations 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 facilitate later correlation.

3.2.5 Radar Altimeter

A King KRA 10 radar altimeter was used to record terrain clearance. The output from the instrument is a linear function of altitude for maximum accuracy.

3.2.6 Tracking Camera

A Panasonic video flight path recording system was used to record the flight path on standard VHS format video tapes. The system was operated in continuous mode and the flight number, real time and manual fiducials were registered on the picture frame for cross-reference to the analog and digital data.

3.2.7 Analog Recorder

An RMS dot-Matrix recorder was used to display the data during the survey. In addition to manual and time fiducials, the following data was recorded:

Channel	Input	Scale
CXI1	Low Frequency Inphase Coaxial	25 ppm/cm
CXQ1	Low Frequency Quadrature Coaxial	25
CXI2	High Frequency Inphase Coaxial	25
CXQ2	High Frequency Quadrature Coaxial	25
CPI1	Mid Frequency Inphase Coplanar	100ppm/cm
CPQ1	Mid Frequency Quadrature Coplanar	100

Channel	Input	Scale
CPI2	High Frequency Inphase Coplanar	200
CPQ2	High Frequency Quadrature Coplanar	200
VLQ	VLF-EM Total Field, Line NAA	25 %/cm
VLQ	VLF-EM Quadrature, Line NAA	25 %/cm
VOT	VLF-EM Total Field, Ortho NLK	25 %/cm
VOQ	VLF-EM Quadrature, Ortho NLK	25 %/cm
RALT	Radar Altimeter, (150 m. at top of chart)	100ft/cm
MAGF	Magnetometer, fine	25nT/cm
MAGC	Magnetometer, coarse	250nT/cm

3.2.8 Digital Recorder

A DGR 33:16 data system recorded the survey on magnetic tape.

Information recorded was as follows:

Equipment	Recording Interval
EM System	0.1 seconds
VLF-EM	0.2 seconds
Magnetometer	0.1 seconds
Altimeter	0.5 seconds
Power Line Monitor	0.2 seconds

4. DATA PRESENTATION

4.1 Base Map

An orthophoto mosaic base at a scale of 1:10,000 was prepared as a base map for the project data. The final data is presented on an unscreened Cronaflex base.

Recovery of a number of points ensures that the visibly recovered coordinates are accurately registered to the base topography.

4.2 Electromagnetic Anomaly Map

4.2.1 Flight Path

The flight path for the survey area was recovered from the VHS video tracking tapes by transferring the time at which the helicopter passed over a recognizable feature onto the photomosaic. These coordinates were then digitized into the database and formed the basis of the flight path data.

The flight lines have the flight number as an additional reference and the camera frame, time, and the navigator's manual fiducials for cross reference to both analog and digital data.

4.2.2 Electromagnetic Data Compilation

The electromagnetic data was recorded digitally at a sample rate of 10 per second with a time constant of 0.1 seconds. A two stage digital filtering process was carried out to reject major sferic events to reduce system noise.

Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude, but leave a broader residual response that can be confused with geological phenomenon. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events. The signal to noise ratio was further enhanced by the application of a low pass digital filter. It has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 0.25 seconds. This low effective time constant permits maximum profile shape resolution.

Following the filtering process, a base level correction was made. The correction amplitude of the various inphase and quadrature components is zero when no conductive or permeable source is present. The filtered and levelled data was used in the interpretation of the EM data.

4.2.3 Airborne EM Interpretation

An interpretation of the electromagnetic data was prepared showing peak locations of anomalies and conductivity thickness ranges along with the inphase amplitudes (computed from the 4600 Hz coaxial response). The peak response symbols may be referenced by a sequential letter, progressing in the original flight direction. The EM response profiles are presented on a separate map with an expanded horizontal scale across the geological strike.

4.3 Total Field Magnetic Contours

The aeromagnetic data was corrected for diurnal variations by adjustment with the digitally recorded base station magnetic values. No correction for regional variation (IGRF) was applied. The corrected profile data was interpolated onto a regular grid at a 25 metre true scale interval using a cubic spline technique. The grid provided the basis for threading the presented contours at a 2 nanoTesla interval. The aeromagnetic data have been presented with flight path on a Cronaflex copy of the photomosaic base map.

4.4 Vertical Magnetic Gradient Contours

The vertical magnetic gradient was calculated from the gridded total field magnetic data. Contoured at a 0.1 nT/m interval, the gradient data were presented on a Cronaflex copy of the base map.

4.5 VLF-EM Total Field

The VLF-EM signals from NAA, Cutler, Maine broadcasting at 24.0 kHz, were compiled as contours in map form and presented on a Cronaflex overlay of the photomosaic base map along with flight lines. The orthogonal VLF data was also recorded on the analog records and on digital tape.

4.6 EM Resistivity Contours

The apparent resistivity was calculated from the 4175 Hz coplanar coil pair and the resultant contours are presented on a base map. The calculations are based on a half space model. This is equivalent to a geological unit with more than 200 metres width and strike length. In practice, conductors, conductive lithologies and surficial conductors often have lesser dimensions, at least in one of the three dimensions. Apparent resistivities are usually underestimated for these sources.

5. INTERPRETATION

5.1 Geology

Limited geological information was provided by the Prime Explorations Ltd.

Comments made in this paragraph are paraphrased from an internal geologic report prepared by J.Blackwell and liberally extrapolated to the general area geology. They are incomplete and intended to serve as an introductory guide only.

The survey area is located within the Intermontane Tectonic Belt which contains Stikine terrane rock assemblages. The Unuk River area is underlain by Upper Triassic to Lower Jurassic volcanic and sedimentary arc-related units. These thick, weakly metamorphosed units are overlain by Middle Jurassic successor basin sedimentary units. Large scale northeast plunging vertical folds and major north trending cataclystic and fault zones are believed to be related to late Jurassic to early Cretaceous plutons and orogenesis. There is also some evidence of late Triassic deformation.

Regional geologic mapping by the GSC, the British Columbia Ministry of Energy, Mines and Petroleum Resources, and Newmont Mining has produced selective areal map coverage. Government geologic reconnaissance mapping is continuing, and revisions and improvements to the current geologic understanding are expected.

Stihini Group rocks (Upper Triassic volcanics and sedimentary rocks) occur east of Unuk River and west of Harrymel Creek. They include deformed and metamorphosed siltstone, wackes, conglomerate, and limestone, overlain by basalt and andesite flows and breccias. Dacite pyroclastic tuffs and breccias are also present on a local scale.

Hazleton Group comprises Unuk River Formation, Betty Creek Formation, Mount Dilworth Formation, and Salmon River Formation.

The Lower Jurassic Unuk River Formation occurs at moderate elevations east of Unuk River and west of Harrymel Creek. Green andesite tuffs, flows and pyroclastic rocks intercalated with wackes, siltstone and minor conglomerate are dominant.

The Lower Jurassic Betty Creek Formation, outcropping throughout the Unuk River valley, overlies the Unuk River Formation. It comprises volcanoclastic conglomerate, andesite and dacite pyroclastic tuff and breccias with intercalated grit and arenaceous wackes.

Overlying the Betty Creek Formation is the Mount Dilworth Formation. It outcrops on the Prout Plateau, west of Harrymel Creek, at higher elevations, and east of Unuk River. It comprises dacite to rhyolite pyroclastic breccias, bedded tuff and flow breccias.

The late Lower Jurassic Salmon River Formation comprises a sequence of grey siltstone, chert, and limestone. It outcrops north and west of the Prout Plateau.

Bowser Group - Ashman Formation Middle Jurassic units occur on the Prout Plateau in the vicinity of Tom McKay Lake. These rocks include chert pebble conglomerate, grey to black mudstone and wackes, and limestone and volcanic flows.

Cenozoic to Recent subareal olivine basalt flows occur frequently. Deposits are widespread in the major river valleys and in the Cone Glacier area. Numerous felsic and mafic dykes occur locally.

No intrusive rocks were located on the Prout Plateau. Elsewhere in the general area, a variety of intrusives were reported. Regional metamorphic grade is lower greenschist. The grade increases locally to lower amphibolite. Upright to slightly overturned vertical folds are documented with fold axes at 20 to 35 degrees north, plunging 0 to 15 degrees north. Documented faults and other structures are rare. A major 150 degree north trending shear zone cuts through the lower Unuk River valley. Further to the north, it bifurcates or joins a major north trending mylonite band in the Harrymel Creek valley and a major vertical fault in the Clouter and Argillite Creek valleys.

5.2 Magnetics

The magnetic data from the high sensitivity cesium magnetometer provided virtually continuous magnetic reading when recording at one-tenth second intervals. The system is also noise free for all practical purposes. The sensitivity of 0.1 nT allows for the mapping of very small inflections in the magnetic field, resulting in a contour map that is comparable in quality to ground data.

The total magnetic field in the survey area varies over a broad range of values, from less than 56,800 nT to more than 59,970 nT. Northern, southwestern, and south-central parts of the area are characterized by high, frequently varying magnetic field. In contrast, the central and southeastern portions of the area display low amplitude, slowly varying field.

Prominent linear features occur in areas of high magnetic field. They are particularly well portrayed on the calculated vertical gradient map. The most apparent of these anomalies is a linear anomaly extending from the west end of lines 6640 to 6660 in a southeasterly direction toward the central portion of lines 1300 to 1330, where it changes direction to east-westerly. The anomaly may assume further strike change at the east survey boundary but its definition is poor due to the limited areal coverage. It is proposed that the anomaly reflects a dike which may occur along a zone of structural weakness. In its northwest portion, the anomaly correlates closely with Snippaker Creek valley which may be significant. The valley continues further

southwest, but no correlating magnetic anomaly is evident on the total field map.

