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COMMERCE RESOURCES CORP.

**1999 EXPLORATION OF THE
AUBYRD CLAIMS**

**SOUTH OF FERNIE, BRITISH COLUMBIA
(FORT STEELE MINING DIVISION)**

CLAIMS AUBYRD 1 to 3

**Geographic Co-ordinates
49° 08' N
114° 33' W
NTS Sheet 82 G/1 W and 82 G/2 E**

Owner of Claims: Aubyrd 1 to Aubyrd 3
Peter Kleespies
11 Mural Crescent
St Albert, AB, T8W 1J8

Operator: Commerce Resources Corp.
600 – 789 West Pender Street
Vancouver, B.C., V6C 1H2

Consultant: Dahrouge Geological Consulting Ltd.
18, 10509 – 81 Avenue
Edmonton, AB, T6E 1X7

Authors: T. Faragher, B.Sc. and J. Dahrouge, P.Geol.

Date Submitted: 2000 06 22

MINING DIVISION
26,279

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1.

INTRODUCTION

The AuByrd Property is located in Flathead River Valley of southeastern British Columbia, about 60 km southeast of the Town of Fernie. The claims were staked to cover Palaeozoic sedimentary and associated alkalic intrusives on Trachyte Ridge. Previous exploration in the vicinity of the AuByrd claims identified several styles of mineralization including intrusive related gold (syenite and intrusive breccia) and mineralized quartz-carbonate veins.

During December, 1999, Geoterrex-Dighem completed a high-resolution heli-borne magnetic/resistivity/electromagnetic geophysical survey totaling 68.7 line kilometers. Interpretation of airborne data identified a north trending, sharp, 220 nT, 400 m wide by 900 m long magnetic anomaly in the central part of the property. The magnetic high is coincident with a broad resistivity low and a conductive electromagnetic channel along its eastern margin.

1.1 GEOGRAPHIC SETTING

1.1.1 Location and Access

The AuByrd Property encompasses the southern portion of Trachyte Ridge of Rocky Mountains in southeast British Columbia. The property is about 60 km southeast of Fernie, about 20 km north of the Montana border, and 30 km west of the Alberta border. It is within National Topographic System (NTS) map areas 82 G/1 W and G/2 E and centered about 49° 08' north latitude and 114° 33' west longitude (Fig. 1.1).

Access to the property is via a gravel logging road which branches off Provincial Highway 3 about 6 km east of the Town of Natal and extends southeast along Flathead River to the International Border (Corbin Road). Alternately, an all-weather gravel logging road branches off Highway 3 south of Fernie, along Bighorn Creek Valley and joins Corbin Road 4 km southwest of the property. A dry-weather gravel road spurs westerly from Corbin Road along Howell Creek which provides 4 wheel drive or ATV access to the center of the property. Remote areas of the property are accessible either by ATV, foot, or at higher elevations by helicopter.

1.1.2 Topography, Vegetation, and Climate

The claims encompass the southern part of Trachyte Ridge on the west side of Flathead River Valley. They are within an area of rugged mountains with elevations greater than 2,500 m above sea level (a.s.l.); elevations along valley bottoms are about

1,200 m a.s.l. Much of the area is characterized by broad river valleys edged by moderate slopes leading upward to steep cliffed mountain tops.

Most of the lower parts of the mountain slopes are heavily timbered with spruce, pine, and lesser deciduous varieties. Treeline is at an elevation of about 1,800 m. In the subalpine zone, vegetation consists of a sparse cover of stunted spruce and pine, and above timberline of alpine shrubs and foliage.

Climate is alpine with average summer temperatures of 20° to 25° C and average winter temperatures of -10° to -15° C. Rainfall averages about 120 cm per year with maximum snowfall in November and December which averages 150 to 165 cm.

1.2 PROPERTY

The AuByrd Property consists of three contiguous mineral claims which cover 10 km² within the Fort Steele Mining Division (Fig. 1.2). AuByrd 1 to 3 are four-post mineral claims which total 40 units and are registered in the name of Kleespies, Peter (Table 1.1). *The property is held under option by Commerce Resources Corp.*

TABLE 1.1 LIST OF MINERAL CLAIMS

Claim Name	Tenure Number	Units/Claim	Record Date	Actual or Expected Expiry Date
AuByrd 1	368365	16	April 2, 1999	April 2, 2004
AuByrd 2	368366	4	April 2, 1999	April 2, 2006
AuByrd 3	368367	<u>20</u> 40	April 2, 1999	April 2, 2004

1.3 HISTORY AND PREVIOUS INVESTIGATIONS

Active oil seeps in the Sage Creek watershed attracted the earliest exploration activity in Flathead Valley. In the early part of the century several companies drilled shallow wells in their vicinity and more recently Shell Canada Resources has been exploring the Flathead Valley for oil and carbon dioxide reservoirs. Shell's exploration model depicts volcanic intrusions liberating large volumes of CO₂ from carbonate rocks. During the 1990's Shell completed seismic surveys and test wells in the area.

Coal has been known to occur in Flathead Valley for many years. Early exploration occurred around the abandoned village of Flathead about 15 km north of the AuByrd Property. More recent exploration activity by the Sage Creek Coal Consortium has occurred east of the property within the Cabin Creek watershed. Fording Coal Ltd. has completed several exploration drill holes within the upper Flathead Valley.

Concentrated exploration for base and precious metals in Clark Range of British Columbia and Alberta was initiated in the late 1960's, prior to that time only scattered reports of copper mineralization had been made.

Mineral claims in the Howell Creek area were first staked in 1969 by N.C. Lenard to cover a trachyte-syenite complex on Piaysoo Ridge. Geologic and geochemical work evaluated the potential for copper, molybdenum, lead and zinc mineralization. The claims were subsequently worked by Canartic Resources Ltd. and Cominco Ltd. (Cominco) in 1972 (Lenard, 1977). Subsequently the claims were allowed to lapse.

The property was restaked by Cominco for gold in 1983 on the basis of heavy mineral sampling results. Soil and rock geochemistry, and mapping followed in 1984. Several gold-silver showings and outcrops of disseminated pyrite, fluorite and galena were found associated with trachytes on the western side of Piaysoo Ridge (Noakes, 1984).

In 1984 Fox Geological Consulting Ltd., on behalf of Dome Exploration (Canada) Limited, initiated a regional silt sampling and prospecting survey within Clark Range. The exploration identified several anomalous drainages along Trachyte Ridge which were staked as the Flathead claims. Work completed between 1985 and 1994 included geochemical gridding, prospecting, trenching and diamond drilling focusing on trachyte-syenite intrusions emplaced within Palaeozoic carbonates. Anomalous results included drill intersections of 7.58 g Au/t across 1.5 m, grab samples yielding up to 620 g Au/t from mineralized syenite and syenite breccia, and 350.7 g Au/t from a 3 m wide by 47 m long quartz vein associated with a syenite dyke (Morton and Garratt, 1999). During 1997, the Flathead claims were allowed to expire and a portion of the original property restaked as the Flat claims by P.E. Fox.

In 1998, Eastfield Resources Ltd. (Eastfield) optioned the Flat claims and staked additional claims along Trachyte Ridge immediately north of the AuByrd Property. During 1999, Eastfield and joint venture partner International Curator Resources Ltd. conducted geological, geophysical and geochemical surveys based on a bulk minable gold model and to locate the source of a 1½ km long gold in soil geochemical anomaly and auriferous magnetite bearing mineralized syenite cobbles. Exploration identified a) two large induced polarization geophysical anomalies, b) a well defined >50 ppb gold in soil geochemical anomaly which covers an area of about 1,400 by 250 m, c) 35 syenite and breccia rock samples from overburden below the soil anomaly with up to 620 g Au/t with an average grade of 8 g Au/t for all mineralized samples, and d) an existing trench of altered syenite yielded 8.6 g Au/t across 16.5 m (International Curator, 1999a). Diamond

drilling completed during the fall of 1999 comprised 10 drill holes totaling 1,096 m. All 10 holes intersected syenite intrusions, breccia and weakly altered carbonate rocks; anomalous gold values were encountered only in drill holes CP-99-03 and CP-99-08 with peak values of 330 ppb Au and 215 ppb Au respectively (International Curator, 1999b). Drill conditions were difficult with poor core recovery.

1.4 PURPOSE OF SURVEY

The work described in this report was undertaken to provide geophysical information on the bedrock within the AuByrd Property. The aeromagnetic survey provided data for recognition of magnetic bodies and localized conductors and/or resistivity changes which reflect lithology, structure, and alteration/mineralization in the bedrock.

1.5 SUMMARY OF WORK

Between December 16 and 20, 1999 Geoterrex-Dighem of Mississauga, Ontario flew a low level magnetic/resistivity/electromagnetic survey over the AuByrd Property. The data collected was leveled, processed, and reviewed. Total magnetic field contour and vertical gradient data were examined for areas of high magnetic intensity, contrasting zones, and offsets or breaks in magnetic trends. Electromagnetic conductance and resistivity data were examined for bedrock conductive zones and areas of low resistance; caution interpreting EM data in areas of strong topographic relief was required for anomalies caused by turbulence from rapid altitude changes encountered while flying the survey.

To assist in the interpretation, digital contour maps were produced for total magnetic field, calculated vertical magnetic gradient, apparent resistivity for 7,200 and 56,000 Hz coplanar, and one displaying conductance of electromagnetic anomalies (Fig's. 4.1 to 4.5).

1.6 FIELD OPERATIONS

The airborne geophysical survey was based out of Fernie, B.C., totaled 68.7 line-km's, and was flown by helicopter at 57 m terrain clearance along east-west trending traverse lines spaced at 200 m intervals. The average airspeed was 67 km/h with the electromagnetic sensor towed 30 m above ground.

2. REGIONAL GEOLOGY

The region is underlain by a series of Precambrian sedimentary rocks of the Belt-Purcell Series and Palaeozoic to Mesozoic marine sediments of the Lewis Thrust Sheet. The Lewis Thrust carried the Precambrian rocks, which now constitute a portion of Clark Range, eastward between 7½ to 9 km and superimposed them on younger Palaeozoic and Mesozoic strata. Regionally, the Lewis Thrust Sheet forms a broad synclinorium within which Precambrian sediments form the Akamina Syncline. The Akamina Syncline is a broad northwest trending structure approximately 30 km wide by 65 km long and is truncated along its western edge by Flathead Fault. Flathead Fault is a major southwest dipping normal fault which has dropped strata on its west side by more than 6,000 m.

Price (1962) shows bedrock geology in the area of the AuByrd Property to consist dominantly of Palaeozoic strata which include marine sediments of the Palliser, Exshaw, Banff, Livingstone, Mount Head, Etherington and Rocky Mountain formations. Cretaceous and/or Tertiary aged dykes and anastomosing stock-like masses of trachyte, syenite, and intrusion breccias intrude the Proterozoic succession. A summary of the regional stratigraphy is provided in Table 2.1.

3. PROPERTY GEOLOGY

The geology of the AuByrd Property is known from reconnaissance scale government mappings (see Section 2). It is underlain by Palaeozoic sediments including Devonian marine limestone of the Palliser Formation, and Mississippian sediments including marine black shale and limestone of the Exshaw and Banff formations, marine limestone and dolomite of the Livingstone and Mount Head formations, and marine limestone, dolomite, red shale, and siltstone of the Etherington Formation (Fig. 3.1). Most of the sedimentary strata have been intruded by Purcell diabasic sills and dykes and Cretaceous and/or Tertiary aged dykes and anastomosing stock-like masses of trachyte, syenite, and intrusion breccia. The strata has subsequently been modified by Tertiary normal faulting. Detailed geological maps of the property are unavailable.

