

89-023

**YEIP**  
**89-023**

**DROMEDARY EXPLORATION COMPANY LTD.**

**DROMEDARY PROJECT**

Whitehorse/Mayo Mining Divisions

Yukon Territory

N.T.S. 105 L/14, L/15, L/16

Latitude 62° 55' N

Longitude 135° 00' W

by

Rebagliati Geological Consulting Ltd.

C.M. Rebagliati, P.Eng.

28 November, 1988

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Analytical Report

## INTRODUCTION

In September, 1988, Rebagliati Geological Consulting Ltd. was commissioned by Dromedary Exploration Company Ltd. to make an appraisal of the Company's Dromedary Project situated in the Dromedary-Kalzas Mountains area in central Yukon.

The current project incorporates part of Anaconda Canada Exploration Ltd.'s Selwyn Project which was investigated during the period 1980-1982. Work completed by Dromedary Exploration Company Ltd. in 1988 consisted of claim staking, prospecting, geochemical sampling, geological mapping, geophysics, and trenching during the period September 1 to 20, 1988. The work was supervised by Greg Smith, B.Sc., and Nicole Hulstein, B.Sc. of Aurum Geological Consultants Inc. Trenching was performed by M.J. Moreau Enterprises Ltd. of Whitehorse.

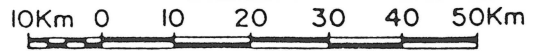
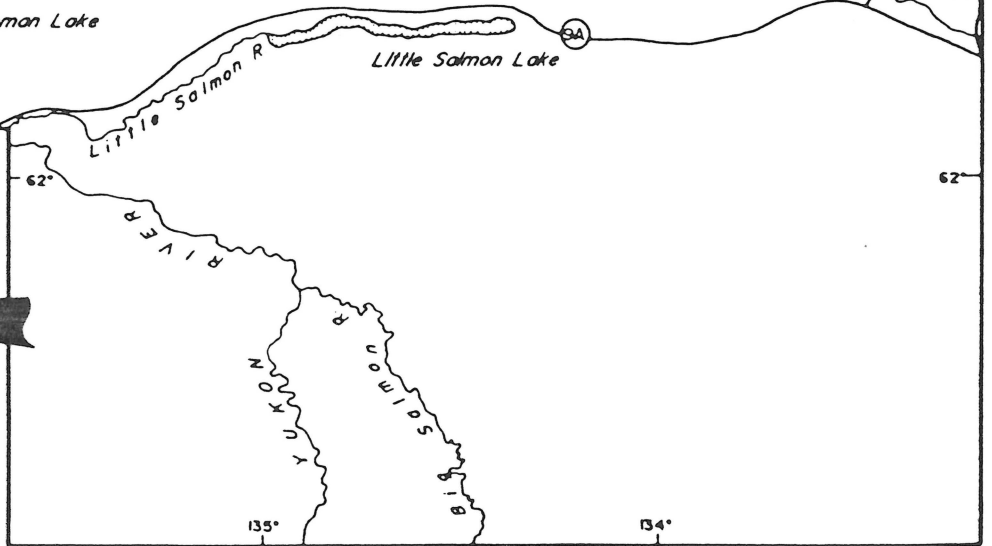
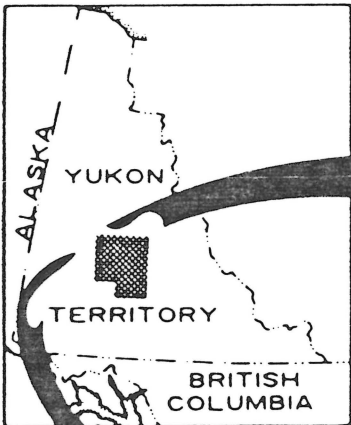
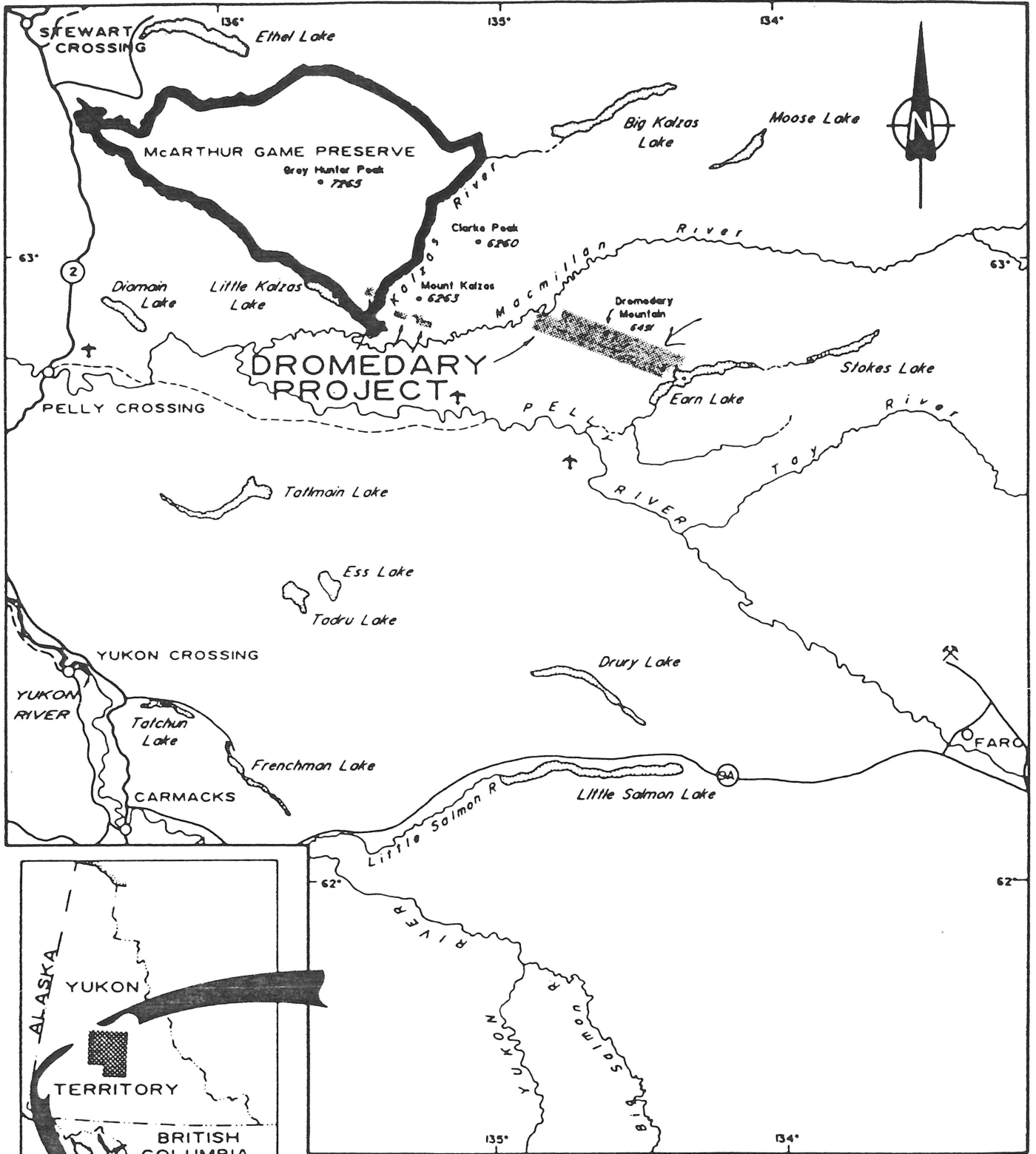
This report is based upon the writer's knowledge of the area gained by the study of available government and private reports; regional studies; prior data acquired by Anaconda Canada Exploration Ltd.; current exploration data provided by Aurum Geological Consultants Inc.; and a field examination on September 18, 1988.