Another linear anomaly is situated at the west end of lines 1560 to 1400. It correlates with high ground which may be interpreted as being due to a flat lying sheet of magnetized material, e.g., volcanic flow. On line 1400, the anomaly changes the strike direction from north-south to northwest-southeast. Further south, it may become part of a complex semi-circular suite of anomalies which are associated with a ridge bordering the Lehua Glacier from the north.

Oval shaped magnetic patterns located in the north part of the area (sheet 3) immediately east of the aforementioned dike suggest folding or complex intrusion. Similar magnetic patterns are also found in the south-central part of the area, being confined approximately to the central portion of lines 460 to 510. The entire south-central and southwest part of the area contains a number of magnetic anomalies which most likely reflect intrusive bodies.

The total field and the calculated vertical gradient maps display distinct "zoning" which is interpreted to indicate geologic contacts and faults. For example, low, slowly varying magnetic field in the eastern part of sheet 5 corresponds with the outline of volcanics on the preliminary government geology map. This is seen as confirmation of the general geologic trend although one would expect volcanics to produce distinct magnetic response. Similarly, the central part of the area (most of

sheet 2 and northwest portion of sheet 4) contains a broad zone of low magnetics bordered from the east and west by zones of approximately 100 to 150 nT higher fields. The eastern "edge" of this central zone is interpreted as being indicative of a contact, whereas the western "edge" may merely reflect a local anomaly.

Both the total field magnetic map and the calculated vertical gradient map indicate that the survey area is underlain by complex geology. The magnetic and calculated gradient patterns suggest that at least parts of the area may be covered by a relatively thin layer of highly magnetic material (e.g., volcanic flow) which has produced distinct gradient patterns (shallow sources). They are superimposed on the total field patterns (deeper sources). Correlation of some magnetic anomalies with topography is seen as a confirmation of this interpretation.

Numerous breaks, offsets, and terminations of the total field and vertical gradient contour patterns are interpreted to reflect structural features, such as faults, contacts, etc. Their preferred orientation is in the northeasterly direction but a suite of northwesterly to east-westerly oriented structures occurs in the northern portion of the area (sheets 2, 3, and 4). Also, a major fault was identified in the north part of sheets 1 and 5. This fault follows for the larger part the King Creek valley, and is also well defined by other geophysical parameters. Left lateral movement may have occurred along the fault.

A nearly north-south oriented structure was identified along the lower Snippaker Creek valley, Julian Lake, and upper King Creek valley. It is an interesting feature which appears to have some exploration potential. In its south part, i.e., south of line 830, it correlates with the contact. However, north of this line, the structure deviates from the contact which assumes a northeasterly orientation.

The present preliminary structural analysis is necessarily incomplete due to the constraints of the present report. More insight can be gained by further processing and anomaly enhancement, such as second vertical derivative, apparent susceptibility mapping, or shadow mapping by means of RTI system (Real Time Imaging).

5.3 Apparent Resistivity

The apparent resistivity values were calculated from the 4,175 Hz coplanar data. The values range from approximately 20 ohm-m to more than 4,000 ohm-m. Flying in rugged terrain, such as the Golden Nevada survey area, frequently results in severe changes of the flying altitude, which in turn, results in extreme variations of the electromagnetic responses affecting the resistivity calculation. Consequently, the apparent resistivity map may provide information distorted in detail but correct in its general outline.

The resistivity map indicates that the geologic environment in the survey area is generally highly resistive. Highest resistivities are typically found to correlate with

icefields (e.g., Lehua Glacier). In several cases (e.g., northwest corner of sheet 1 and the southwest corner of sheet 2), where low resistivities occur over mapped icefields, ice thickness must be small to allow the EM signals to penetrate deep into ground. With only a few exceptions, the low and intermediate resistivity values occur in the form of narrow or elongated zones. Most of them are associated with bedrock conductors, only several zones correlate with topographic features, and consequently, may have low exploration potential.

In the majority of case, the low resistivity zones occur in the troughs, or on the flanks of magnetic activity. There are several exceptions which will be mentioned in the section dealing with electromagnetic anomalies. In the north part of the area, the low resistivity zones are confined to the east and north flanks of the linear, dike-like magnetic anomaly, where they appear to correlate with Snippaker Creek. Closer examination of the EM responses shows that the zones do not contain EM responses which may be attributable to typical thin sheet bedrock conductors.

A prominent low resistivity zone paralleling the east boundary of sheets 2 and 4 is associated with Snipakker Creek valley and Julian Lake. While it may partly or fully reflect conductive valley and lake bottom sediments, the presence of several EM anomalies of definite and possible bedrock origin make this zone interesting.

At the moment, there is no explanation for a narrow low resistivity zone paralleling the east part of lines 700 to 740. The limited areal coverage does not allow broader interpretation to be made. It is recommended to investigate this conductive feature in some detail.

An irregularly shaped, generally narrow conductive zone paralleling the east survey boundary (sheet 5) follows the eastern and northern topographic slopes. It also extends across Hawilson and Pearly Lakes which have both yielded low resistivities. The shape of the zone resembles the outline of the west extent of the volcanics on the government geology map. It may reflect conductive horizon associated with the contact.

The south-central part of the area contains two low resistivity zones which are arranged in an oval pattern. They occur on the opposite slopes of a mountain range. The narrower eastern zone occurs on steep topography, whereas the broader western zone is associated with gentler topographic relief. These facts suggest that the zones may reflect a flat lying conductive horizon covered by a thick, resistive layer.

Structural analysis based on the definition of breaks in the resistivity contour patterns was unsuccessful. The main reason is the lack of resistivity contours in the areas of high resistivity. Comparison with the structural features inferred from the magnetics, however, indicates general support for the magnetic interpretation. It is

felt that marginal additional information could be gained by further analysis of the resistivity data by means of shadowing technique (e.g., the RTI system).

5.4 Total Field VLF-EM

The NAA, Cutler, Maine, transmitter which operates at a frequency of 24.0 kHz, and occurs at an azimuth of 79 degrees was monitored during the survey. The transmitter azimuth is almost parallel to the direction of the flight lines and, thus, provides poor coupling with conductive features of north-south orientation. The usefulness of the VLF-EM anomaly map is, thus, somewhat limited. For example, the correlation of the VLF and magnetic data is not straightforward and fully understood.

In spite of these limitations, the VLF-EM total field map is coherent. Most of the anomalies are of low amplitude, correlating with topographic features. These anomalies are of low exploration interest. The contour patterns suggest the presence of generally northwest-southeast oriented breaks which may be construed to indicate structural features. However, due to the general lack of correlation between these breaks and the structures inferred from the magnetics, proper evaluation of all the VLF-EM features should await later detailed analysis. The fact that three VLF-EM breaks coincide with magnetic breaks should be viewed positively when deciding whether or not to proceed with such evaluation. They are: a northeasterly oriented fault in the northwest part of sheet 2 extending from the west end of lines 1090 to

1110 toward the central portion of lines 1290 and 1300 (and possibly beyond); a WNW-ESE oriented fault crossing the survey area along the King Creek valley (north part of sheets 1 and 5); and a northeasterly oriented fault extending from the west end of line 100 toward the eastern part of lines 500 to 530, where it intersects, or is terminated by, the previously discussed WNW-ESE fault.

5.5 Electromagnetics

The electromagnetic data was first checked by a line-to-line examination of the analog records. Record quality was generally good with minor noise levels, primarily on the 32,000 Hz coplanar traces. The electromagnetic anomalies were selected by the writer from the analog and digital profiles according to the "vertical thin sheet" model. Other EM anomalies which do not conform with this model (e.g., wide conductive units) were not included in the selection. The anomaly axes were assigned wherever possible, based on the similarity of the EM response on adjacent lines and taking into account the general magnetic trends. Only those anomalies which are of definite or possible bedrock origin will be discussed in the following paragraphs.

Those conductors which occur at the margins of wide conductive zones are mostly due to "edge effects". They may reflect abrupt resistivity change at the contacts (edges) of conductive zone. They cannot be discarded because the contact zone may be mineralized. Consequently, these anomalies must be regarded as potential targets.

Comments made in the Apparent Resistivity section regarding severe changes of the flying altitude and their effects on the electromagnetic response apply also to the electromagnetic anomalies: in areas of excessive flying altitude, there could be no electromagnetic anomaly indicated on the map.

Group I. - These generally low-to-intermediate conductance bedrock conductors are confined to south edge of an icefield. They occur in magnetically quiet area, south of a major east-westerly oriented fault. Their strike direction appears to parallel topography which may suggest a flat lying conductive horizon. Ground follow-up is recommended.

Group II. - This extensive group of bedrock and possible bedrock conductors occurs on the north side of an east-westerly oriented fault mentioned in the previous paragraph. The group extends mostly over the western slopes of a partly ice covered ridge bordering on the Leuha Glacier. The conductors show local correlation with magnetics. Line-to-line correlation of the individual EM anomalies may not be properly established due to the loss of the EM signals in rugged terrain. It is recommended to use the resistivity map as a guide when selecting the targets for follow-up work.