The Trachyte Ridge area is host to three types of mineralization including:

- 1) gold with lesser amounts of silver associated with syenitic diatremes, dykes and sills;
- 2) quartz-carbonate veins peripheral to the intrusions;
- 3) skarn mineralization in Palaeozoic sediments.

Intrusive related mineralization will occur as bulk tonnage disseminated deposits within the diatreme or in fracture/breccia zones in and peripheral to the intrusions, and high grade vein deposits generally marginal to the intrusions. Restricted halos of intense sericite and carbonate alteration and elevated Te, F, Cu, Zn, Pb, V, Ba, Mo, and Mn values are typically associated with intrusive mineralization.

TABLE 2.1 **TABLE OF FORMATIONS**

Era	Period or Epoch	Formation	Lithology	Thickness (m)
Paleozoic	Mississippian	Rocky Mountain	Marine sandstone, dolomite, chert, shale, siltstone	0-455
		Etherington	Marine limestone, dolomite, shale, siltstone, anhydrite	60-260
		Mount Head	Marine limestone, dolomite, dolomite and limestone breccias	120-305
		Livingstone	Marine limestone, cherty limestone, dolomite	245-425
		Banff	Marine limestone, cherty limestone, shale, chert	180-320
		Exshaw	Marine shale	2-12
	Devonian	Palliser	Marine limestone, dolomite	200-220
		Alexo	Marine limestone, dolomite, siltstone, sandstone	6-150
		Fairholme	Marine limestone, argillaceous limestone, shale, dolomite	290-455
	Cambrian	Elko	Marine dolomite, dolomitic limestone	85-215
Flathead		Marine sandstone, conglomeratic sandstone	7-45	
Precambrian	Purcell	Roosville	Green argillite, siltstone, sandstone, stromatolitic dolomite	1070+
		Phillips	Red sandstone, siltstone, argillite	150-215
		Gateway	Argillite, argillaceous siltstone, dolomite, sandstone	350-915
		Sheppard	Quartzitic and dolomitic sandstone, dolomite, argillite, siltstone, pillowed andesite	45-275
		Purcell	Chloritized andesite, amygdaloidal andesite flows, pillowed andesite	0-180
		Siyeh	Limestone, dolomite, argillite	345-915
		Grinnell	Red argillite, sandstone, siltstone	110-520
		Appekunny	Argillite, sandstone, siltstone	455-610
		Altyn	Argillaceous limestone and dolomite, argillite	150-1,220
Waterton	Limestone and dolomite, argillite, argillaceous dolomite	455+		

4.

AIRBORNE GEOPHYSICAL SURVEY

The AuByrd Property is characterized by a low gradient total magnetic field which increases in intensity toward the center of the property where two large oblate magnetic highs exist (Fig. 4.1). The central, northerly trending magnetic anomaly is 220 nT in amplitude, 400 m wide by 900 m long, coincident with a broad resistivity low, has a linear series of electromagnetic conductors along its eastern margin, and several weak 'spot'

conductive anomalies within its core. The sharp magnetic gradient edging the anomaly suggests a vertical body sourced about 150 m below surface; extreme topographic relief in the area may affect the depth to source estimate. The broad, circular western magnetic anomaly is about 600 m in diameter with a magnetic intensity of 100 nT. The anomaly has gentle, symmetrical edges suggesting a vertical body sourced at a depth of about 350 m.

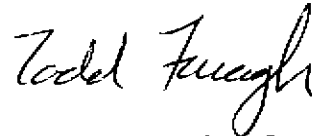
Both magnetic anomalies show characteristics of a bedrock source and may represent shallowly emplaced intrusive stocks. Conductive electromagnetic anomalies along the anomaly margins may represent alteration/mineralization at lithologic/structural contacts. A northerly trending, linear resistivity low exists along the eastern property boundary which is coincident with Flathead River Valley and probably represents conductivity in surficial sediments.

5. CONCLUSIONS AND RECOMMENDATIONS

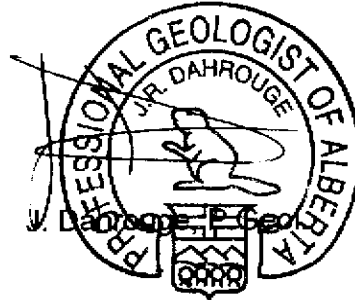
Based upon a review of geologic and geophysical information available, it can be concluded that the AuByrd Property is located in an area favourable for hosting intrusive related gold (syenite and intrusive breccia) and mineralized quartz-carbonate veins. The airborne geophysical survey identified discrete magnetic anomalies coincident with electromagnetic conductive zones which may be near surface mineralized/altere*d intrusive plugs and/or structurally related mineralization. Additional exploration for the* intrusive related mineralization is warranted. Future exploration on the AuByrd claims should include:

- a) sampling sediments in streams draining the property and areas underlain by geophysical anomalies followed by prospecting and rock sampling of anomalous drainages;
- b) property-scale geologic mapping and prospecting;
- c) detailed geologic mapping and sampling of discovered and known mineral occurrences;
- d) geochemical soil sampling over areas of discovered mineral occurrences;
- e) ground geophysical surveys including magnetometer, very low frequency, and induced polarization over areas of detailed geologic mapping and geochemical sampling;
- f) limited trenching of those areas with encouraging results.

In areas of mineralization, detailed mapping and sampling of alteration and mineralization should be conducted with emphasis on relationships between stratigraphy, contact zones, structure, and intrusive units. Geochemical soil sampling should be considered in areas where mineralization or rocks of interest are obscured by overburden. Ground geophysical surveys may be required to elucidate structure, lithology and extent of mineralization. Contingent upon favourable results, diamond drilling may be required to further evaluate the mineral potential of the AuByrd Property.



T. Faragher, B.Sc. (Geol.)



Edmonton, Alberta

2000 06 22

6.

REFERENCES

- Goble, R. (1984) Mineralogy and petrology of the Commerce Mountain copper/gold deposit; B.C. Min. of Energy, Mines, and Petr. Resources assessment report 12,638, 23 p., 4 figs.
- Grant, B. (1985) Assessment Report Sambo #1; B.C. Min. of Energy, Mines, and Petr. Resources assessment report 13,978, 12 p., 3 figs.
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- International Curator Resources Ltd. (1999b) Corporate press release dated 09/15/99.
- Lenard, N.C. (1977) Howell Creek Prospect; B.C. Min. of Energy, Mines, and Petr. Resources assessment report 6387.
- Morton, J.W. and Garratt, G.L. (1999) Crowsnest Project Executive Summary; unpublished report dated April, 1999 for Eastfield Resources Ltd., 6 p.
- Noakes, S.B. (1984) Howell Property; B.C. Min. of Energy, Mines, and Petr. Resources assessment report 13,242.
- Northern Miner (1974) Article dated 21/02/74 in Canadian mineral deposits not being Mined; Energy, Mines and Resources Canada, Mineral Bulletin MR 223, November, 1989, B.C. 42.
- Price, R. A.(1962) Fernie map-area, east half, Alberta and British Columbia; Geol. Sur. of Can. Paper 61-24.
- Price, R. A.(1965) Flathead map-area, British Columbia and Alberta; Geol. Sur. of Can. Mem. 336.
- Stephens, M. (2000) Dighem survey for Aubryd Property, Comm Property, and Commerce Property; unpublished report dated February, 2000 for Dahrouge Geological Consulting Ltd. by Geoterrex-Dighem, 45 p.
- Stevenson, R.W. (1968) Final Report – 1967 Waterton Copper Project; unpublished report dated January, 1968 for Kennco Explorations, 20 p., 2 appendices.
- Trueman, E. (1970) Exploration – 1970 Flathead Project; unpublished report dated October, 1970 for Alcor Minerals Ltd. by Geowest Services Ltd., 15 p., 15 figs, 5 appendices.

APPENDIX 1: ITEMIZED COST STATEMENT

a) Personnel

J. Dahrouge, geologist

1.8 days arranging for airborne geophysics, report writing, and supervision

1.8 days @ \$ 428.00

\$ 776.82

T. Faragher, geologist

4.8 days review geophysical data, report writing

4.8 days @ \$ 374.50

\$ 1,791.98

W. McGuire, draftsman

3.1 days preparing figures and maps

3.1 days @ \$ 374.50

\$ 1,161.70

\$ 3,730.50**b) Food and Accommodation** n/a**c) Transportation** n/a**d) Instrument Rental** n/a**e) Drilling** n/a**f) Analyses** n/a**g) Report** \$ 75.00**h) Other**

Airborne Geophysics (Geoterrex-Dighem) \$ 12,803.41

Geophysical Data Interpretation (Intrepid Geophysics) \$ 847.44

Courier \$ 30.93

Long distance telephone \$ 3.98

Map reproductions \$ 33.01

\$ 13,793.77**Total**

\$ 17,524.27

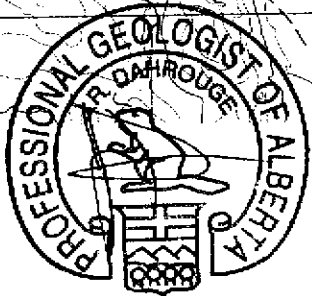
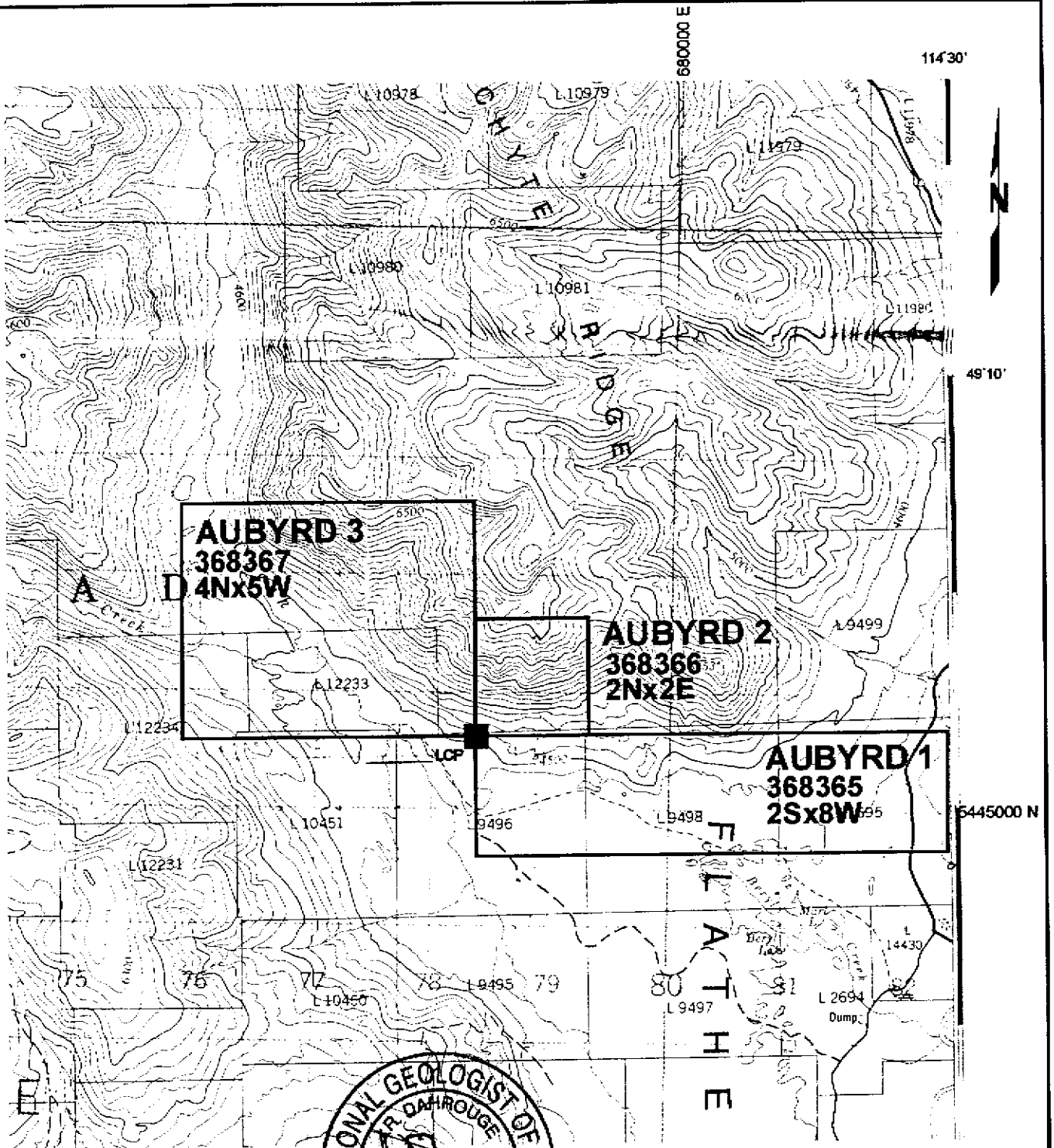
APPENDIX 2: STATEMENT OF QUALIFICATIONS

T. Faragher obtained a degree in geology from the University of Alberta, Edmonton in 1988. He has more than 10 years of experience in mineral exploration.