## LOCATION AND ACCESS

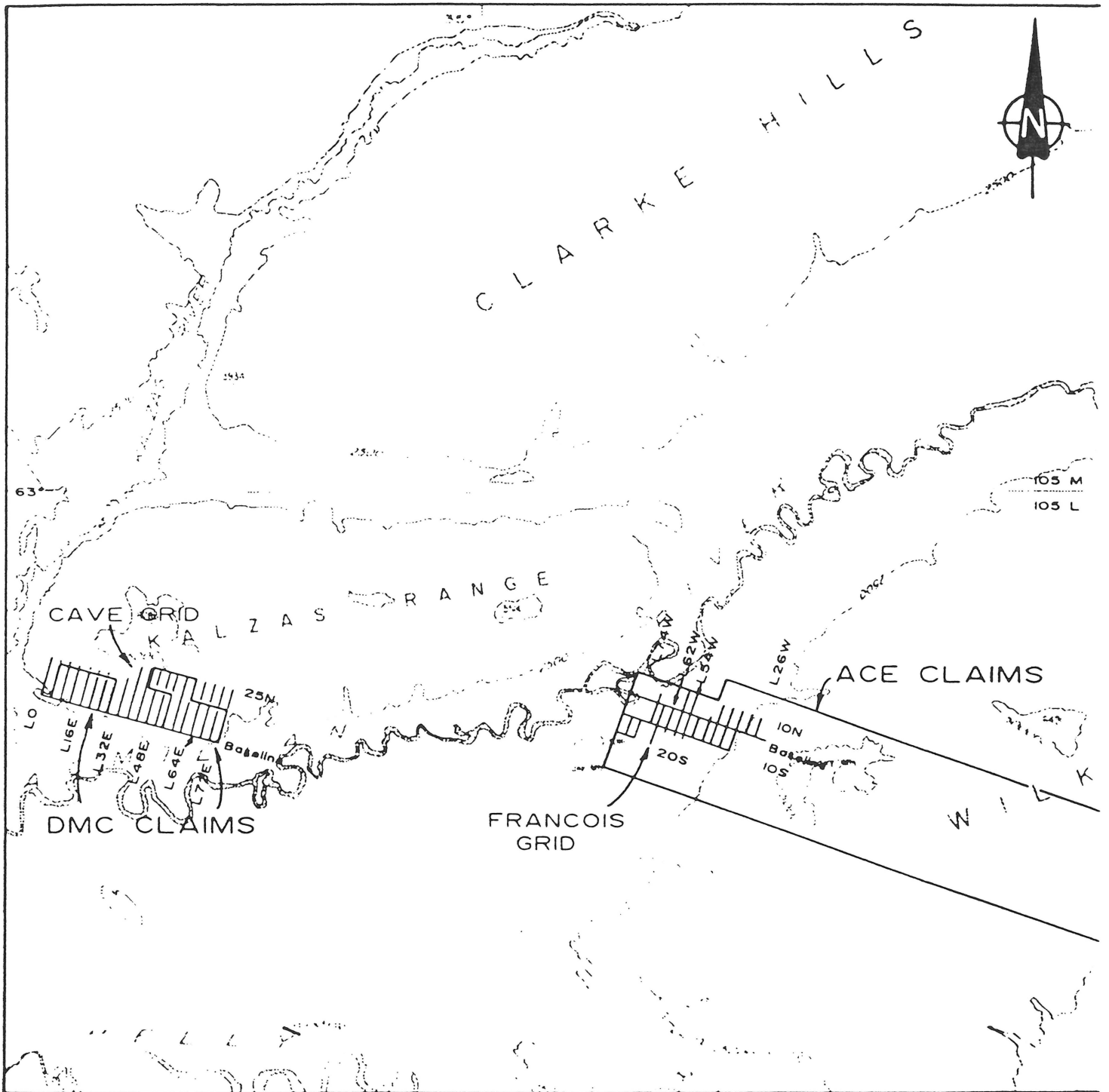
The Dromedary Project area is located in central Yukon, about 240 km north of Whitehorse (Figure 1). The geographic co-ordinates of a point approximately in the center of the Project is 62° 55' N and 135° 00' W, NTS Sheets 105 L/14, L/15, and L/16. The property is centered on the MacMillan River (Figure 2), between Little Kalzas Lake on the west and Earn Lake on the east.