Group III. - These bedrock conductors occur immediately on the north side of the Leuha Glacier, displaying similar strikes as the group II conductors. This presents a possibility that the two groups reflect the same conductive horizon. Further work is required in this respect. From the south, the group is contained by a WNW-ESE oriented fault, from the north, it appears to be terminated by a pair of northeasterly oriented faults. Topographically, the group is confined to a ridge separating the Leuha Glacier from a creek valley further north. Several conductors within the group show direct magnetic correlation. ground follow-up is recommended.

Group IV. - This is a relatively inextensive group of bedrock conductors which have produced a well defined and attractive resistivity low, and which are confined to a localized magnetic anomaly. Ground follow-up is recommended.

The area of sheet 3 does not contain any bedrock conductors. Two conductors were identified (6530A and 6700A-6710A) which are associated with prominent localized concentrations of magnetite indicated by negative in-phase electromagnetic responses. The presence of distinct quadrature responses at these locations suggests that weakly conductive mineralization occurs. Such conductors would be of exploration interest provided gold is expected to be associated with magnetite.

Group V. - The EM responses within the south part of the group reflect bedrock conductors, whereas those in its north part are of the "edge effect" type. The group is confined to the Snippaker Creek valley / Julian Lake structural feature. The conductors are non-magnetic and have produced a well defined low resistivity zone. The zone extend further southward from the southernmost EM anomaly which may suggest the presence of unrecognized targets. Ground follow-up is recommended.

Group VI. - Bedrock conductors of this grouping are confined to the west slopes of a mountain range, paralleling topography. They occur on the north side of a northeasterly oriented fault inferred from the magnetics, and at the edge of an icefield. (Anomaly 670B, further south, is not considered to reflect the same conductive horizon as conductors VI.) Ground follow-up is recommended.

Group VII. - This non-magnetic two-line bedrock conductor, which is confined between the major east-westerly oriented fault following the King Creek valley and another northeasterly oriented fault, has produced an attractive low resistivity zone. It occurs at the eastern extremity of a zone which may be an intrusive unit. Ground follow-up is recommended.

Groups VIII and IX. - These extensive groups of mostly non-magnetic bedrock and possible bedrock conductors are confined to the opposite (i.e., east and west) slopes of a ridge containing a suite of strong magnetic anomalies. The narrower eastern

group VIII occurs on steep grade topography, whereas the broader western group IX occurs on gentler sloping topography. These facts may suggest that the two groups, which have produced correspondingly shaped and well defined low resistivity zones, reflect a single conductive horizon, probably flat lying which is covered by thick, layer. Western dips are indicated at places. Ground follow-up is recommended.

Group X. - A pair of bedrock conductors, probably of western dip, has produced a well distinct resistivity low. The resistivity patterns suggest that the group may be open to the southwest. Some magnetic correlation exists. Ground follow-up is recommended.

The eastern part of sheet 5 contains a number of scattered, poorly defined EM anomalies which are confined to the low resistivity zone discussed earlier. Most of these anomalies are of the "edge type" and may reflect weakly conductive mineralization associated with contact zone of a unit situated to the east. Ground follow-up is not recommended at this time though selective ground follow-up could be considered later after evaluating surveying results from other parts of the area.

6. CONCLUSIONS AND RECOMMENDATIONS

Results of the present airborne geophysical survey indicate that the area is underlain by complex geology. There is a relatively good agreement between the magnetic data and the government release preliminary geology. Volcanic units in the north part of the area are distinguished as magnetically active zones. However, the southeast part of the survey block, which is supposed to be covered by volcanics, displays low magnetic field. High magnetic activity was observed in the southwest and south-central portions of the area which are presumably covered by a volcano/sedimentary rocks. A wide band of low magnetics was identified in the central part of the block, striking in a NEN-SWS direction.

A narrow magnetic anomaly was located in the north part of the block which extends in a southeasterly direction toward the north-central portion of the block where it changes strike direction to parallel the flight lines. The anomaly is believed to reflect a dike which occurs along a zone of weakness.

A major east-westerly oriented fault was identified in the southern third of the block. It is associated with the King Creek valley and extends across the entire block.

Oval and circular-shaped magnetic anomalies identified at several locations suggest that intrusive bodies may be present. The survey results indicate that certain parts of the area are covered by relatively thin sheets of highly magnetic rocks (volcanic flows) which complicates, and in some instances obscures, the magnetic responses from the bedrock.

Offsets, disruptions, and terminations of both the total field and calculated vertical gradient contours are interpreted to be indicative of structural features, such as faults and/or contacts. These inferred structures are considered to be of prime exploration importance because many ore bodies are structurally controlled. It is, therefore, recommended to direct future work accordingly. It is recommended to further process the magnetic data and to extract additional (structural) information by employing various anomaly enhancing techniques, such as shadow mapping by means of RTI system (Real Time Imaging), or apparent susceptibility mapping.

Several low resistivity zones were identified which are generally narrow and of limited lateral extent, and well defined. They are mostly associated with groups of bedrock conductors. Some of the zones show topographic association which suggests that the causative bodies may be flat lying. Structural control of the these zones is strongly suggested.

A linear low resistivity zone, located in the northeast part of sheet 5, is a puzzling and unexplained entity. It is recommended to investigate this feature on the ground.

Ten major conductor groups containing mostly bedrock conductors were identified in the survey area. Many of them are non-magnetic, though direct magnetic correlation was noted in several instances. These conductors (or groups of conductors) may reflect massive sulphidic mineralization. Specific recommendations for follow-up are included in the Electromagnetics section of this report.

Weak, poorly defined EM anomalies should not be overlooked because they may be indicative of disseminated, weakly conductive mineralization. They are considered to be important, particularly if they occur in the vicinity of the inferred structural features, such as faults (which may have served as conduits of hydrothermal fluids during the mineralization deposition process).

Ground follow-up of the EM anomalies should depend on the correlation of the results of the present survey with a workable geologic model. The survey results should be compiled on a common base containing all types of other information, including geology, geochemistry, and other geophysics, and the target areas should be selected based on the mutual correlation of all the data and evaluation of the entire body of information.

Respectfully submitted



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APPENDIX I

GENERAL INTERPRETIVE CONSIDERATIONS

Electromagnetic

The Aerodat four frequency system utilizes two different transmitter-receiver coil geometries. The traditional coaxial coil configuration is operated at two widely separated frequencies and the horizontal coplanar coil pair is operated at a frequency approximately aligned with one of the coaxial frequencies.

The electromagnetic response measured by the helicopter system is a function of the "electrical" and "geometrical" properties of the conductor. The "electrical" property of a conductor is determined largely by its electrical conductivity, magnetic susceptibility and its size and shape; the "geometrical" property of the response is largely a function of the conductor's shape and orientation with respect to the measuring transmitter and receiver.

Electrical Considerations

For a given conductive body the measure of its conductivity or conductance is closely related to the measured phase shift between the received and transmitted electromagnetic field. A small phase shift indicates a relatively high conductance, a large phase shift lower conductance. A small phase shift results in a large inphase to quadrature ratio and a large phase shift a low ratio. This relationship is shown quantitatively for a non-magnetic vertical half-plane model on the accompanying phasor diagram. Other physical models will show the same trend but different quantitative relationships.

The phasor diagram for the vertical half-plane model, as presented, is for the coaxial coil configuration with the amplitudes in parts per million (ppm) of the primary field as measured at the response peak over the conductor. To assist the interpretation of the survey results the computer is used to identify the apparent conductance and depth at selected anomalies. The results of this calculation are presented in table form in Appendix II and the conductance and inphase amplitude are presented in symbolized form on the map presentation.

The conductance and depth values as presented are correct only as far as the model approximates the real geological situation. The actual geological source may be of limited length, have significant dip, may be strongly magnetic, its conductivity and thickness may vary with depth and/or strike and adjacent bodies and overburden may have modified the response. In general the conductance estimate is less affected by these limitations than is the depth estimate, but both should be considered as relative rather than absolute guides to the anomaly's properties.

Conductance in mhos is the reciprocal of resistance in ohms and in the case of narrow slab-like bodies is the product of electrical conductivity and thickness.

Most overburden will have an indicated conductance of less than 2 mhos; however, more conductive clays may have an apparent conductance of say 2 to 4 mhos. Also in the low conductance range will be electrolytic conductors in faults and shears.

The higher ranges of conductance, greater than 4 mhos, indicate that a significant fraction of the electrical conduction is electronic rather than electrolytic in nature. Materials that conduct electronically are limited to certain metallic sulphides and to graphite. High conductance anomalies, roughly 10 mhos or greater, are generally limited to sulphide or graphite bearing rocks.

Sulphide minerals, with the exception of such ore minerals as sphalerite, cinnabar and stibnite, are good conductors; sulphides may occur in a disseminated manner that inhibits electrical conduction through the rock mass. In this case the apparent conductance can seriously underrate the quality of the conductor in geological terms. In a similar sense the relatively non-conducting sulphide minerals noted above may be present in significant consideration in association with minor conductive sulphides, and the electromagnetic response only relate to the minor associated mineralization. Indicated conductance is also of little direct significance for the identification of gold mineralization. Although gold is highly conductive, it would not be expected to exist in sufficient quantity to create a recognizable anomaly, but minor accessory sulphide mineralization could provide a useful indirect indication.

In summary, the estimated conductance of a conductor can provide a relatively positive identification of significant sulphide or graphite mineralization; however, a moderate to low conductance value does not rule out the possibility of significant economic mineralization.