The work described in the report was under the supervision of J.R. Dahrouge who obtained degrees in geology and computing science from the University of Alberta, Edmonton in 1988 and 1994 respectively. He has more than 10 years of experience in mineral exploration. He is a member of the Canadian Institute of Mining and Metallurgy and is registered as P.Geol. with the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.



AUBYRD PROPERTY	
DAHROUGE GEOLOGICAL CONSULTING LTD. Edmonton, Alberta	
CROWNEST PASS AREA, BRITISH COLUMBIA	
Figure 1.1 Location Map	
TF	2000.03

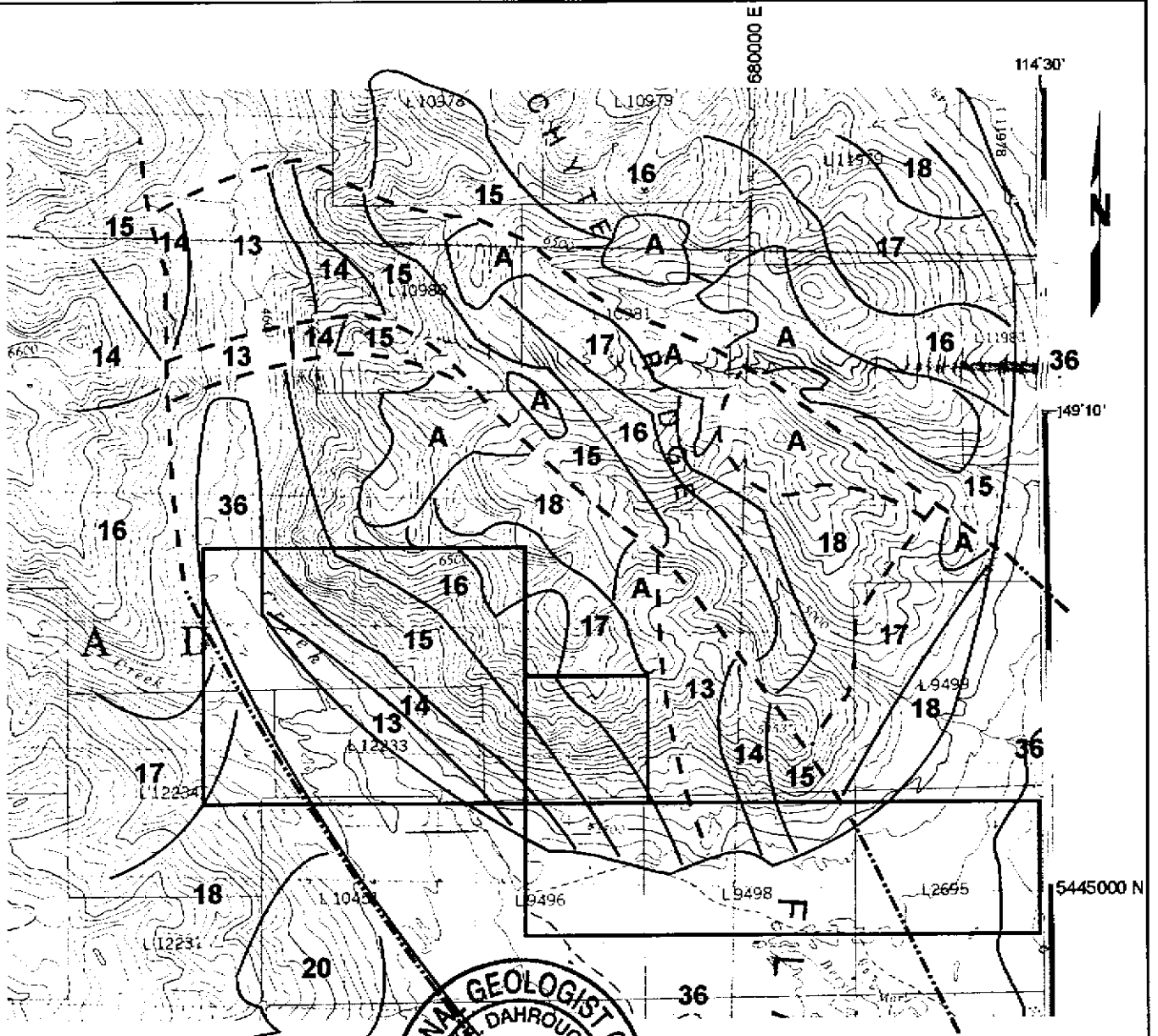


SYMBOLS

- Aubyrd 1  Claim, identifier
-  Contour interval 100 feet

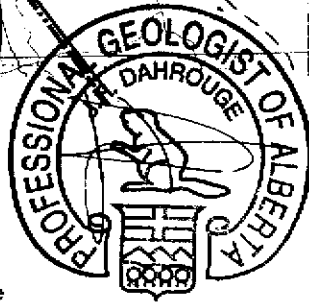


AUBYRD PROPERTY
DAHROUGE GEOLOGICAL CONSULTING LTD. Edmonton, Alberta
CROWSNEST PASS AREA, BRITISH COLUMBIA
Figure 1.2 Property Map
TF 2000.03



LEGEND

- 36 Pleistocene and Recent
till, gravel, sand, silt, alluvium
- 20 Triassic Spray River Formation
dark grey silty shale, siltstone, and shale
- 18 Pennsylvanian and Permian Rocky Mountain Formation
light grey quartzitic, dolomitic, and calcareous sandstone
- 17 Mississippian Etherington Formation
light grey limestone; dolomite; green and red shale; siltstone
- 16 Mississippian Mount Head Formation
dense dark grey and black limestone and argillaceous dolomite
- 15 Mississippian Livingstone Formation
light grey skeletal calcarenitic limestone; dolomite
- 14 Mississippian Exshaw and Banff Formations
black shale; dark grey cherty, argillaceous limestone
- 13 Devonian Palliser Formation
dark grey, fine crystalline limestone; dolomitic limestone
- A Early Cretaceous or Tertiary
trachyte, syenite, latite, felsite, intrusion breccia



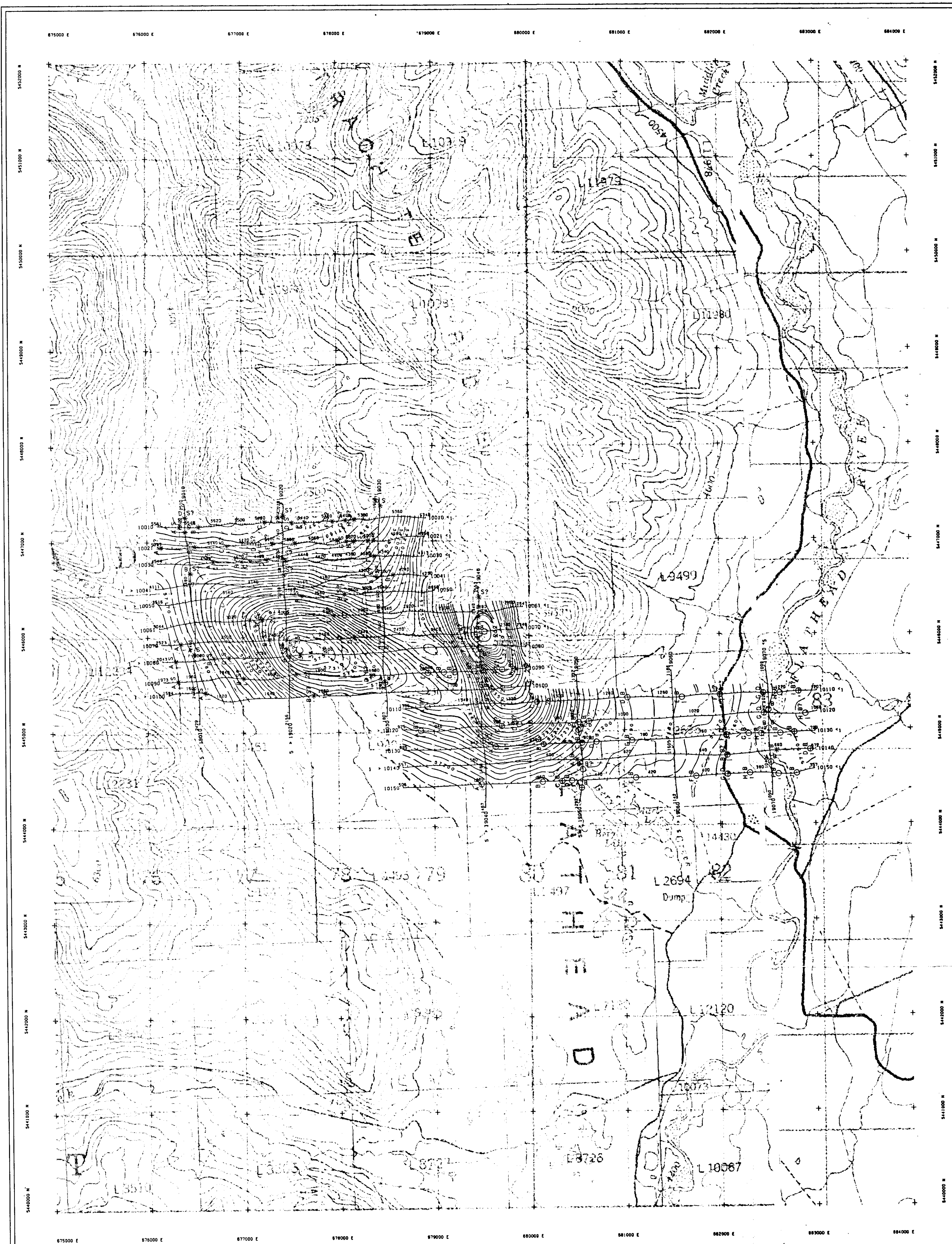
SYMBOLS

- Claim
- Geologic boundary
- Fault (defined, approximate)



AUBYRD PROPERTY
DAHROUGE GEOLOGICAL CONSULTING LTD. Edmonton, Alberta
CROWNEST PASS AREA, BRITISH COLUMBIA
Figure 3.1 Property Geology
TF 2000.03

* geology modified after Price (1964)