Access to the property can be gained by helicopters based at Whitehorse and Carmacks. Suitable staging points for mobilization are a road-accessible airstrip at Pelly Crossing, fly-in airstrips at Clear Lake and Detour Lake, and float-plane access at Little Kalzas Lake and Earn Lake.

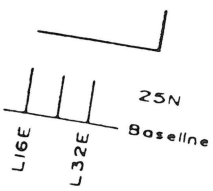
The area of investigation is situated within the Yukon Plateau physiographic province. Elevations range from 600 to 2,000 meters. Bedrock exposures are virtually restricted to rugged vegetation-free ground above 1,200 meters. Recent volcanic ash ranging in thickness up to one meter but averaging less than 10 cm covers a large part of the area. Permafrost is present *locally on north-facing slopes and valley floors*



DROMEDARY EXPLORATION CO. LTD.	
DROMEDARY PROJECT	
MAYO MINING DISTRICT	
LOCATION	
Aurum Geological Consultants Inc.	NOVEMBER, 1988

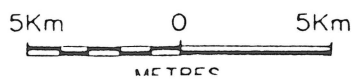


### LEGEND



claim boundary

grid location, baselines at approximately 110°



DROMEDARY EXPLORATION CO. LTD.  
DROMEDARY PROJECT

### GRID LOCATION

Aurum Geological Consultants Inc.		NOVEMBER, 1988	
NTS 105L/M	DRAWN BY NH	SCALE 1:250,000	FIGURE: 2