Geometrical Considerations

Geometrical information about the geologic conductor can often be interpreted from the profile shape of the anomaly. The change in shape is primarily related to the change in inductive coupling among the transmitter, the target, and the receiver.

In the case of a thin, steeply dipping, sheet-like conductor, the coaxial coil pair will yield a near symmetric peak over the conductor. On the other hand, the coplanar coil pair will pass through a null couple relationship and yield a minimum over the conductor, flanked by positive side lobes. As the dip of the conductor decreased from vertical, the coaxial anomaly shape changes only slightly, but in the case of the coplanar coil pair the side lobe on the down dip side strengthens relative to that on the up dip side.

As the thickness of the conductor increases, induced current flow across the thickness of the conductor becomes relatively significant and complete null coupling with the coplanar coils is no longer possible. As a result, the apparent minimum of the coplanar response over the conductor diminishes with increasing thickness, and in the limiting case of a fully 3 dimensional body or a horizontal layer or half-space, the minimum disappears completely.

A horizontal conducting layer such as overburden will produce a response in the coaxial and coplanar coils that is a function of altitude (and conductivity if not uniform). The profile shape will be similar in both coil configurations with an amplitude ratio (coplanar:coaxial) of about 4:1*.

In the case of a spherical conductor, the induced currents are confined to the volume of the sphere, but not relatively restricted to any arbitrary plane as in the case of a sheet-like form. The response of the coplanar coil pair directly over the sphere may be up to 8* times greater than that of the coaxial pair.

In summary, a steeply dipping, sheet-like conductor will display a decrease in the coplanar response coincident with the peak of the coaxial response. The relative strength of this coplanar null is related inversely to the thickness of the conductor; a pronounced null indicates a relatively thin conductor. The dip of such a conductor can be inferred from the relative amplitudes of the side-lobes.

Massive conductors that could be approximated by a conducting sphere will display a simple single peak profile form on both coaxial and coplanar coils, with a ratio between the coplanar to coaxial response amplitudes as high as 8*.

Overburden anomalies often produce broad poorly defined anomaly profiles. In most cases, the response of the coplanar coils closely follows that of the coaxial coils with a relative amplitude ration of 4*.

Occasionally, if the edge of an overburden zone is sharply defined with some significant depth extent, an edge effect will occur in the coaxial coils. In the case of a horizontal

conductive ring or ribbon, the coaxial response will consist of two peaks, one over each edge; whereas the coplanar coil will yield a single peak.

* It should be noted at this point that Aerodat's definition of the measured ppm unit is related to the primary field sensed in the receiving coil without normalization to the maximum coupled (coaxial configuration). If such normalization were applied to the Aerodat units, the amplitude of the coplanar coil pair would be halved.

Magnetics

The Total Field Magnetic Map shows contours of the total magnetic field, uncorrected for regional variation. Whether an EM anomaly with a magnetic correlation is more likely to be caused by a sulphide deposit than one without depends on the type of mineralization. An apparent coincidence between an EM and a magnetic anomaly may be caused by a conductor which is also magnetic, or by a conductor which lies in close proximity to a magnetic body. The majority of conductors which are also magnetic are sulphides containing pyrrhotite and/or magnetite. Conductive and magnetic bodies in close association can be, and often are, graphite and magnetite. It is often very difficult to distinguish between these cases. If the conductor is also magnetic, it will usually produce an EM anomaly whose general pattern resembles that of the magnetics. Depending on the magnetic permeability of the conducting body, the amplitude of the inphase EM anomaly will be weakened, and if the conductivity is also weak, the inphase EM anomaly may even be reversed in sign.

VLF Electromagnetics

The VLF-EM method employs the radiation from powerful military radio transmitters as the primary signals. The magnetic field associated with the primary field is elliptically polarized in the vicinity of electrical conductors. The Herz Totem uses three coils in the X, Y, Z configuration to measure the total field and vertical quadrature component of the polarization ellipse.

The relatively high frequency of VLF (15-25) kHz provides high response factors for bodies of low conductance. Relatively "disconnected" sulphide ores have been found to produce measurable VLF signals. For the same reason, poor conductors such as sheared contacts, breccia zones, narrow faults, alteration zones and porous flow tops normally produce VLF anomalies. The method can therefore be used effectively for geological mapping. The only relative disadvantage of the method lies in its sensitivity to conductive overburden. In conductive ground to depth of exploration is severely limited.

The effect of strike direction is important in the sense of the relation of the conductor axis relative to the energizing electromagnetic field. A conductor aligned along a radius drawn from a transmitting station will be in a maximum coupled orientation and thereby produce a stronger response than a similar conductor at a different strike angle. Theoretically, it would be possible for a conductor, oriented tangentially to the transmitter to produce no signal. The most obvious effect of the strike angle consideration is that conductors

favourably oriented with respect to the transmitter location and also near perpendicular to the flight direction are most clearly rendered and usually dominate the map presentation.

The total field response is an indicator of the existence and position of a conductivity anomaly. The response will be a maximum over the conductor, without any special filtering, and strongly favour the upper edge of the conductor even in the case of a relatively shallow dip.

The vertical quadrature component over steeply dipping sheet-like conductor will be a cross-over type response with the cross-over closely associated with the upper edge of the conductor.

The response is a cross-over type due to the fact that it is the vertical rather than total field quadrature component that is measured. The response shape is due largely to geometrical rather than conductivity considerations and the distance between the maximum and minimum on either side of the cross-over is related to target depth. For a given target geometry, the larger this distance the greater the depth.

The amplitude of the quadrature response, as opposed to shape is function of target conductance and depth as well as the conductivity of the overburden and host rock. As the primary field travels down to the conductor through conductive material it is both attenuated and phase shifted in a negative sense. The secondary field produced by this

altered field at the target also has an associated phase shift. This phase shift is positive and is larger for relatively poor conductors. This secondary field is attenuated and phase shifted in a negative sense during return travel to the surface. The net effect of these 3 phase shifts determine the phase of the secondary field sensed at the receiver.

A relatively poor conductor in resistive ground will yield a net positive phase shift. A relatively good conductor in more conductive ground will yield a net negative phase shift. A combination is possible whereby the net phase shift is zero and the response is purely in-phase with no quadrature component.

A net positive phase shift combined with the geometrical cross-over shape will lead to a positive quadrature response on the side of approach and a negative on the side of departure. A net negative phase shift would produce the reverse. A further sign reversal occurs with a 180 degree change in instrument orientation as occurs on reciprocal line headings. During digital processing of the quadrature data for map presentation this is corrected for by normalizing the sign to one of the flight line headings.

APPENDIX II

ANOMALY LIST

J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD HEIGHT MTRS
				INPHASE	QUAD.	CTP MHOS	DEPTH MTRS	
1	10	A	2	39.9	25.5	2.9	0	53
1	10	B	2	27.4	19.1	2.3	0	57
1	20	A	0	18.2	23.5	0.9	1	36
1	20	B	1	28.8	26.4	1.6	0	37
1	20	C	2	33.5	23.5	2.5	0	52
1	20	D	0	9.8	11.7	0.7	6	42
1	20	E	1	8.5	6.3	1.4	0	77
1	30	A	1	7.8	5.0	1.6	0	86
1	30	B	1	14.6	14.8	1.1	0	55
1	30	C	2	12.5	7.2	2.3	0	66
1	30	D	2	12.8	5.7	3.3	0	63
1	30	E	2	31.7	18.6	3.1	0	67
1	30	F	2	25.8	19.1	2.1	0	71
1	40	A	0	6.0	9.1	0.4	4	47
1	40	B	2	37.2	31.1	2.0	0	47
1	40	C	1	46.3	43.4	1.9	0	35
1	40	D	2	39.9	28.3	2.6	0	36
1	40	E	2	29.3	19.2	2.6	0	42
1	40	F	3	90.7	33.6	7.7	0	32
1	50	A	0	8.9	12.9	0.5	0	56
1	50	B	0	10.2	17.3	0.4	0	40
1	50	C	3	146.2	68.4	6.6	0	34
1	50	D	4	46.0	14.2	8.0	0	60
1	50	E	3	40.4	13.7	6.8	0	57
1	50	F	2	34.9	20.0	3.3	0	53
1	50	G	2	33.8	24.4	2.4	0	53
1	50	H	2	30.9	24.1	2.1	0	49
1	50	J	2	29.7	22.7	2.1	0	55
1	60	A	1	7.1	6.2	1.0	3	59
1	60	B	2	33.4	24.8	2.3	0	39
1	60	C	2	21.4	13.4	2.5	0	58
1	60	D	2	26.8	16.1	2.8	12	32
1	60	E	3	26.3	8.4	6.5	2	47
1	60	F	3	8.8	2.4	5.7	0	114
1	60	G	1	5.4	3.3	1.5	0	78
1	70	A	3	46.6	19.6	5.4	0	54
1	70	B	3	41.2	16.8	5.4	0	50
1	70	C	2	37.0	27.8	2.3	0	42

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.