TECHNICAL SUMMARY

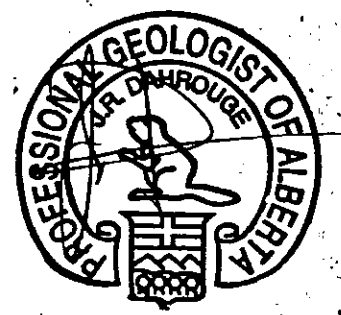
Navigation Differentially-corrected GPS
 Data reduction grid interval 50 metres
 Terrain clearance Helicopter 57 m
 Electromagnetic sensor 30 m
 Magnetometer 30 m
 Data sampling interval 0.1 second
 Magnetometer / sensitivity Caesium / 0.01 nT
 Electromagnetic system DIGHEM

Frequency	Sensitivity	Coil Orientation
800 Hz	.08 ppm	Vertical coaxial
5500 Hz	.12 ppm	Vertical coaxial
300 Hz	.12 ppm	Horizontal coplanar
7200 Hz	.24 ppm	Horizontal coplanar
56000 Hz	.60 ppm	Horizontal coplanar



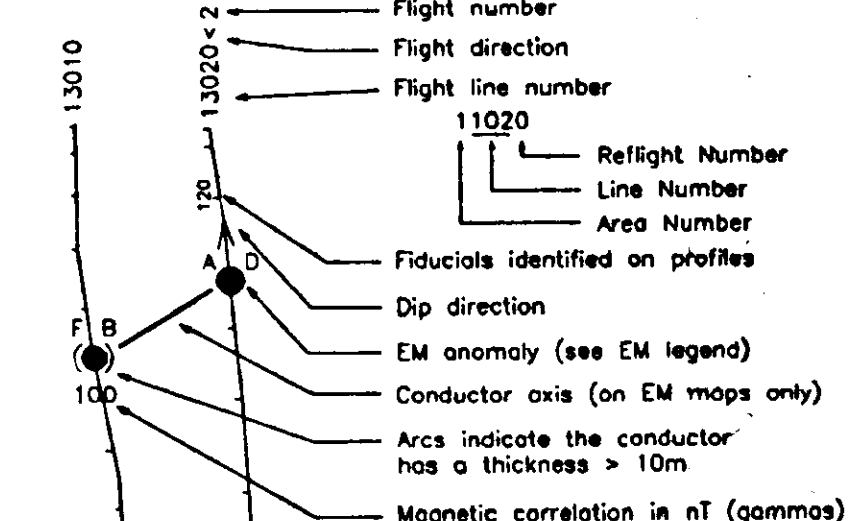
ELECTROMAGNETIC ANOMALIES

Grade	Anomaly	Conductance
7	●	>100 siemens
6	●	50-100 siemens
5	●	20-50 siemens
4	●	10-20 siemens
3	●	5-10 siemens
2	●	1-5 siemens
1	●	< 1 siemens
-	*	Questionable anomaly

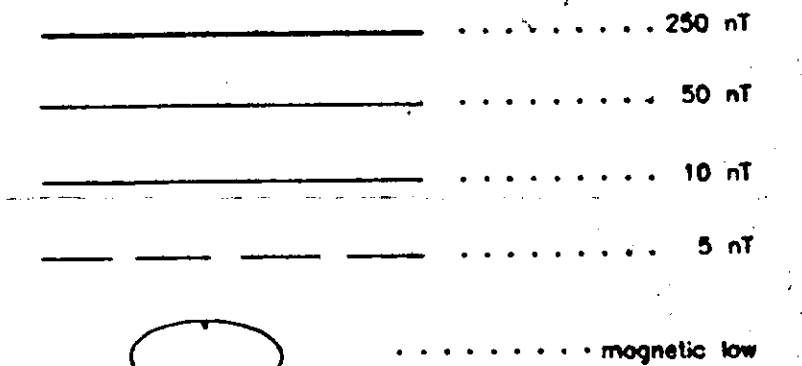


Anomaly identifier	Interpretive symbol	Interpretive symbol	Conductor ("model")
Depth is greater than	Inphase and Quadrature of coaxial coil is greater than	B	Bedrock conductor
15 m	15 ppm	D	Narrow bedrock conductor ("thin disc")
30 m	10 ppm	S	Conductive cover ("horizontal thin sheet")
45 m	5 ppm	H	Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space")
60 m	20 ppm	E	Edge of broad conductor ("edge of half space")
		L	Culture, e.g. power line, metal building or fence

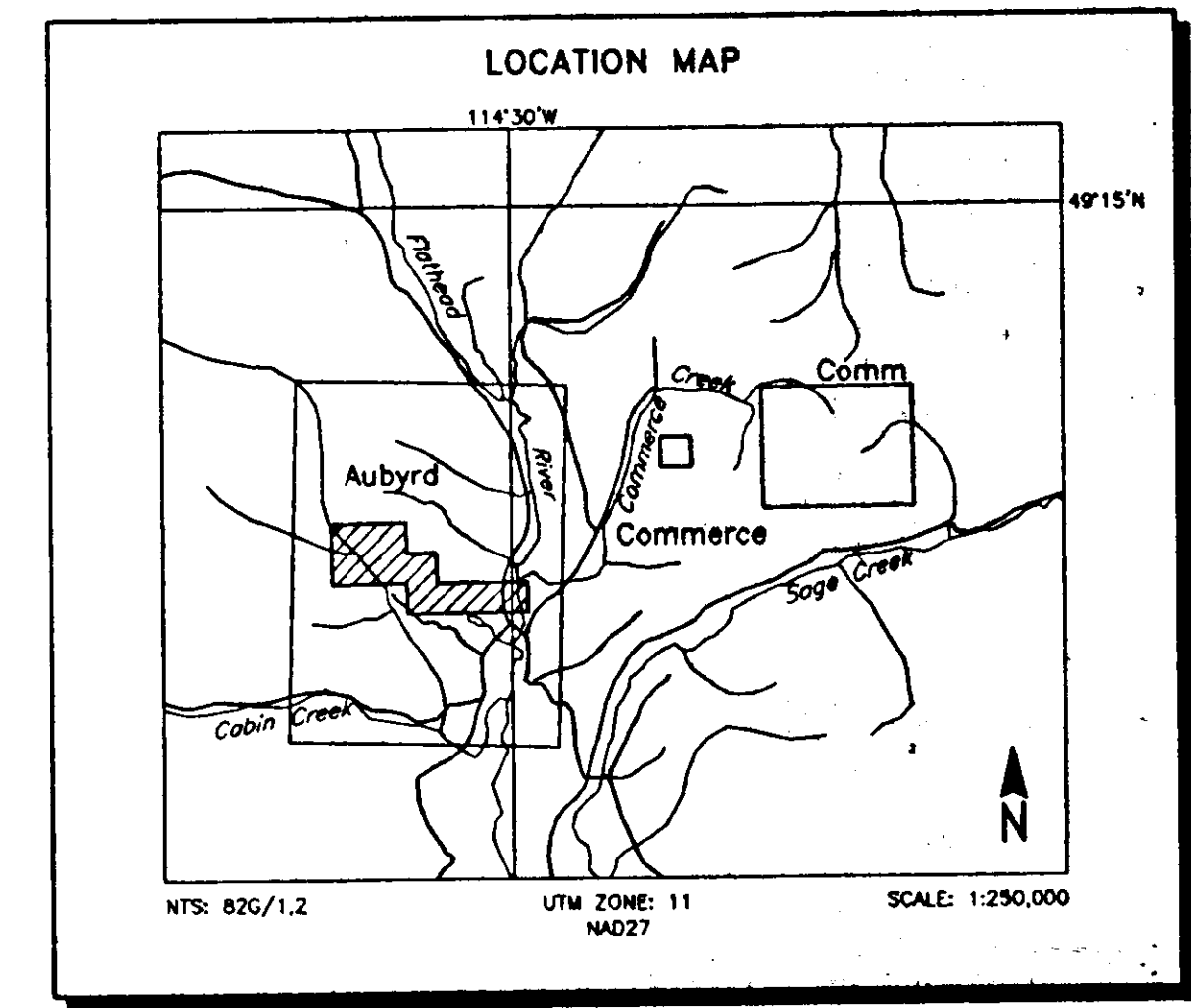
FLIGHT LINES WITH EM ANOMALIES



TOTAL MAGNETIC FIELD CONTOURS



Magnetic inclination within the survey area: 73 degrees N
 Magnetic declination within the survey area: 17 degrees E



ROCCA RESOURCES LTD.
 AUBYRD PROPERTY, B.C.

TOTAL MAGNETIC FIELD

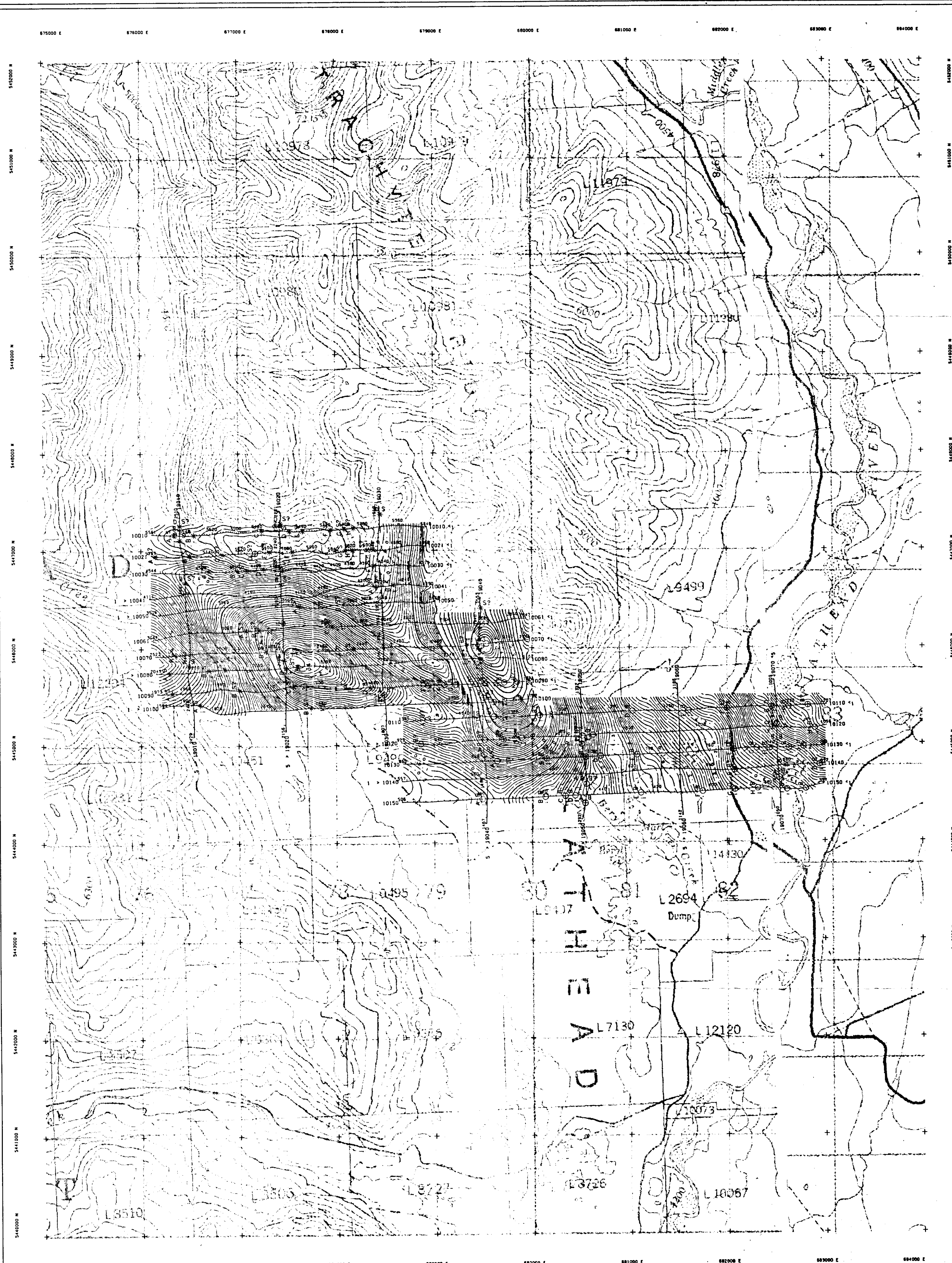
DIGHEM SURVEY	NTS: 82G/1,2	GEOPHYSICIST: MB
DATE: DECEMBER, 1999	JOB: 992014	SHEET: 26:279

Geotrex-DigheM, A division of CGG Canada Ltd.