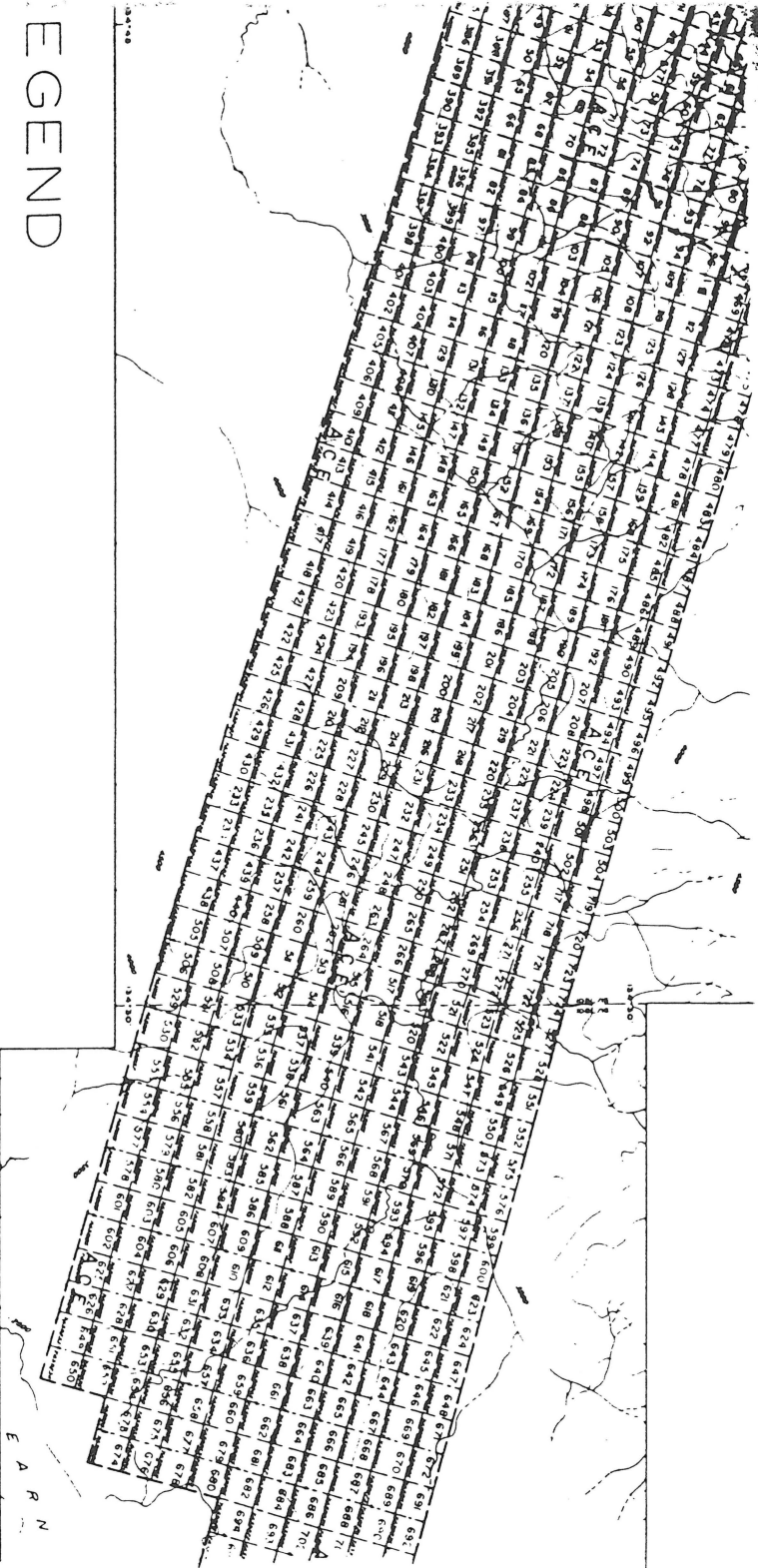
**CLAIMS**

The Dromedary Project consists of 800 unsurveyed two-post mineral claims covering about 16,700 hectares in four non-contiguous claim blocks in the Mayo and Whitehorse Mining Districts, Yukon. The writer has not examined any claim posts or claim lines and can pass no opinion on the manner of staking nor can he verify the position of the claims as depicted on the accompanying plans (Figures 3 and 4). Essential claim data are as follows:

Claim Name	Grant Number	Expiry Date*	Mining Division
ACE 1-64	YA52055-52118	May 1, 1989	Whitehorse
ACE 65-96	YA51438-469	May 1, 1989	Whitehorse
ACE 97-192	YA52119-214	May 1, 1989	Whitehorse
ACE 193-224	YA52251-282	May 1, 1989	Whitehorse
ACE 225-504	YA52283-562	May 1, 1989	Whitehorse
ACE 505-724	YA59089-308	May 1, 1989	Whitehorse
BUM 1-32	YA43696-727	May 1, 1990	Mayo
DMC 1-18	YB02749-766	Sept 6, 1989	Mayo
DMC 19-44	YB02819-844	Sept 26, 1989	Mayo

\* prior to filing 1988 assessment work.

The ACE and BUM claims are held by Fleck Resources Ltd. subject to option agreement with <sup>Gerald G. Carlson</sup> ~~Dromedary Exploration Company Ltd.~~, and the DMC claims are owned 100% by <sup>subsequently assigned to Dromedary Exploration Company Ltd.</sup> ~~Dromedary Exploration Company Ltd.~~. The claims are collectively known as the Dromedary Project and are shown on Yukon Quartz Sheets 105-L-14, L-15, and L-16.



# LEGEND

- claim boundary
- claim number
- log number
- staking direction

creek, river

pond

elevation contour, interval 500 ft.

Note: adapted from D.L.A.M.D. map sheets 105L/15 and 105L/16, revised June 27, 1988