J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP MHOS	DEPTH MTRS	HEIGHT MTRS
1	70	D	1	18.8	13.8	1.9	0	59
1	70	E	1	12.8	13.4	1.0	0	50
1	80	A	0	8.7	10.6	0.7	5	45
1	80	B	0	7.5	8.1	0.8	14	42
1	80	C	1	33.1	31.5	1.6	3	31
1	80	D	2	45.8	33.9	2.5	1	34
1	80	E	2	41.0	21.6	3.8	0	43
1	80	F	3	43.0	16.3	6.0	0	63
1	80	G	1	19.0	14.4	1.8	11	35
1	90	A	1	10.9	10.5	1.1	0	54
1	90	B	1	13.8	11.4	1.4	0	70
1	90	C	2	22.1	10.5	3.6	0	67
1	90	D	2	33.5	24.7	2.3	0	55
1	90	E	1	19.7	16.9	1.6	0	60
1	90	F	1	34.5	30.1	1.9	0	47
1	90	G	0	8.3	9.3	0.8	0	92
1	90	H	1	13.2	14.0	1.0	1	45
1	100	A	3	14.4	5.5	4.2	0	83
1	100	B	2	14.3	6.6	3.2	0	65
1	100	C	1	22.1	18.0	1.7	0	45
1	100	D	1	14.5	12.1	1.4	6	43
1	100	E	0	7.4	7.3	0.9	0	63
1	100	F	0	18.8	23.5	0.9	0	37
1	100	G	1	23.7	21.1	1.6	0	51
1	100	H	2	28.9	17.3	2.9	0	44
1	100	J	0	6.1	7.8	0.5	0	65
2	110	A	0	9.0	10.2	0.8	11	40
2	110	B	2	10.1	5.6	2.2	9	54
2	110	C	1	16.8	13.7	1.6	1	47
2	110	D	1	63.4	67.9	1.8	0	37
2	110	E	1	11.9	12.2	1.0	0	61
2	110	F	2	65.0	49.9	2.7	0	37
2	110	G	0	13.2	18.7	0.7	9	30
2	110	H	0	15.7	27.1	0.5	0	40
2	110	J	1	12.5	13.0	1.0	0	48
2	110	K	2	16.1	10.9	2.0	0	68
2	110	M	3	31.1	13.1	4.7	0	80
2	110	N	2	20.9	11.9	2.8	0	73
2	120	A	2	15.0	9.9	2.0	0	76
2	120	B	2	22.3	12.1	3.0	0	58

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.

J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH MHOS MTRS	HEIGHT MTRS	
2	120	C	2	43.6	32.0	2.5	0	49
2	120	D	2	64.6	60.8	2.1	0	39
2	120	E	1	44.8	41.6	1.9	0	36
2	120	F	1	16.3	18.7	1.0	6	36
2	120	G	1	24.5	21.1	1.7	0	45
2	120	H	2	9.9	5.9	2.0	0	74
2	120	J	1	18.8	16.5	1.5	6	38
2	120	K	1	8.9	7.3	1.2	0	65
2	130	A	0	9.1	11.0	0.7	18	31
2	130	B	1	26.4	27.4	1.3	0	37
2	130	C	1	9.1	8.9	1.0	12	43
2	130	D	2	41.0	35.5	2.0	0	47
2	130	E	0	14.9	17.4	0.9	0	51
2	130	F	1	13.9	10.7	1.6	0	51
2	130	G	2	27.9	18.9	2.4	0	58
2	130	H	2	43.0	24.4	3.5	0	55
2	130	J	2	45.4	26.9	3.4	0	57
2	130	K	3	100.9	57.2	4.6	0	31
2	130	M	0	12.0	17.9	0.6	0	57
2	140	A	2	17.5	12.0	2.0	0	82
2	140	B	2	18.4	11.6	2.3	0	85
2	140	C	2	19.6	10.6	2.9	0	66
2	140	D	1	18.3	13.1	1.9	0	65
2	140	E	1	16.6	13.1	1.6	0	71
2	140	F	1	10.7	8.3	1.4	0	70
2	140	G	0	9.5	10.3	0.8	0	57
2	140	H	0	8.8	9.1	0.9	0	65
2	140	J	1	17.4	19.4	1.0	0	60
2	140	K	1	25.0	31.1	1.0	0	39
2	150	A	0	8.5	10.9	0.6	22	27
2	150	B	2	22.0	14.4	2.3	0	48
2	150	C	2	24.0	17.6	2.1	0	50
2	150	D	0	22.3	44.4	0.5	0	32
2	150	E	1	41.0	54.6	1.1	0	32
2	150	F	2	41.4	29.3	2.6	0	43
2	150	G	1	13.7	9.3	1.9	0	57
2	150	H	2	14.9	6.7	3.4	1	57
2	150	J	2	7.2	2.5	3.8	0	111
2	150	K	3	14.8	5.5	4.4	0	89
2	150	M	2	16.7	10.4	2.3	0	73
2	150	N	0	5.3	7.3	0.4	0	73
2	160	A	1	13.7	10.4	1.6	0	66

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP MHOS	DEPTH MTRS	HEIGHT MTRS
2	160	B	1	34.1	32.1	1.7	0	45
2	160	C	2	32.0	21.8	2.5	0	48
2	160	D	2	33.6	17.9	3.5	0	53
2	160	E	3	34.6	15.7	4.4	0	48
2	160	F	2	41.4	32.8	2.2	8	27
2	160	G	2	63.5	42.2	3.3	0	35
2	160	H	2	48.8	35.2	2.7	1	33
2	160	J	2	50.3	30.9	3.3	7	28
2	160	K	2	80.7	49.1	3.9	0	36
2	160	M	1	25.9	25.3	1.4	3	35
2	160	N	1	19.7	21.8	1.1	11	28
2	160	O	1	24.8	19.4	1.9	1	41
2	160	P	0	7.5	11.6	0.4	0	48
2	160	Q	0	4.7	5.0	0.6	0	78
2	160	R	1	14.5	14.5	1.1	0	53
2	160	S	2	36.8	29.2	2.2	0	45
2	160	T	1	30.0	28.9	1.5	0	48
2	170	A	0	16.9	31.5	0.5	4	27
2	170	B	1	22.0	20.0	1.5	0	50
2	170	C	1	37.5	36.2	1.7	0	43
2	170	D	1	12.7	12.6	1.1	0	48
2	170	E	0	9.5	13.6	0.6	0	45
2	170	F	2	117.9	92.5	3.2	0	28
2	170	G	2	46.7	32.6	2.8	0	43
2	170	H	2	26.6	15.3	3.0	0	56
2	170	J	2	28.2	22.2	2.0	0	48
2	170	K	2	25.5	15.5	2.7	0	56
2	170	M	1	20.3	15.7	1.8	0	60
2	170	N	0	13.3	15.2	0.9	0	63
2	170	O	0	5.5	6.8	0.5	0	72
2	180	A	0	28.5	50.9	0.7	0	32
2	180	B	1	48.5	70.9	1.1	3	22
2	180	C	1	43.6	46.2	1.6	0	33
2	180	D	1	47.9	63.2	1.2	0	30
2	180	E	1	35.3	32.0	1.8	5	30
2	180	F	2	51.7	45.2	2.1	2	29
2	180	G	2	90.7	57.3	3.9	0	34
2	180	H	2	36.7	23.4	2.9	0	41
2	180	J	2	50.4	39.9	2.4	0	32
2	180	K	0	9.9	13.1	0.6	0	51
2	180	M	0	9.0	9.6	0.8	0	62
2	180	N	2	26.1	17.2	2.5	0	56
2	180	O	0	7.7	7.8	0.8	15	42

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP MHOS	DEPTH MTRS	HEIGHT MTRS
2	190	A	1	21.0	23.3	1.1	0	39
2	190	B	2	32.9	20.5	2.9	0	44
2	190	C	0	9.1	9.5	0.9	4	49
2	190	D	0	31.0	44.3	0.9	0	29
2	190	E	1	34.8	29.7	1.9	0	40
2	190	F	2	48.2	35.9	2.6	0	49
2	190	G	1	25.9	32.7	1.0	0	48
2	190	H	0	18.4	23.4	0.9	0	54
2	190	J	0	10.9	22.2	0.3	0	45
2	190	K	0	4.2	11.3	0.1	0	62
2	200	A	0	15.5	27.5	0.5	0	36
2	200	B	0	27.2	45.8	0.7	5	23
2	200	C	0	26.4	45.2	0.7	0	28
2	200	D	1	62.7	64.4	1.8	0	33
2	200	E	2	54.4	51.5	2.0	7	22
2	200	F	2	115.2	79.0	3.8	0	30
2	200	G	1	27.8	31.3	1.2	1	34
2	200	H	0	10.7	16.1	0.5	0	47
2	200	J	2	40.0	27.3	2.7	0	42
2	200	K	1	18.1	15.9	1.5	0	57
2	210	A	0	7.1	9.5	0.5	0	59
2	210	B	1	23.0	22.1	1.4	0	40
2	210	C	2	34.3	26.2	2.2	0	38
2	210	D	0	7.6	8.0	0.8	4	52
2	210	E	0	10.0	13.7	0.6	0	44
2	210	F	0	13.3	17.8	0.7	0	52
2	210	G	1	21.5	23.4	1.2	0	48
2	210	H	0	15.7	20.4	0.8	0	48
2	210	J	0	4.0	12.9	0.1	0	55
2	220	A	0	28.3	43.5	0.8	0	30
2	220	B	1	25.2	33.0	1.0	11	22
2	220	C	0	29.1	45.8	0.8	4	24
2	220	D	0	12.4	15.5	0.8	0	44
2	220	E	0	6.2	10.8	0.3	0	51
2	220	F	0	7.2	7.1	0.9	0	72
2	220	G	0	10.6	17.8	0.5	0	48
3	230	A	0	8.0	11.9	0.5	0	56
3	230	B	0	10.3	11.6	0.8	0	53
3	230	C	0	5.4	5.0	0.8	3	64
3	230	D	0	9.1	12.6	0.6	0	50