Scale 1:20 000

geotrex-digheM
 Airborne & Ground Geophysics

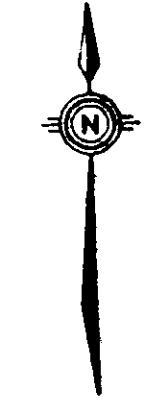
FIG. 4.1



TECHNICAL SUMMARY

Navigation: Differentially-corrected GPS
 Data reduction grid interval: 50 metres
 Terrain clearance: Helicopter 57 m
 Electromagnetic sensor 30 m
 Magnetometer 30 m
 Data sampling interval: 0.1 second
 Magnetometer sensitivity: Cesium / 0.01 nT
 Electromagnetic system: DIGHEM*

Frequency	Sensitivity	Coil Orientation
900 Hz	.06 ppm	Vertical coplanar
5500 Hz	.12 ppm	Vertical coplanar
800 Hz	.12 ppm	Horizontal coplanar
7200 Hz	.24 ppm	Horizontal coplanar
56000 Hz	.60 ppm	Horizontal coplanar



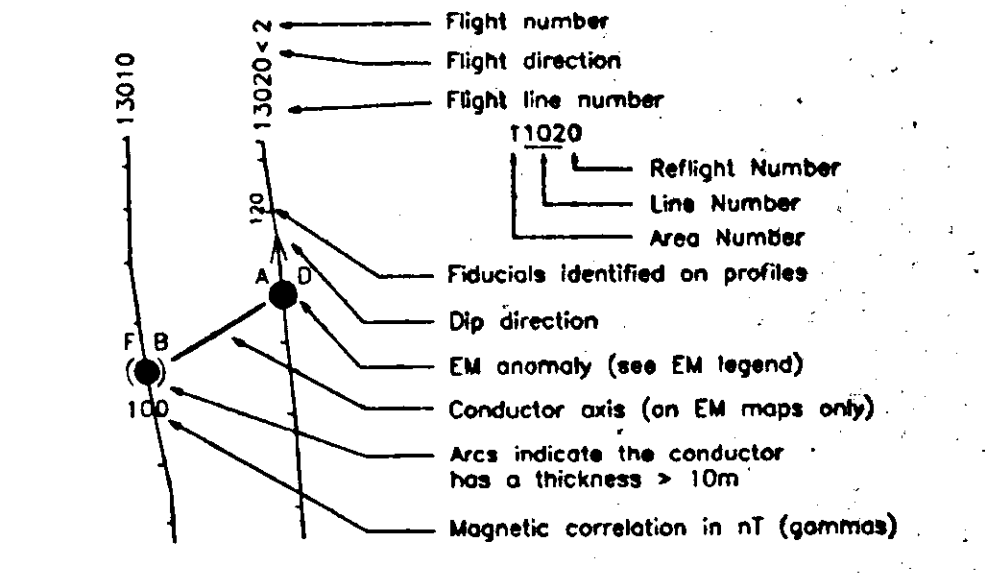
ELECTROMAGNETIC ANOMALIES

Grade	Anomaly	Conductance
7	●	>100 siemens
6	●	50-100 siemens
5	●	20-50 siemens
4	●	10-20 siemens
3	●	5-10 siemens
2	●	1-5 siemens
1	●	< 1 siemens
	*	Questionable anomaly

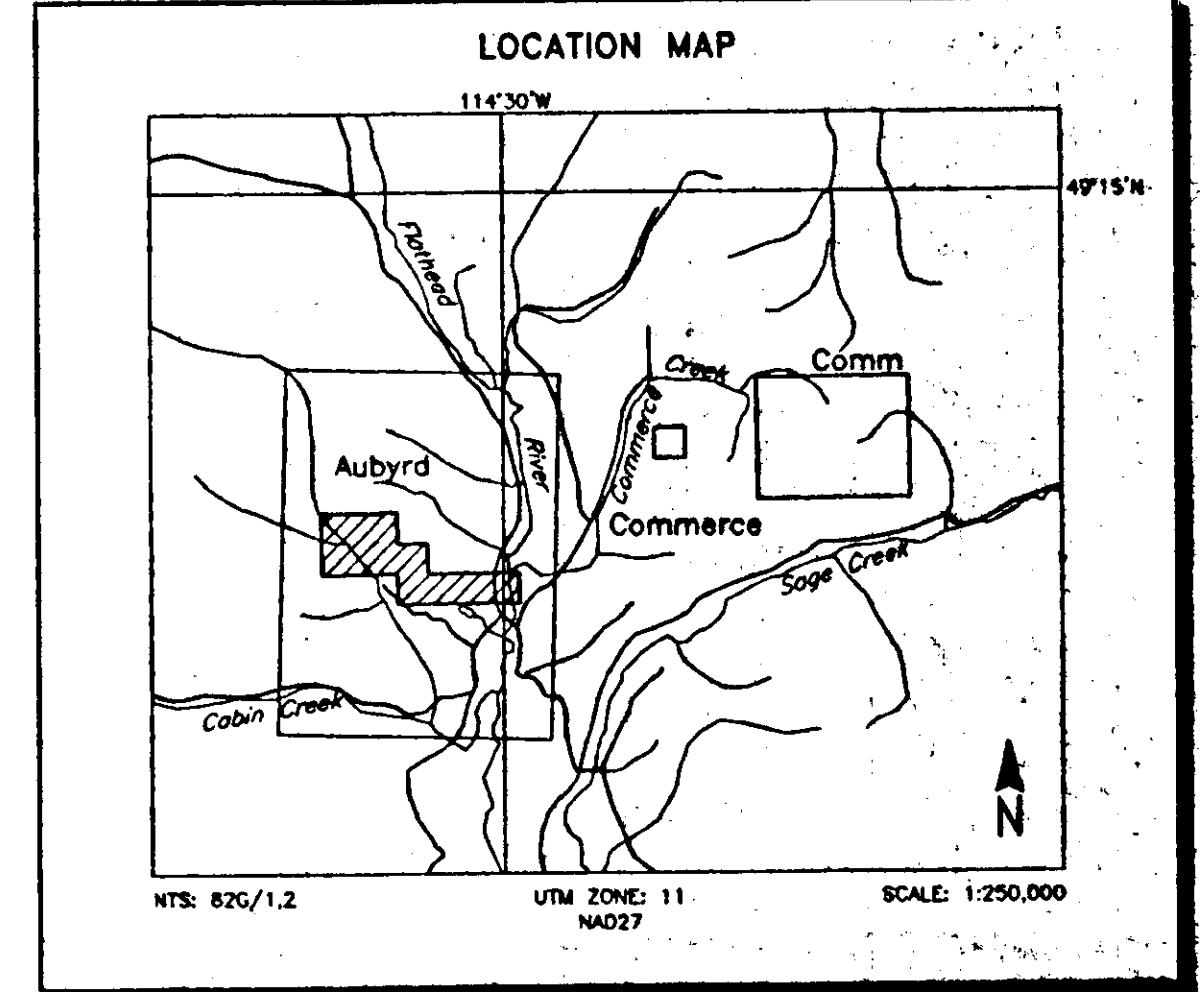
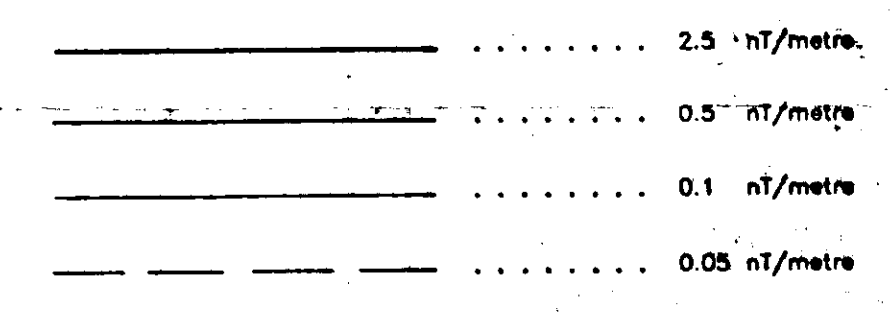


Interpretive symbol
 B Bedrock conductor
 S Narrow bedrock conductor ("thin die")
 S Conductive cover ("horizontal thin sheet")
 H Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space")
 E Edge of broad conductor ("slope of half space")
 L Culture, e.g. power line,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

FLIGHT LINES WITH EM ANOMALIES



CALCULATED VERTICAL GRADIENT CONTOURS



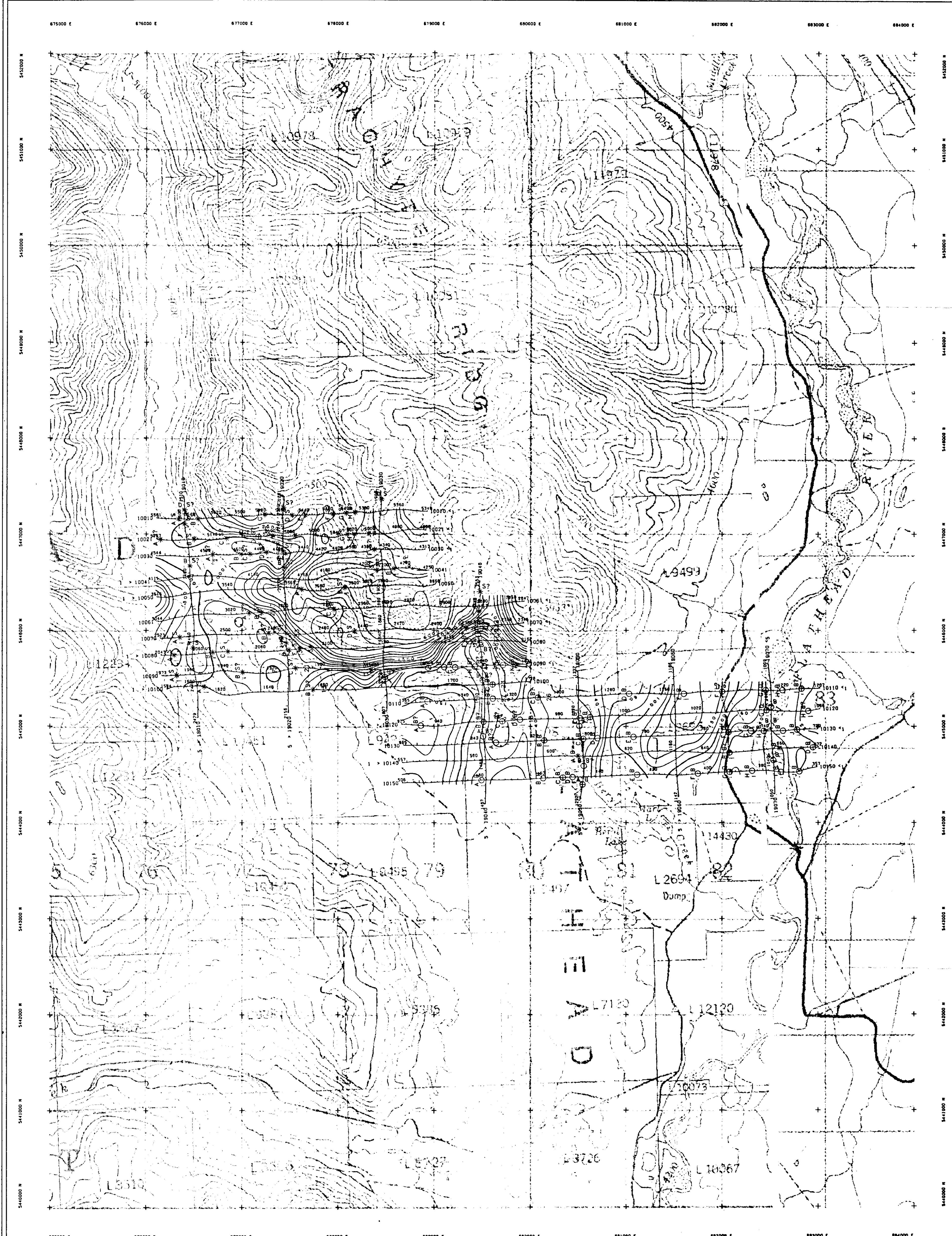
ROCCA RESOURCES LTD.
 AUBYRD PROPERTY, B.C.