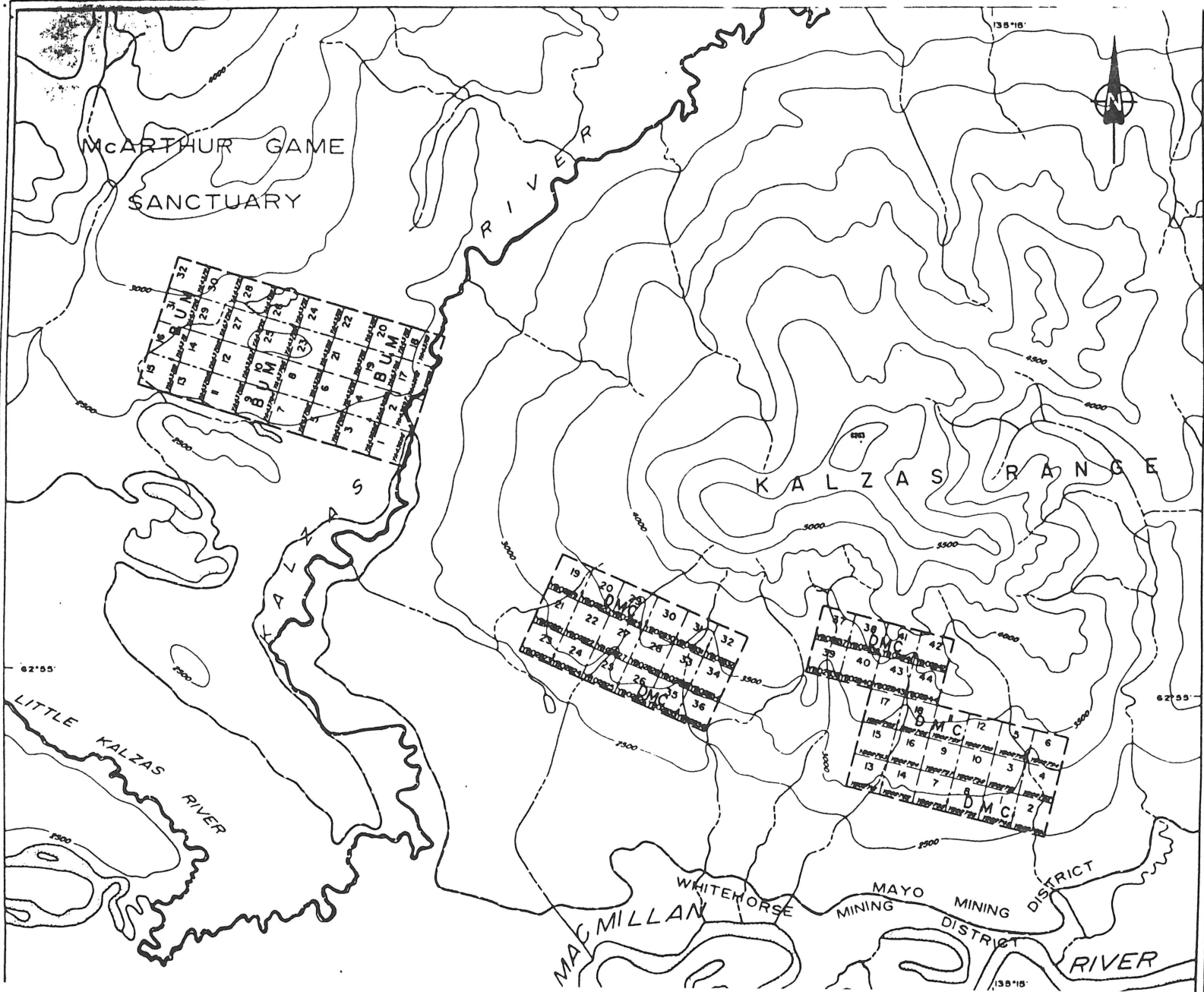


DROMEDARY EXPLORATION CO. LT.  
DROMEDARY PROJECT  
WHITEHORSE MINING DISTRICT

## CLAIM MAP

Aurum Geospatial Consultants Inc. NOVEMBER, 2008  
NTS-105L/15 & 16 DRAWN BY NH/SCALF 175,000 FIG.1B1





### LEGEND

- claim boundary
- claim number
- tag number
- staking direction
- creek
- elevation contour, interval 500 ft.