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP	DEPTH	HEIGHT
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
3	230	E	0	9.6	10.4	0.8	0	57
3	230	F	0	10.3	17.5	0.4	0	47
3	230	G	0	3.5	17.3	0.0	0	29
3	240	A	0	7.6	16.5	0.3	0	45
3	240	B	1	83.6	89.2	1.9	0	27
3	240	C	2	90.8	90.7	2.2	0	27
3	240	D	0	32.1	46.6	0.9	0	28
3	240	E	0	24.9	34.4	0.9	1	32
3	240	F	0	6.8	14.9	0.2	8	31
3	240	G	0	11.7	17.0	0.6	0	54
3	240	H	0	17.2	25.1	0.7	0	46
3	240	J	0	6.1	8.8	0.4	0	54
3	250	A	0	8.0	8.7	0.8	0	56
3	250	B	0	5.1	10.7	0.2	0	48
3	250	C	1	34.4	41.1	1.2	0	36
3	250	D	2	39.0	31.2	2.2	0	38
3	250	E	1	21.7	19.8	1.5	0	51
3	250	F	0	5.0	10.5	0.2	0	57
3	260	A	0	4.6	24.0	0.0	6	19
3	260	B	1	46.7	65.6	1.1	0	28
3	260	C	0	18.5	36.3	0.5	0	32
3	260	D	0	12.8	24.4	0.4	2	32
3	260	E	0	9.1	13.7	0.5	0	49
3	260	F	0	4.6	11.3	0.2	0	52
3	260	G	0	3.1	6.9	0.1	4	47
3	270	A	0	10.1	11.8	0.8	0	57
3	270	B	0	3.0	7.8	0.1	1	45
3	270	C	0	7.5	13.8	0.3	0	44
3	270	D	0	4.6	9.5	0.2	0	61
3	270	E	0	5.7	7.0	0.6	0	74
3	270	F	0	6.3	8.3	0.5	0	67
3	280	A	0	18.7	23.7	0.9	0	44
3	280	B	1	29.2	38.8	1.0	0	36
3	280	C	0	11.0	18.9	0.5	0	43
3	280	D	0	11.3	16.2	0.6	0	48
3	280	E	0	4.2	5.0	0.5	0	66
3	290	A	0	10.6	11.2	0.9	0	50
3	290	B	0	6.7	10.3	0.4	4	44
3	290	C	0	3.7	7.6	0.2	0	63

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP MHOS	DEPTH MTRS	HEIGHT MTRS
3	290	D	0	8.3	12.4	0.5	0	59
3	290	E	0	7.8	15.4	0.3	0	47
3	300	A	0	7.7	14.6	0.3	7	34
3	300	B	0	11.5	17.4	0.6	0	41
3	300	C	0	5.0	9.2	0.3	0	49
3	300	D	1	16.9	17.8	1.1	10	33
3	310	A	0	8.2	9.4	0.7	9	44
3	310	B	0	7.1	25.3	0.1	0	34
3	310	C	0	8.3	16.4	0.3	0	38
3	320	A	0	4.2	8.4	0.2	6	42
3	320	B	0	5.4	15.0	0.1	0	40
3	320	C	0	9.5	11.2	0.7	1	48
4	330	A	0	5.8	10.7	0.3	0	47
4	330	B	0	6.4	9.9	0.4	0	50
4	340	A	0	3.4	14.4	0.0	0	44
4	350	A	0	3.1	13.9	0.0	0	40
4	360	A	0	3.2	10.3	0.1	0	49
4	360	B	1	11.2	10.2	1.2	5	47
4	370	A	1	11.6	11.8	1.0	10	39
5	410	A	0	13.9	18.2	0.7	0	46
5	410	B	0	2.6	6.3	0.1	17	34
5	430	A	0	9.8	13.4	0.6	13	32
5	430	B	0	-0.4	9.1	0.0	0	37
5	440	A	0	1.5	9.5	0.0	0	36
5	460	A	1	7.9	6.3	1.2	0	86
5	470	A	0	11.7	13.0	0.9	14	33
5	470	B	1	6.1	3.5	1.8	0	81
5	470	C	2	50.0	33.2	3.0	2	32
5	490	A	2	27.2	18.1	2.5	0	45
6	500	A	0	10.1	43.5	0.1	0	29

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP MHOS	DEPTH MTRS	HEIGHT MTRS
6	500	B	0	5.9	14.3	0.2	0	58
6	510	A	0	2.8	12.0	0.0	0	42
6	510	B	0	6.8	9.3	0.5	6	46
6	520	A	0	9.1	9.0	0.9	16	39
6	520	B	1	8.5	7.1	1.2	9	50
6	520	C	0	6.8	9.3	0.5	13	38
6	520	D	0	20.5	52.3	0.3	0	48
6	520	E	0	5.2	12.5	0.2	3	37
6	530	A	0	8.6	10.9	0.6	6	43
6	530	B	1	13.7	13.1	1.2	0	55
6	540	A	0	9.9	12.2	0.7	5	42
6	540	B	1	24.8	26.7	1.2	0	44
6	540	C	0	12.7	17.2	0.7	0	52
6	540	D	0	5.6	9.9	0.3	6	41
6	545	A	0	9.4	10.1	0.8	0	74
6	545	B	1	16.6	16.9	1.1	0	70
6	545	C	1	14.7	12.1	1.5	0	67
6	545	D	0	7.1	8.4	0.6	7	48
6	545	E	0	8.3	13.4	0.4	0	63
6	550	A	0	6.1	14.8	0.2	0	44
6	550	B	0	7.5	11.9	0.4	0	60
6	550	C	0	7.9	26.6	0.1	0	31
6	550	D	0	7.4	7.1	0.9	8	51
6	560	A	0	6.8	7.5	0.7	19	38
6	560	B	0	6.8	7.7	0.7	0	60
6	560	C	0	6.7	7.2	0.7	0	62
6	560	D	0	6.6	21.2	0.1	0	44
6	560	E	0	5.5	9.7	0.3	2	45
7	570	A	0	9.8	33.3	0.1	0	29
7	570	B	0	10.8	27.5	0.2	0	32
7	570	C	0	8.4	10.9	0.6	20	29
7	570	D	1	11.1	10.0	1.2	21	32
7	580	A	0	4.8	7.6	0.3	0	60
7	580	B	0	3.5	6.5	0.2	0	64
7	590	A	0	7.4	20.6	0.2	0	37

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	DEPTH	HEIGHT
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
7	590	B	0	8.5	24.8	0.2	0	31
7	590	C	0	12.6	20.5	0.5	0	43
7	590	D	0	8.0	8.1	0.9	0	68
7	600	A	0	34.4	64.9	0.7	0	44
7	600	B	0	57.4	101.8	0.9	0	36
7	600	C	0	54.5	93.8	0.9	0	33
7	600	D	0	163.1	390.9	0.9	0	25
7	600	E	0	167.0	519.7	0.6	0	22
7	600	F	0	174.8	643.3	0.5	0	13
7	600	G	0	97.7	241.3	0.7	0	19
7	600	H	0	8.9	24.9	0.2	0	37
7	600	J	0	5.8	13.7	0.2	0	50
7	600	K	0	6.8	6.6	0.9	0	61
7	600	M	0	2.7	5.3	0.2	12	46
7	600	N	1	10.5	10.3	1.0	0	56
7	610	A	0	9.2	16.5	0.4	6	34
7	610	B	0	13.1	28.3	0.3	8	23
7	610	C	0	34.1	49.9	0.9	0	36
7	610	D	0	30.5	58.7	0.6	0	29
7	610	E	0	9.1	14.0	0.5	15	28
7	610	F	0	10.4	16.1	0.5	21	21
7	610	G	0	24.3	59.1	0.4	0	30
7	620	B	0	12.8	20.8	0.5	0	43
7	620	C	1	20.5	16.2	1.8	0	59
7	620	D	0	16.4	19.9	0.9	4	36
7	620	E	0	9.3	10.2	0.8	0	52
7	620	F	0	7.9	10.5	0.6	1	48
7	620	G	0	15.6	19.2	0.9	0	46
7	620	H	0	9.3	15.1	0.5	13	29
7	630	A	0	16.1	24.2	0.7	4	31
7	630	B	0	13.6	15.8	0.9	9	35
7	630	C	0	16.9	26.5	0.6	2	32
7	630	D	0	18.7	42.5	0.4	0	26
7	630	E	0	27.3	80.3	0.3	5	14
7	630	F	0	21.6	42.1	0.5	5	22
7	630	G	1	16.3	13.1	1.6	0	49
7	630	H	1	17.1	16.3	1.3	0	56
7	630	J	1	32.6	34.0	1.4	0	46
7	630	K	1	33.1	35.2	1.4	0	37
7	640	A	1	8.0	7.4	1.0	0	63

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.