CALCULATED VERTICAL MAGNETIC GRADIENT

DIGHEM* SURVEY	NTS: 82G/1,2	GEOPHYSICIST: <i>MS</i>
DATE: DECEMBER, 1999	JOB: 992014	SHEET: 26,279

Geotrex-DigheM, A division of CGG Canada Ltd.





TECHNICAL SUMMARY

Navigation: Differentially-corrected GPS
 Data reduction grid interval: 50 metres
 Terrain clearance: Helicopter 5.7 m
 Electromagnetic sensor 30 m
 Magnetometer 30 m
 Data sampling interval: 0.1 second
 Magnetometer sensitivity: 0.01 nT
 Electromagnetic system: DIGEM[®]

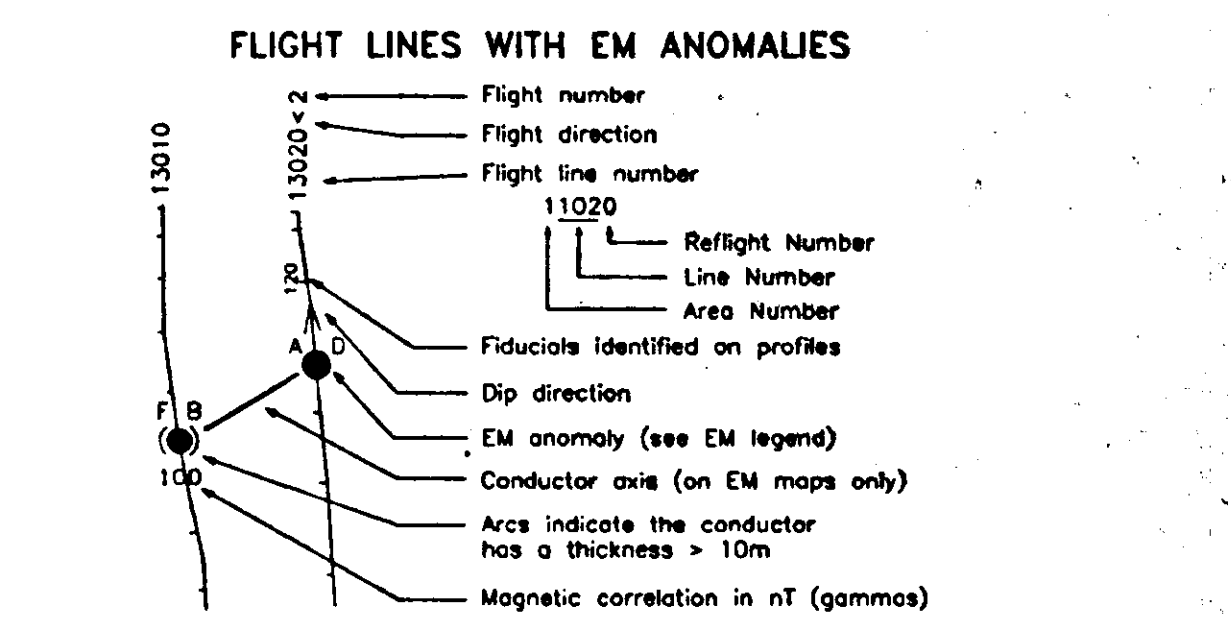
Frequency	Sensitivity	Coil Orientation
900 Hz	.06 ppm	Vertical coplanar
5500 Hz	.12 ppm	Vertical coplanar
900 Hz	.12 ppm	Horizontal coplanar
7200 Hz	.24 ppm	Horizontal coplanar
56000 Hz	.60 ppm	Horizontal coplanar

ELECTROMAGNETIC ANOMALIES

Grade	Anomaly	Conductance
7	●	>100 siemens
6	●	50-100 siemens
5	●	20-50 siemens
4	●	10-20 siemens
3	●	5-10 siemens
2	●	1-5 siemens
1	●	<1 siemens
-	*	Questionable anomaly

Interpretive symbol

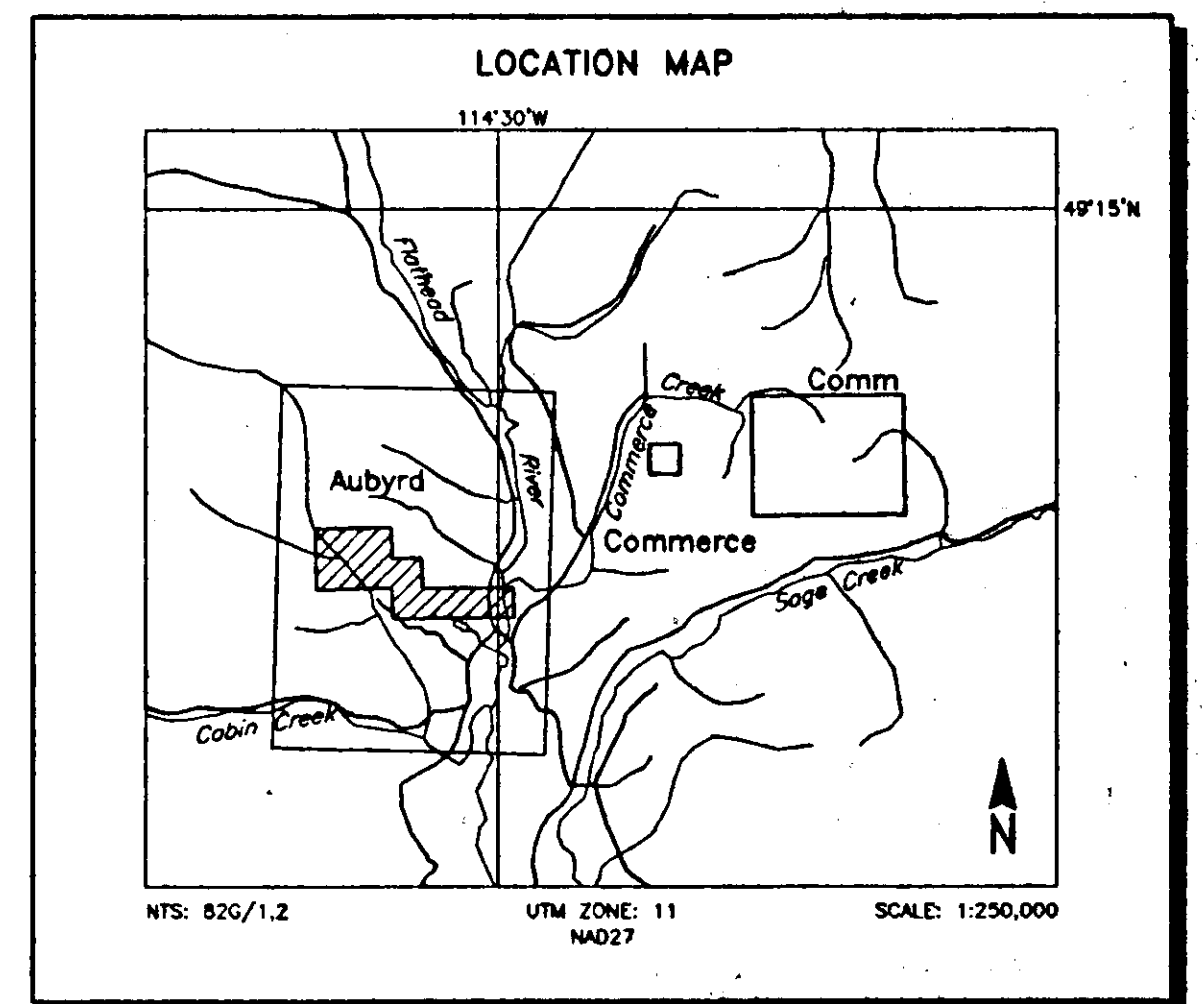
Interpretive symbol	Conductor ("mode")
B	Bedrock conductor
D	Narrow bedrock conductor ("thin dike")
S	Conductive cover (horizontal thin sheet)
H	Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space")
E	Edge of broad conductor ("edge of half space")
L	Culture, e.g.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



RESISTIVITY CONTOURS

1000
800
600
500
400
300
250
200
150
125
100

Contours in ohm-m at 10 intervals per decade. Apparent resistivity calculated using a pseudo-layer half-space model (Frasier 1978).



ROCCA RESOURCES LTD.
 AUBYRD PROPERTY, B.C.

APPARENT RESISTIVITY
 7200 Hz COPLANAR

DIGEM [®] SURVEY	NTS: 82G/1.2	GEOPHYSICIST: <i>AS</i>
DATE: DECEMBER, 1999	JOB: 992014	SHEET: 1

Geotrex-Dighem, A division of CGG Canada Ltd.