Note: adapted from D.I.A.N.D. map sheet  
105 L/14, revised 14 Sept. 1968



DROMEDARY EXPLORATION CO. LTD.  
DROMEDARY PROJECT  
MAYO MINING DISTRICT

### CLAIM MAP

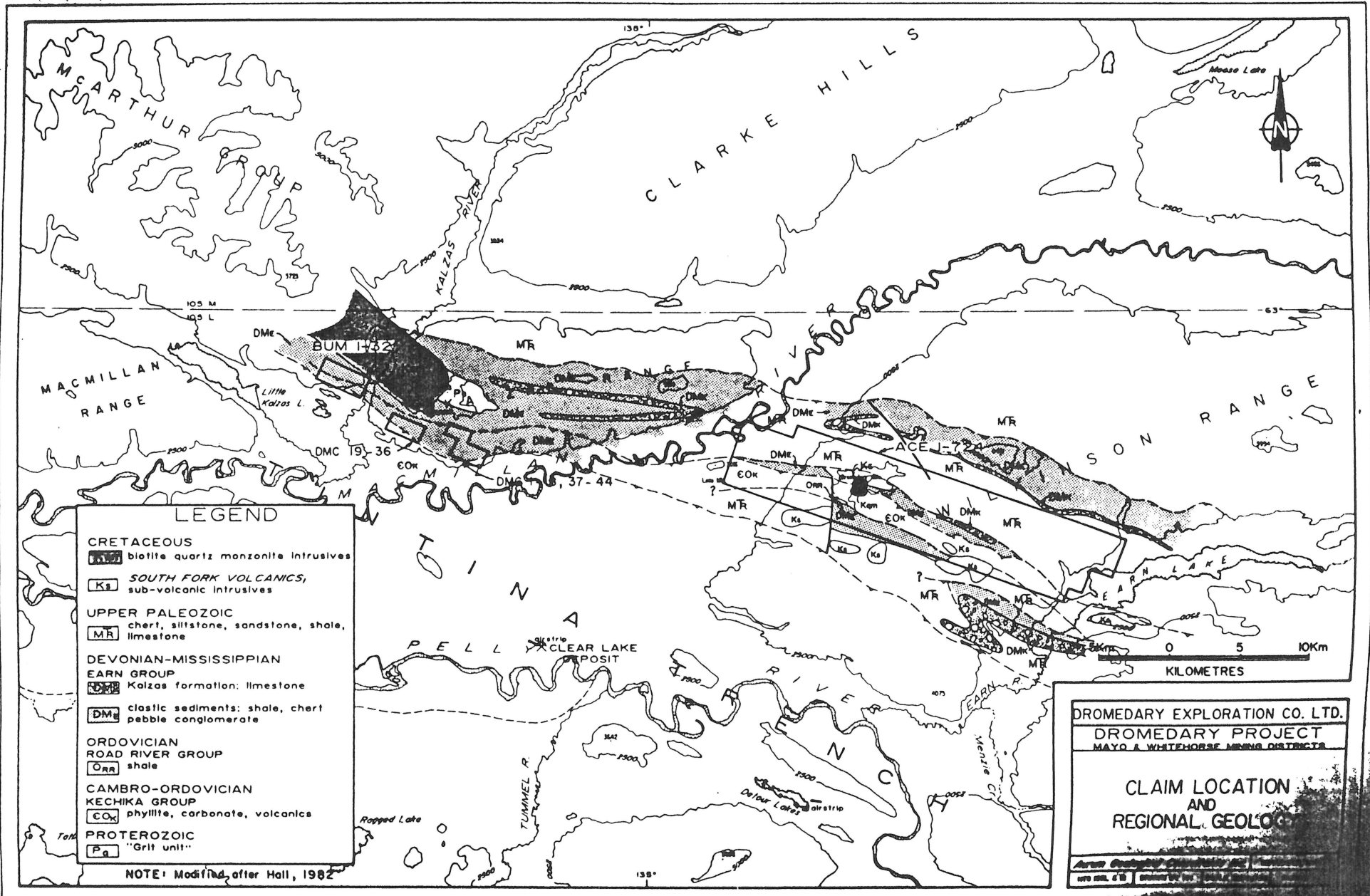
## EXPLORATION HISTORY

There is no record of exploration having been undertaken on the claims prior to 1980. In that year, Anaconda Canada Exploration Ltd. undertook a regional reconnaissance exploration program directed towards the discovery of shale-hosted silver-lead-zinc bearing massive sulfide mineralization.

A total of 728 claims, including most of the current ACE claim group, were staked by Anaconda in 1980 following the discovery of stratiform Ag-Pb-Zn mineralization at Dromedary Mountain to cover the new occurrence and favorable stratigraphy. During the 1981 field season, a helicopter-borne magnetometer-EM survey was followed by additional claim staking, linecutting, geological mapping, soil geochemistry, ground geophysics (horizontal loop EM and total field magnetics), and prospecting resulting in the discovery of the Cave showing at Kalzas Mountain. The original discovery area at Dromedary Mountain was tested by 1900 m of diamond drilling in 10 holes late in 1981. In 1982, a gravity survey was carried out along with more follow-up of previously identified geophysical and geochemical anomalies culminating in the discovery of numerous barite occurrences and a new Ag-Pb-Zn occurrence at the Kal Zone. Total expenditures by Anaconda exceeded \$1.5 million.

Fleck Resources Ltd. acquired a total of 1,436 claims covering 30,108 hectares from Anaconda in 1985. Some of these claims were allowed to lapse, and ~~Dromedary Exploration Company Ltd.~~ <sup>GCC</sup> ~~Exploration Company Ltd.~~ acquired the ACE and BUM claims by option agreement from Fleck Resources Ltd. in June 1988. *This option has subsequently been assigned to Drom Ex Co.*

II



**LEGEND**

<b>CRETACEOUS</b>	
	biotite quartz monzonite intrusives
	SOUTH FORK VOLCANICS, sub-volcanic intrusives
<b>UPPER PALEOZOIC</b>	
	chert, siltstone, sandstone, shale, limestone
<b>DEVONIAN-MISSISSIPPIAN</b>	
	EARN GROUP
	Kalzas formation: limestone
	clastic sediments: shale, chert pebble conglomerate
<b>ORDOVICIAN</b>	
	ROAD RIVER GROUP
	shale
<b>CAMBRO-ORDOVICIAN</b>	
	KECHIKA GROUP
	phyllite, carbonate, volcanics
<b>PROTEROZOIC</b>	
	"Grit unit"

DROMEDARY EXPLORATION CO. LTD.  
 DROMEDARY PROJECT  
 MAYO & WHITEHORSE MINING DISTRICTS

**CLAIM LOCATION  
 AND  
 REGIONAL GEOLOGY**

Area Geology Courtesy of the Geological Survey of Canada  
 1970 and 1975. Printed by the Geological Survey of Canada

NOTE: Modified after Hall, 1982

## GEOLOGY

The Dromedary Project area is located near the boundary between Cassiar Platform and Selwyn Basin tectonic elements inboard from the margin of ancient continental North America. Regional geology is adequately described by Campbell (1967) and is summarized on Figure 1.2.5 The Dromedary Project claims cover much of the stratigraphic sequence favorable for sedimentary exhalative silver-lead-zinc mineralization in the western Selwyn Fold Belt north of the Tintina Fault.

Proterozoic to Devonian conglomerate, sandstone, shale, phyllite, marble, and minor volcanic flows of the Kechika and Road River Groups, and the informal "Grit Unit" are the oldest exposed lithologies in the Dromedary Project area. These rocks have only been found exposed as erosional windows below unconformably overlying rocks (Hall 1983).

The project area is underlain mainly by strata of the Devonian-Mississippian Earn Group, representing mainly proximal facies of turbidite fan complexes deposited in submarine troughs, preserved in three northwest-trending parallel linear belts, referred to by Hall (1982) as Earn Mountain, Crystal Peak, and Dromedary Mountain belts. The belts serve as prominent marker units in thrust panels of regional extent.

Unnamed middle Mississippian chert-siltstone and Permian to Triassic sandstone-shale-limestone units blanket the early Paleozoic section. Carbonate and phyllite facies of the Cambro-Ordovician Kechika Group are observed at the base of panels thrust over Earn Group and younger unnamed units. Facies of Earn Group have been mapped at the base of thrust panels which now structurally overlie younger unnamed units.