J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	MHOS	DEPTH MTRS	HEIGHT MTRS
7	640	B	1	7.7	6.2	1.2	0	64
7	640	C	1	9.4	9.0	1.0	0	63
7	640	D	0	13.4	24.6	0.4	0	53
7	640	E	0	13.4	18.8	0.7	0	49
7	640	F	0	12.7	23.0	0.4	0	37
7	640	G	0	15.8	24.5	0.6	0	36
7	640	H	0	11.3	16.5	0.6	0	48
8	650	A	0	1.0	6.4	0.0	17	20
8	650	B	0	0.5	6.5	0.0	7	22
8	650	C	0	16.0	30.1	0.5	2	30
8	650	D	0	9.6	12.6	0.6	13	33
8	650	E	0	4.3	7.1	0.3	22	33
8	650	F	0	3.9	9.2	0.1	9	36
8	650	G	2	5.5	2.1	3.0	0	88
8	660	A	0	5.0	6.8	0.4	0	63
8	660	B	0	7.4	12.6	0.4	21	23
8	660	C	1	82.7	91.5	1.8	1	22
8	660	D	0	4.9	33.7	0.0	0	50
8	660	E	0	22.0	41.9	0.5	0	34
8	660	F	0	19.8	29.5	0.7	0	49
8	660	G	1	15.9	11.5	1.8	0	57
8	660	H	2	17.9	10.8	2.4	0	65
8	660	J	1	13.4	9.7	1.7	0	62
8	660	K	1	11.1	9.3	1.3	0	59
8	660	M	0	9.0	9.4	0.9	0	55
8	660	N	1	8.8	5.3	1.9	0	68
8	660	O	2	4.5	2.2	2.0	0	91
8	660	P	0	3.0	9.7	0.1	9	31
8	670	A	0	5.1	10.8	0.2	0	44
8	670	B	0	-0.6	17.9	0.0	0	28
8	670	C	0	7.2	13.9	0.3	1	40
8	670	D	1	9.8	8.6	1.2	17	39
8	670	E	1	7.5	5.7	1.3	33	31
8	670	F	0	9.1	20.8	0.3	2	32
8	670	G	1	27.0	27.8	1.4	13	23
8	680	A	2	24.4	11.4	3.8	0	53
8	680	B	2	16.0	10.3	2.1	1	51
8	680	C	0	12.2	13.3	0.9	0	58
8	680	D	0	8.2	9.5	0.7	0	69
8	680	E	0	12.0	16.7	0.6	0	63
8	680	F	0	11.5	14.9	0.7	0	53

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.

J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	DEPTH	HEIGHT
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
8	690	A	0	9.6	13.4	0.6	0	46
8	690	B	0	4.8	8.9	0.3	0	51
8	690	C	1	10.5	10.2	1.0	7	45
8	690	D	1	12.6	13.0	1.0	12	35
8	690	E	0	9.4	21.0	0.3	2	32
8	690	F	2	32.8	21.5	2.7	13	27
8	690	G	2	80.2	48.9	3.9	0	34
8	690	H	2	65.3	46.0	3.0	0	46
8	690	J	1	122.1	147.1	1.9	1	19
8	690	K	2	34.4	27.7	2.1	6	30
8	700	A	0	3.9	17.2	0.0	0	39
8	700	B	2	30.0	21.6	2.3	0	41
8	700	C	1	53.8	53.4	1.8	1	28
8	700	D	2	27.3	15.1	3.2	0	65
8	700	E	2	14.4	6.1	3.7	0	62
8	700	F	2	5.4	2.1	2.9	21	62
8	700	G	0	6.4	18.4	0.1	0	41
8	710	A	0	9.9	14.4	0.6	0	52
8	710	B	0	11.0	18.8	0.5	0	51
8	710	C	0	14.6	24.0	0.6	0	38
8	710	D	0	7.5	15.6	0.3	0	49
8	710	E	0	8.0	19.6	0.2	0	56
8	710	F	1	8.6	5.2	1.9	18	48
8	710	G	2	12.6	7.9	2.0	9	47
8	710	H	2	18.6	11.9	2.3	3	47
8	710	J	2	35.4	26.8	2.3	0	43
8	710	K	0	30.6	45.4	0.9	0	34
8	710	M	0	41.2	86.8	0.6	0	22
8	710	N	1	27.7	35.2	1.0	9	24
8	710	O	0	14.3	16.3	0.9	11	32
8	720	A	1	12.7	8.8	1.8	16	39
8	720	B	1	6.0	3.5	1.7	10	65
8	720	C	2	10.2	4.8	2.8	0	98
8	720	D	2	15.1	7.7	2.9	0	87
8	720	E	2	17.1	9.1	2.8	0	67
8	720	F	2	14.2	8.6	2.2	7	48
8	720	G	2	13.1	7.5	2.3	0	60
8	720	H	0	20.4	33.8	0.6	0	36
8	720	J	0	24.4	36.9	0.8	3	27
8	720	K	0	13.5	16.1	0.8	18	25
8	720	M	0	11.1	14.8	0.7	5	38

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	DEPTH	HEIGHT
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
9	730	A	0	17.8	26.4	0.7	0	36
9	730	B	1	18.2	21.2	1.0	0	42
9	730	C	1	25.6	29.7	1.1	0	48
9	730	D	1	32.8	39.4	1.2	0	47
9	730	E	1	37.4	45.5	1.2	0	43
9	730	F	0	41.9	69.2	0.9	0	36
9	730	G	0	26.3	52.0	0.5	0	30
9	730	H	0	22.6	38.1	0.6	0	29
9	730	J	0	10.7	18.3	0.4	13	26
9	730	K	1	7.7	5.9	1.3	10	53
9	740	A	0	0.1	0.8	0.0	0	45
9	740	B	1	7.9	6.9	1.1	7	53
9	740	C	0	6.0	22.3	0.1	0	34
9	740	D	0	4.2	10.5	0.1	0	51
9	750	A	0	11.2	14.5	0.7	0	44
9	750	B	0	7.0	11.3	0.4	0	62
9	750	C	1	15.1	15.2	1.1	17	28
9	760	A	1	12.5	10.1	1.4	6	46
9	760	B	0	9.9	13.8	0.6	0	52
9	760	C	0	8.8	11.4	0.6	0	54
9	760	D	0	9.0	14.4	0.5	3	39
9	760	E	0	5.4	8.0	0.4	7	47
9	770	A	0	6.0	14.3	0.2	0	42
9	770	B	3	27.9	12.2	4.3	0	55
9	770	C	0	6.7	25.1	0.1	0	39
9	770	D	0	10.1	37.9	0.1	0	30
9	780	A	0	5.7	22.0	0.1	0	35
9	780	B	0	1.3	12.3	0.0	0	37
9	780	C	2	14.6	6.7	3.3	0	67
9	790	A	2	36.6	25.4	2.6	0	38
9	790	B	2	23.9	11.3	3.7	8	40
9	790	C	0	0.2	14.2	0.0	0	32
9	790	D	0	3.8	34.2	0.0	0	34
9	800	A	0	4.5	10.4	0.2	0	49
9	810	A	2	115.6	88.5	3.3	0	25
9	810	B	1	35.7	42.2	1.3	2	28

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	MTRS	HEIGHT
-----	-----	-----	-----	-----	-----	-----	-----	-----
9	810	C	2	38.0	27.3	2.5	0	39
9	810	D	2	14.9	7.8	2.8	9	47
9	820	A	2	12.4	6.0	2.9	0	65
9	820	B	0	11.6	13.6	0.8	16	30
9	820	C	0	5.4	6.6	0.5	12	47
10	830	A	3	29.6	13.4	4.2	0	48
10	830	B	3	13.1	4.3	5.0	0	67
10	840	A	3	135.4	57.1	7.4	0	41
10	840	B	3	155.2	104.1	4.3	0	40
10	840	C	2	90.2	79.7	2.5	0	28
10	840	D	1	33.6	28.8	1.9	4	32
10	840	E	1	11.3	11.0	1.1	19	32
10	840	F	0	11.9	17.4	0.6	24	16
10	840	G	0	7.6	18.5	0.2	12	23
10	850	A	1	4.6	3.1	1.2	0	93
10	850	B	2	6.8	2.9	2.8	0	116
10	860	A	2	61.2	40.3	3.3	0	46
10	860	B	1	32.8	28.7	1.8	0	49
10	870	A	0	13.2	17.1	0.7	0	81
10	870	B	0	9.4	15.2	0.5	0	60
10	880	A	2	20.6	14.8	2.0	0	61
10	880	B	0	7.3	11.1	0.4	0	83
10	890	A	0	0.9	7.1	0.0	0	52
10	900	A	1	13.1	8.8	1.9	0	62
11	960	A	0	3.4	8.9	0.1	3	41
11	1000	A	1	8.3	5.9	1.5	0	80
11	1020	A	0	6.7	8.9	0.5	0	64
11	1030	A	0	2.0	3.3	0.2	0	97
11	1030	B	1	19.5	15.3	1.7	0	64
11	1030	C	0	14.8	20.3	0.7	0	53
11	1030	D	0	12.2	20.6	0.5	1	36
11	1030	E	1	10.6	9.9	1.1	10	43