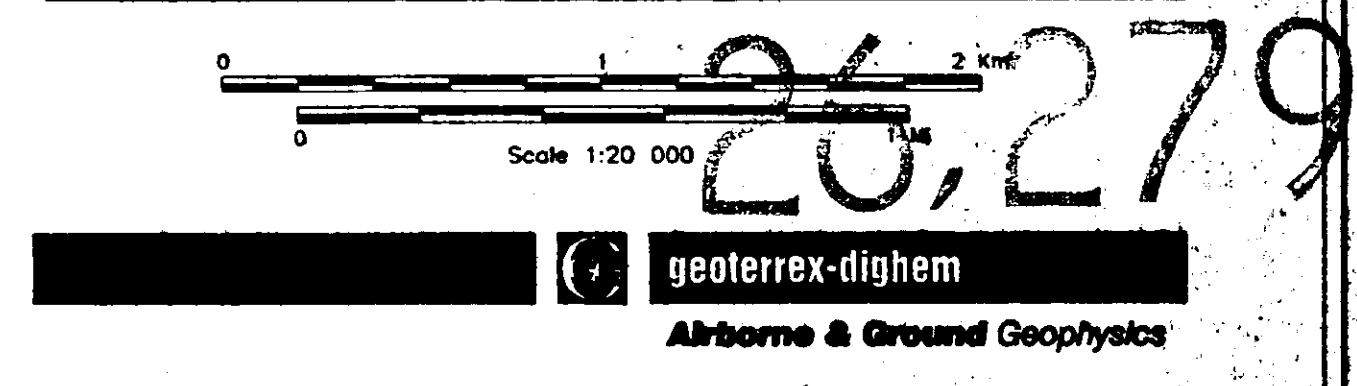
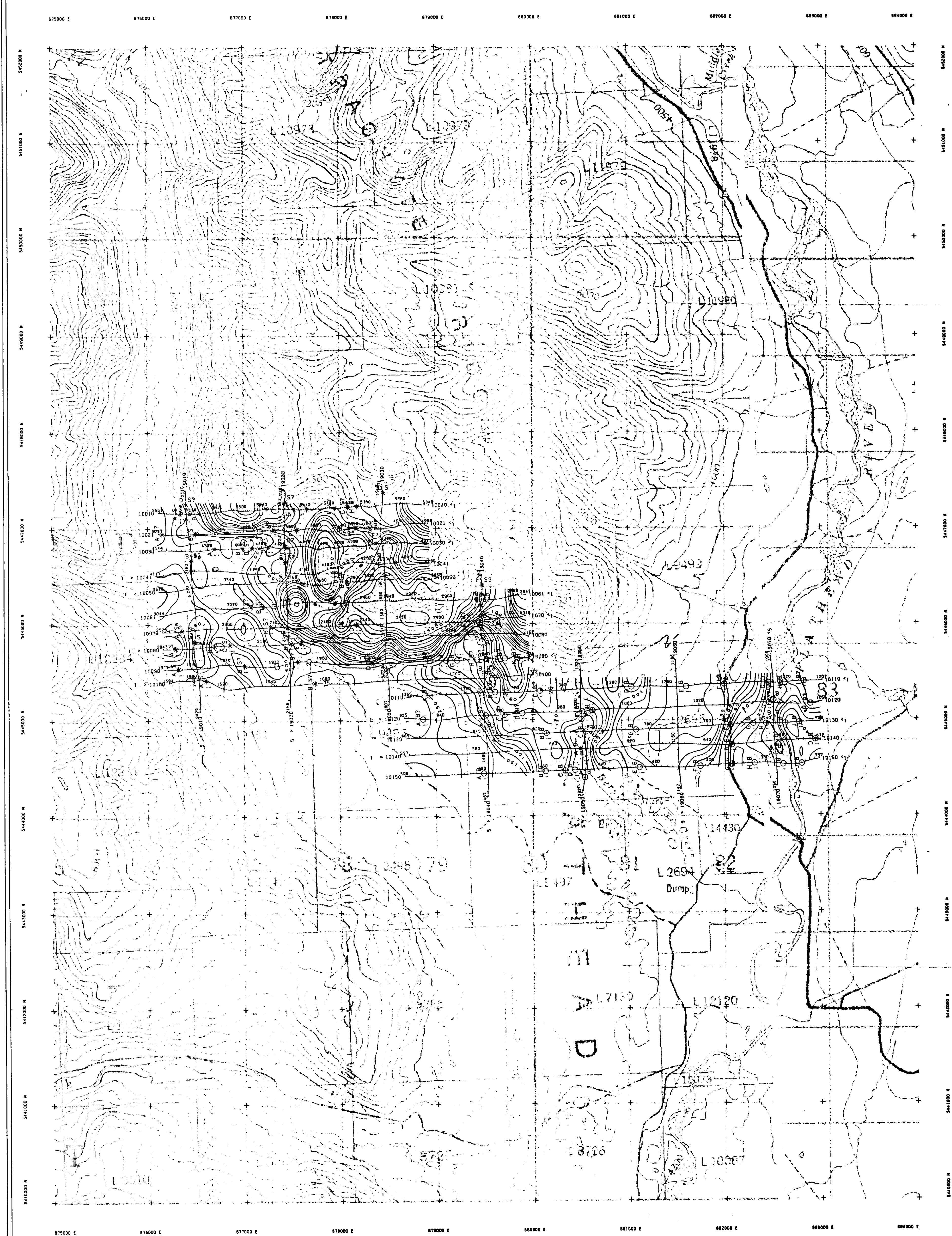


FIG. 4.3



TECHNICAL SUMMARY

Navigation	Differentially-corrected GPS
Data reduction grid interval	50 metres
Terrain clearance	Helicopter 57 m Electromagnetic sensor 30 m
Data sampling interval	Magnetometer 30 m 0.1 second
Magnetometer / sensitivity	Cesium / 0.01 nT
Electromagnetic system	DIGHEM

Frequency	Sensitivity	Coil Orientation
900 Hz	06 ppm	Vertical coplanar
5500 Hz	12 ppm	Vertical coplanar
900 Hz	12 ppm	Horizontal coplanar
7200 Hz	24 ppm	Horizontal coplanar
56000 Hz	60 pprr	Horizontal coplanar

ELECTROMAGNETIC ANOMALIES

Grade	Anomaly	Conductance
7	●	>100 siemens
6	●	50-100 siemens
5	●	20-50 siemens
4	●	10-20 siemens
3	●	5-10 siemens
2	●	1-5 siemens
1	●	<1 siemens
-	*	Questionable anomaly

Anomaly identifier	Interpretive symbol	Interpretive symbol	Conductor ("model")
CH	●	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, metal building or fence

FLIGHT LINES WITH EM ANOMALIES

Depth is greater than:

- 15 m
- 30 m
- 45 m
- 60 m

In-phase and Quadrature of coaxial coil is greater than:

- 5 ppm
- 10 ppm
- 15 ppm
- 20 ppm

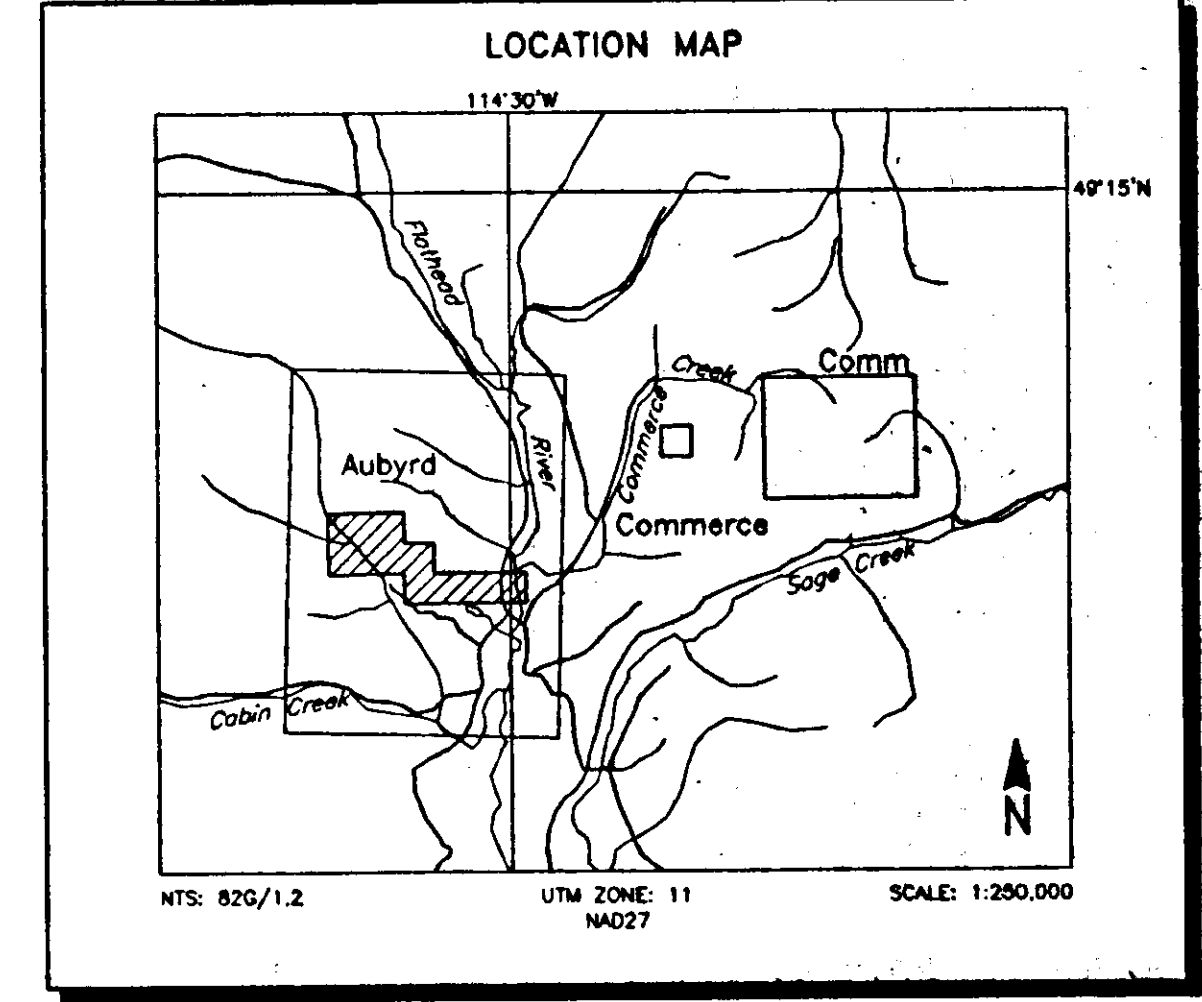
Legend for flight lines:

- Flight number
- Flight direction
- Flight line number
- Reflight Number
- Line Number
- Area Number
- Fiducials identified on profiles
- Dip direction
- EM anomaly (see EM legend)
- Conductor axis (on EM maps only)
- Arcs indicate the conductor has a thickness > 10m
- Magnetic correlation in nT (gammas)

RESISTIVITY CONTOURS

1000
800
600
500
400
300
250
200
150
125
100

Contours in ohm-m at 10 intervals per decade. Apparent resistivity calculated using a pseudo-layer half-space model (Fraser 1978).



ROCCA RESOURCES LTD.
AUBYRD PROPERTY, B.C.

APPARENT RESISTIVITY
56,000 Hz COPLANAR

DIGHEM SURVEY	NTS: 820/1.2	GEOPHYSICIST: <i>15</i>
DATE: DECEMBER, 1999	JOB: 992014	SPECIAL SURVEY
Geotrex-DigheM, A division of CGG Canada Ltd.		