The sedimentary sequence is intruded by post-tectonic 'S' type granitoid stocks of Middle Cretaceous age, and by hypabyssal equivalents of the Cretaceous South Fork volcanics. Intrusive contact aureoles are typically recrystallized to petrogenetically compatible biotite hornfels and calc-silicate hornfels grading locally into tremolite/actinolite-quartz-chlorite-sulfide skarns. Rock outcrops in the project area are mostly restricted to intrusive and hornfelsed sedimentary lithologies due to their resistive weathering nature.

Structure in the Dromedary Project area is dominated by several major northwest-trending, south-dipping thrust sheets, which form part of an imbricate thrust and fold belt. Northeastward directed thrusting and folding was related to a Himalayan-type collision between Stikinian and North American continental blocks in Late Jurassic to Early Cretaceous time (Tempelman-Kluit 1979). An uncertain degree of repetition of units occurs along smaller subsidiary structures. Large scale, open folding has been mapped within the thrust sheets, with shallow-dipping fold axes parallel to the fault planes. Adjacent to intrusive bodies, structure is characterized by extensive small-scale cross-faulting and tight folding.

A tabulated geological history of the Dromedary Project area is given in TABLE 1.

TABLE 1. Table of Formations for Dromedary Project.

Age*	Formation	Event/Lithology
U. Cretaceous	Coast Plutonic Complex	Porphyritic K-feldspar biotite quartz monzonite.
U. Cretaceous	South Fork Volcanics	Hypabyssal equivalents of intermediate volcanics.
Triassic	Unnamed	Interbedded siltstone and black silty shale, locally fossiliferous, calcareous and/or graphitic.
U. Miss'pian	Earn Group	Orange weathering, medium bedded chert, siltstone, and silty shale.
L. Miss'pian	Earn Group Kalzas Form'n	Grey weathering, thick bedded, fetid, fossiliferous limestone and calcareous siltstone-shale.
L. Miss'pian to M. Devonian	Earn Group Crystal Peak Formation	Grey weathering chert pebble conglomerate, lithic sandstone, interbedded siltstone and silty shale toward base.
L. Miss'pian to M. Devonian	Earn Group	Grey weathering phyllite, shale, calcareous siltstone and minor chert pebble mudstone and conglomerate.
	Unconformity	
Devonian to M. Ordovician	Road River Gp.	Black graphitic and graptolitic shale.
Ordovician to Cambrian	Kechika Group	Calcareous phyllite, marble, and minor metamorphosed intermediate to mafic volcanics.
	Unconformity	
Cambrian to Proterozoic	Grit Unit	Thin to medium interbedded silty limestone-marble and sandstone-quartzite, calc-silicate to siliceous hornfels, quartzite and minor grit.

\* Modified after Hall 1982, and Campbell 1967.

## MINERALIZATION

Stratiform silver-lead-zinc mineralization at MacMillan Pass, Howard's Pass, Cyprus Anvil, Cirque, and Gataga occur over a wide stratigraphic interval in the Selwyn Basin. All these occurrences are associated with clastic sediments without an obvious volcanic component and appear to be related to faulting contemporaneous with mineralization. Bedded barite, which also shows a wide stratigraphic range, is an important association. Other indicators of exhalative mineralization are bedded sulfides and sediments enriched in base metals (Morganti 1988, Carne 1979).

Three zones of silver-lead-zinc mineralization have been identified and exposed to date on the Dromedary Project; (1) Dromedary Mountain, (2) Kal Zone, and (3) Cave Zone. All three of the zones appear to be hosted within the same northwest-trending northeast-dipping stratigraphic horizon of Earn Group.

### Dromedary Mountain

The discovery showing on the upper west flank of Dromedary Mountain consists of an outcropping stratabound lens of massive pyrrhotite, sphalerite, galena, and chalcopyrite at least one meter wide. Chip samples collected by Anaconda in 1982 assayed up to 7.2% zinc, 3.5% lead, 58 g/t silver, and 0.5% copper (Hall 1984). Sulfides occur within cherty pyritic argillite of the Earn Group. Subsequent exploration by Anaconda identified several more similar showings and barite ± chert along the same stratigraphic horizon over a strike length of 8 km. The mineralized horizon is best exposed within a resistant zone of hornfels and local skarn developed around the quartz monzonite stock on Dromedary Mountain. East of Dromedary Mountain, hornfelsing and skarnification decrease, and outcrop exposures become minimal.