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP MHOS	DEPTH MTRS	HEIGHT MTRS
11	1040	A	1	14.0	9.9	1.8	0	52
11	1040	B	1	13.3	11.9	1.3	0	57
11	1040	C	1	20.4	16.2	1.7	0	54
11	1040	D	0	14.3	18.6	0.8	0	53
11	1040	E	1	11.7	9.1	1.5	2	53
11	1040	F	0	8.2	10.3	0.6	0	61
12	1050	A	0	5.1	6.4	0.5	0	84
12	1050	B	1	11.1	9.8	1.2	0	78
12	1050	C	0	20.4	33.7	0.6	0	42
12	1050	D	0	19.0	34.0	0.5	0	38
12	1050	E	0	20.4	31.9	0.7	0	36
12	1050	F	1	33.7	46.7	1.0	0	37
12	1050	G	1	27.7	33.4	1.1	0	33
12	1050	H	0	8.8	10.0	0.8	13	38
12	1060	A	1	10.5	10.6	1.0	3	48
12	1060	B	0	8.1	8.3	0.8	0	61
12	1060	C	1	9.3	8.8	1.0	0	75
12	1060	D	0	6.1	8.3	0.5	0	78
12	1060	E	0	6.7	14.5	0.2	0	55
12	1070	A	0	3.7	5.8	0.3	0	93
12	1070	B	1	8.3	6.1	1.4	0	70
12	1070	C	1	8.4	5.1	1.8	0	78
12	1070	D	1	9.4	7.2	1.4	0	74
12	1070	E	0	13.9	20.1	0.6	0	53
12	1070	F	0	13.3	15.4	0.9	0	46
12	1070	G	1	15.0	14.4	1.2	11	35
12	1070	H	1	21.4	22.8	1.2	0	40
12	1080	A	2	9.3	4.9	2.3	0	78
12	1080	B	2	11.9	5.5	3.0	0	64
12	1080	C	0	5.5	12.2	0.2	0	69
12	1090	A	0	4.1	7.6	0.2	0	61
12	1090	B	2	69.4	42.5	3.7	0	71
12	1090	C	2	28.5	20.7	2.2	0	42
12	1090	D	1	19.7	16.2	1.6	0	55
12	1090	E	1	16.0	17.3	1.0	0	42
12	1090	F	0	8.2	16.3	0.3	0	41
12	1090	G	0	4.2	6.2	0.4	29	30
12	1090	H	1	14.8	12.7	1.4	0	51
12	1090	J	1	13.4	11.7	1.3	0	56

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT -----	LINE -----	ANOMALY -----	CATEGORY -----	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE -----	QUAD. -----	CTP DEPTH MHOS -----	DEPTH MTRS -----	HEIGHT MTRS -----
12	1100	A	1	11.0	9.5	1.2	0	61
12	1100	B	1	31.2	27.9	1.7	0	41
12	1100	C	0	13.0	17.7	0.7	0	42
12	1100	D	0	6.6	9.5	0.5	0	85
12	1100	E	0	10.2	10.8	0.9	0	53
12	1100	F	1	8.5	7.9	1.0	0	90
12	1100	G	0	6.7	15.5	0.2	0	55
12	1110	A	0	-0.2	10.9	0.0	0	32
12	1110	B	0	5.3	10.4	0.2	0	64
12	1110	C	2	43.7	30.3	2.7	0	57
12	1110	D	1	22.0	17.7	1.8	0	47
12	1110	E	0	7.4	11.4	0.4	0	50
12	1110	F	0	9.9	19.1	0.4	0	40
12	1110	G	0	10.9	19.1	0.4	0	45
12	1110	H	0	11.4	21.3	0.4	0	44
12	1110	J	0	19.4	33.8	0.6	0	47
12	1110	K	1	10.1	8.1	1.3	0	68
12	1120	A	1	8.7	6.6	1.4	0	62
12	1120	B	1	20.3	15.5	1.8	0	45
12	1120	C	0	14.2	17.4	0.8	6	36
12	1120	D	1	15.6	15.1	1.2	0	55
12	1120	E	1	17.5	13.3	1.8	0	67
12	1120	F	0	2.8	3.5	0.4	0	92
12	1120	G	0	4.4	14.0	0.1	0	53
12	1130	A	0	15.2	31.0	0.4	0	51
12	1130	B	0	6.3	12.3	0.3	0	56
12	1130	C	0	2.9	9.6	0.0	0	46
12	1130	D	0	4.7	18.4	0.1	2	28
12	1130	E	0	6.5	7.4	0.7	0	85
12	1140	A	0	7.9	7.7	0.9	0	65
12	1140	B	0	12.7	22.2	0.5	0	45
12	1140	C	0	10.0	11.7	0.8	0	49
12	1140	D	0	7.5	13.3	0.4	0	52
12	1140	E	0	8.9	18.1	0.3	6	31
12	1140	F	0	8.1	18.6	0.2	0	35
12	1150	A	0	14.0	22.9	0.5	4	32
12	1150	B	0	5.8	8.7	0.4	0	54
12	1150	C	2	14.6	8.8	2.3	0	70
12	1160	A	2	10.1	5.8	2.1	0	69

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT	LINE	ANOMALY	CATEGORY	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE	QUAD.	CTP DEPTH	DEPTH	HEIGHT
-----	-----	-----	-----	-----	-----	MHOS	MTRS	MTRS
12	1160	B	2	39.1	23.9	3.1	0	57
12	1160	C	1	15.6	13.0	1.5	0	57
12	1160	D	0	13.7	26.8	0.4	1	32
12	1160	E	0	13.9	19.2	0.7	0	40
13	1170	A	0	7.0	36.5	0.0	0	38
13	1170	B	1	7.2	4.6	1.6	15	54
13	1170	C	0	3.7	6.6	0.2	0	54
13	1170	D	2	15.1	10.2	2.0	0	68
13	1170	E	2	13.9	5.6	3.9	0	95
13	1170	F	2	5.2	1.8	3.4	15	71
13	1180	A	1	12.0	7.7	1.9	0	68
13	1180	B	2	34.0	24.1	2.4	0	53
13	1180	C	1	50.5	55.3	1.6	0	42
13	1180	D	1	69.9	72.8	1.9	1	25
13	1180	E	1	16.2	18.3	1.0	0	45
13	1180	F	0	15.2	24.7	0.6	0	38
13	1180	G	0	5.3	11.0	0.2	0	50
13	1180	H	0	7.5	9.1	0.6	4	49
13	1190	A	0	3.9	12.4	0.1	0	55
13	1190	B	0	6.4	7.2	0.7	0	70
13	1201	A	0	10.4	17.5	0.5	1	38
13	1201	B	0	1.0	2.9	0.0	0	68
13	1201	C	0	10.9	18.0	0.5	0	53
13	1201	D	0	9.2	17.2	0.4	0	53
13	1210	A	1	6.9	4.4	1.6	4	66
13	1220	A	0	8.6	11.3	0.6	0	54
13	1230	A	0	7.6	10.1	0.6	0	66
13	1230	B	0	9.6	10.4	0.8	0	51
13	1230	C	0	-0.2	10.0	0.0	0	52
13	1240	A	0	4.5	22.4	0.0	0	30
13	1240	B	0	8.1	19.3	0.2	0	48
13	1250	A	0	4.2	7.0	0.3	3	51
13	1250	B	0	8.5	8.2	0.9	0	78
13	1250	C	0	-0.4	5.6	0.0	0	61
13	1260	A	0	6.5	12.8	0.3	0	47

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J8901 GOLDEN NEVADA/CORPTECH AREA, ISKUT-UNUK RIVERS, B.C. - EM ANOMALIES

FLIGHT -----	LINE -----	ANOMALY -----	CATEGORY -----	AMPLITUDE (PPM)		CONDUCTOR		BIRD
				INPHASE -----	QUAD. -----	CTP -----	DEPTH -----	HEIGHT -----
13	1260	B	0	4.4	11.2	0.1	0	49
13	1260	C	0	8.9	17.4	0.3	0	45
14	1290	A	0	8.4	12.9	0.5	0	46
14	1311	A	0	4.4	10.0	0.2	0	55
14	1360	A	0	1.7	5.3	0.0	12	39
14	1370	A	0	2.3	5.6	0.1	24	29
16	1520	A	0	3.0	6.3	0.2	3	50
25	6530	A	0	-24.1	4.6	0.0	0	1239
26	6700	A	0	-55.4	11.5	0.0	0	1242
26	6710	A	0	-42.5	8.1	0.0	0	10

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 III

CERTIFICATE OF QUALIFICATIONS

1. I hold a PhD in Geophysics from Charles University, Czechoslovakia having graduated in 1967.
2. I reside at 146 Three Valleys Drive, in the town of Don Mills, Ontario.
3. I have been continuously engaged in both professional and managerial roles in the minerals industry in Canada and abroad for the past 19 years.
4. I have been an active member of the Society of Exploration Geophysicists since 1978 and a member of KEGS since 1978.
5. The accompanying report was prepared from information published by government agencies, materials supplied by Argo Development Corp. and Corptech Industries Inc. and from a review of the proprietary airborne geophysical survey flown by Aerodat Limited for Argo Development Corp. and Corptech Industries Inc. I have not personally visited the property.
6. I have no interest, direct or indirect, in the property described nor do I hold securities in Argo Development Corp. and Corptech Industries Inc.

Signed



Zbynek Dvorak
Consulting Geophysicist

July 19, 1989

APPENDIX IV

PERSONNEL

FIELD

Flown February - April, 1989

Pilot R. Hage
J. Kamphaus

Operator J. Huisman
K. McCart
V. Cole

OFFICE

Processing A. E. Valentini
G. MacDonald

Report Z. Dvorak

APPENDIX II

Certificate of Qualifications

Certificate of Qualifications

I, David W. Mallo of 4475 Hermitage Drive, Vancouver, British Columbia hereby certify:

1. I am a graduate of Brandon University (1981) and hold a BSc (Spec) degree in geology.
2. I have been employed in my profession by various mining companies since graduation.
3. I am presently employed as a senior geologist with Prime Explorations Ltd., of 1000-808 West Hastings Street, Vancouver, British Columbia.



David W. Mallo
Senior Geologist

DATED at Vancouver, British Columbia, this 14th day of July, 1989.