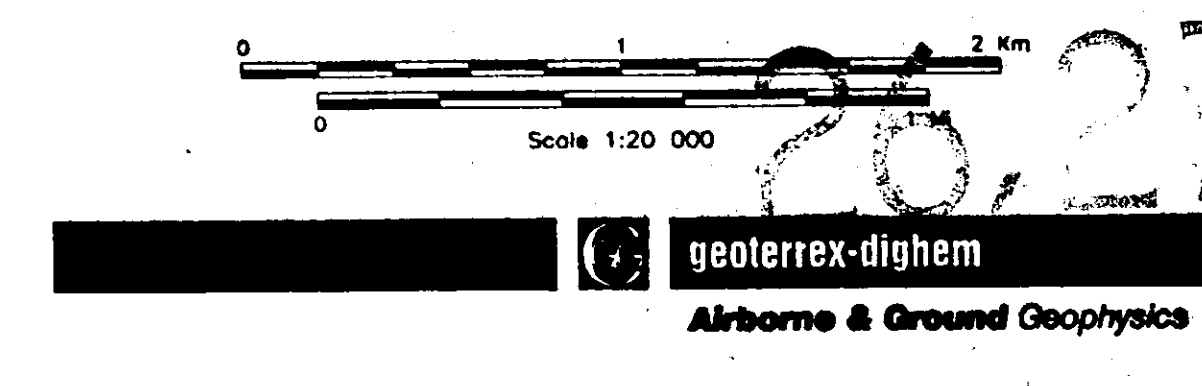
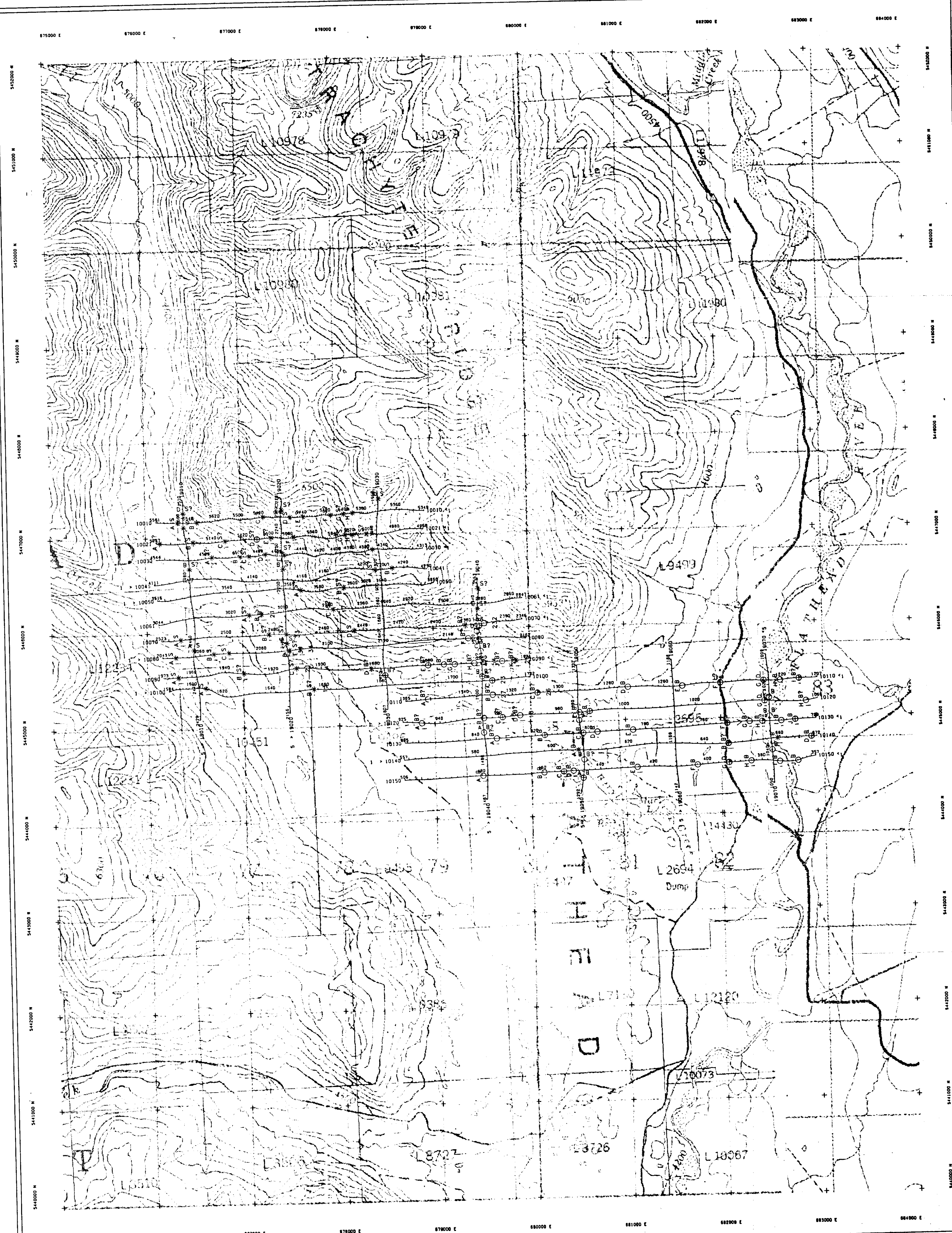


FIG. 4.4



TECHNICAL SUMMARY

Navigation: Differential-corrected GPS
 Data reduction grid interval: 50 metres
 Terrain clearance: Helicopter 57 m
 Electromagnetic sensor 30 m
 Magnetometer 30 m
 Data sampling interval: 0.1 second
 Magnetometer sensitivity: Caesium / 0.01 nT
 Electromagnetic system: DIGHEM

Frequency	Sensitivity	Coil Orientation
900 Hz	06 ppm	Vertical coaxial
5500 Hz	12 ppm	Vertical coaxial
900 Hz	12 ppm	Horizontal coplanar
7200 Hz	24 ppm	Horizontal coplanar
56000 Hz	60 ppm	Horizontal coplanar



ELECTROMAGNETIC ANOMALIES

Grade	Anomaly	Conductance
7	●	>100 siemens
6	●	50-100 siemens
5	●	20-50 siemens
4	●	10-20 siemens
3	●	5-10 siemens
2	●	1-5 siemens
1	●	<1 siemens
-	*	Questionable anomaly

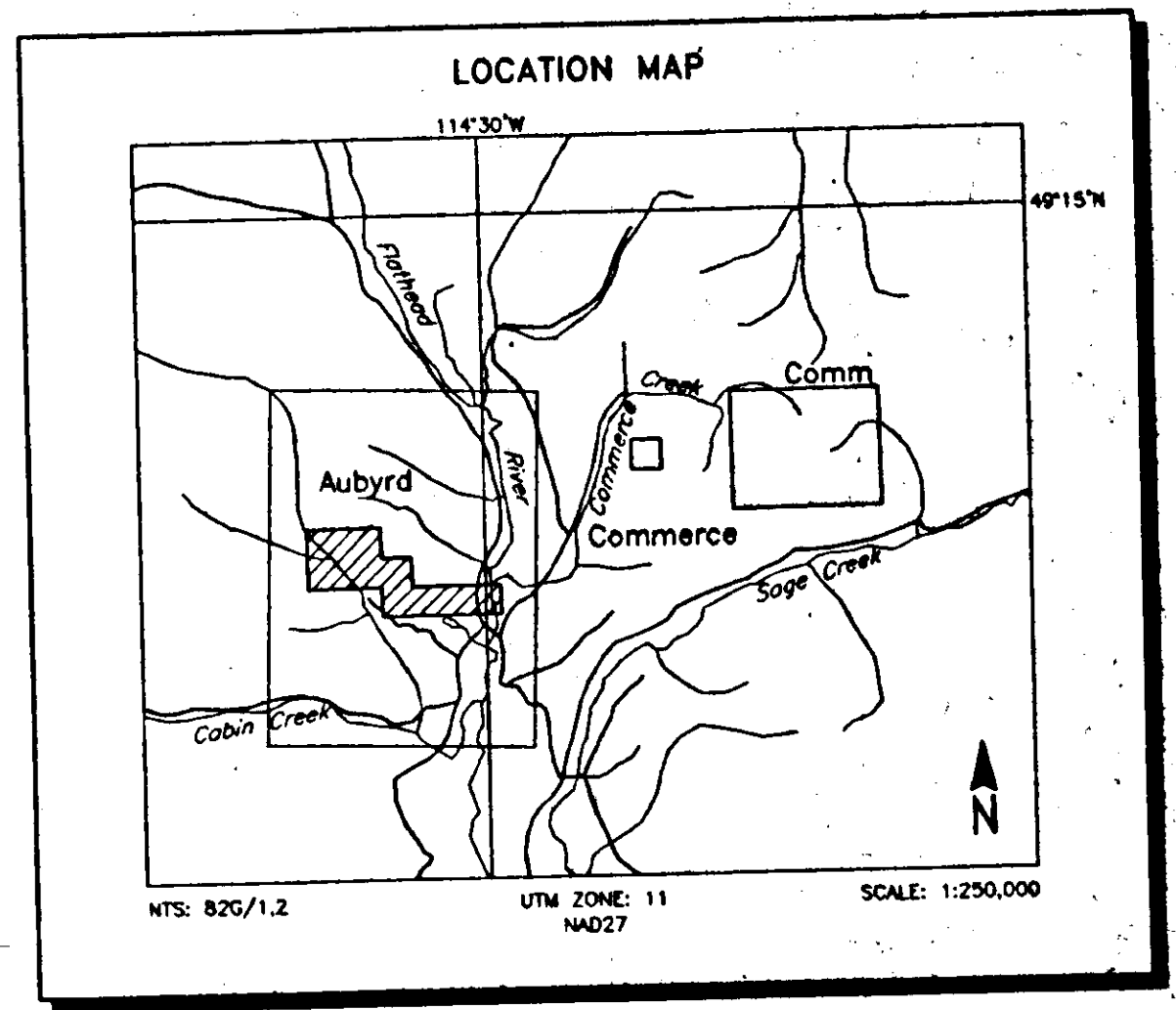
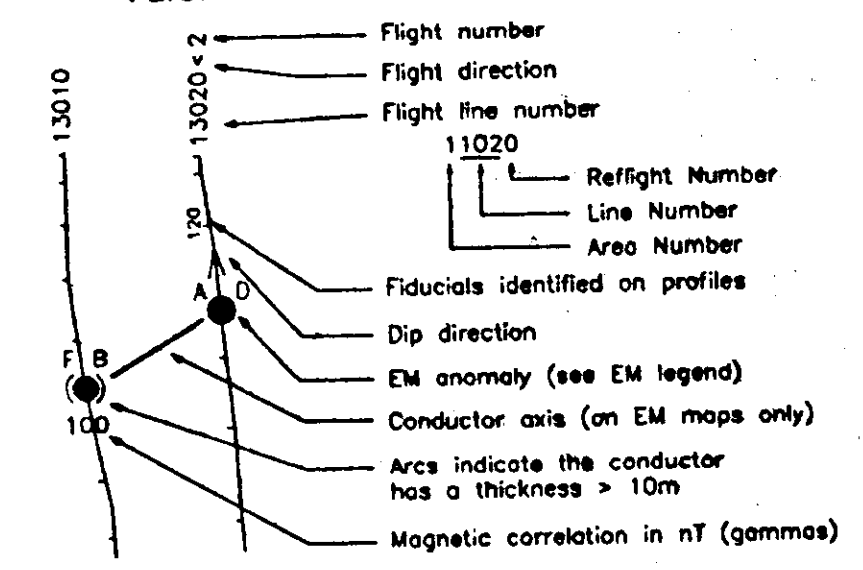


Anomaly identifier
 Depth is greater than:
 15 m
 30 m
 45 m
 60 m

Interpretive symbol
 Inphase and Quadrature of coaxial coil is greater than:
 5 ppm
 10 ppm
 15 ppm
 20 ppm

Conductor ("mode")
 B Bedrock conductor
 D Narrow bedrock conductor ("thin dikes")
 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")
 C Culture, e.g. power line, metal building or fence

FLIGHT LINES WITH EM ANOMALIES



ROCCA RESOURCES LTD.
 AUBYRD PROPERTY, B.C.

ELECTROMAGNETIC ANOMALIES

DIGHEM SURVEY	NTS: 82G/1.2	GEOPHYSICIST: <i>MS</i>
DATE: DECEMBER, 1999	JOB: 992014	SHEET: 20/279

Geotrex-DigheM, A division of CGG Canada Ltd. REPORT

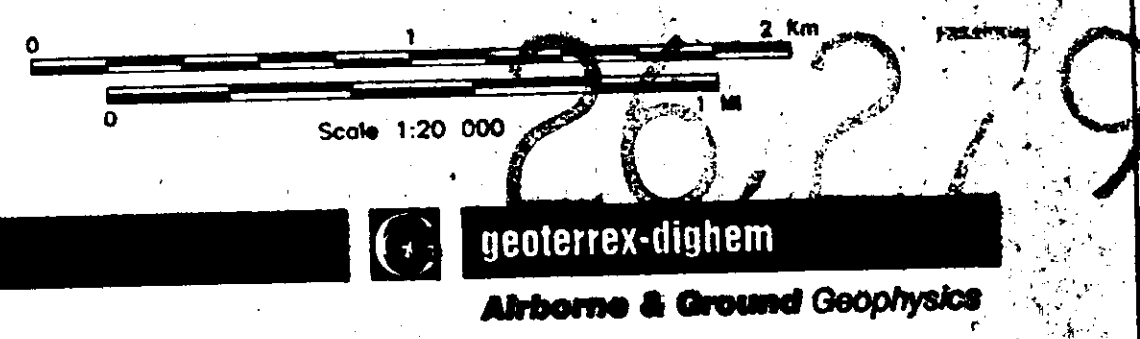


FIG. 4.5