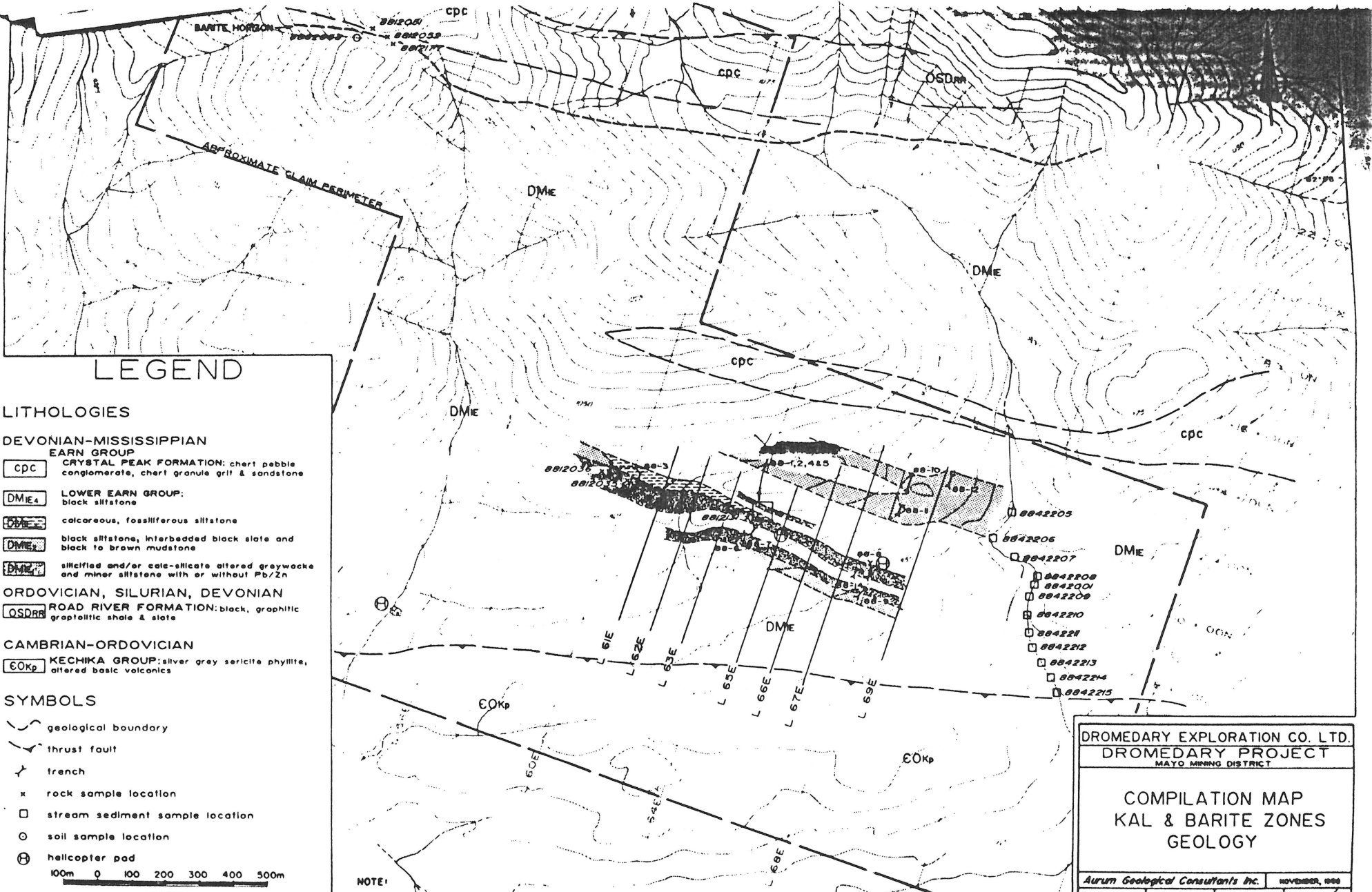
Diamond drilling by Anaconda in 1981 tested the mineralized horizon along a strike length of over 6 km in nine holes totaling 1900 meters. Most of the holes encountered significant widths of sub-oregrade but geochemically anomalous silver, lead, and zinc values ranging up to 0.52% lead, 2.0% zinc, 31.2 g/t silver, and 0.19% copper across 1.05 meters (Hall 1984). Sulfides, although somewhat recrystallized, reflect bedding and other sedimentary features.

Drilling completed to test a prominent magnetic anomaly at the southeastern flank of Dromedary Mountain, encountered a stratabound, massive to semi-massive, pyrrhotite lens up to 50m thick and greater than 800 m in strike length. Although the zone is geochemically barren, it appears to be a strike extension of the known silver, lead, and zinc bearing sulfide mineralization to the northwest. No work was carried out at Dromedary Mountain in 1988.

#### Kal Zone

Stratabound sulfide mineralization was discovered on the south flank of Kalzas Mountain (Figure 6<sup>b</sup>) in 1982 by Anaconda personnel conducting follow-up on the basis of encouraging base metal concentrations in stream silts collected during the summer of 1981. Mineralization consists of pyrrhotite, pyrite, massive and nodular barite, and disseminated and stringered galena and sphalerite in conductive, fine grained, locally fossiliferous, hornfelsed turbidites of the Lower Earn Group. Hall (1984) reports that chip samples range up to 8.9% lead, 2.77% zinc, and 180 g/t silver across one meter. Sampling completed in 1988 by Aurum Geological Consultants Inc. in both old and new trenches returned up to 3.57% lead, 1.06% zinc, and 70.62 g/t silver across 0.6 meters. Sampling by the writer yielded results up to 18049 ppm lead, 36707 ppm zinc, and 84.1 ppm silver across 1 m. Sulfide minerals are variably recrystallized and remobilized due to hornfelsing, but they clearly represent a stratabound occurrence.





# LEGEND

## LITHOLOGIES

### DEVONIAN-MISSISSIPPIAN

#### EARN GROUP

**cpc** CRYSTAL PEAK FORMATION: chert pebble conglomerate, chert granule grit & sandstone

**DMIE<sub>4</sub>** LOWER EARN GROUP: black siltstone

**DMIE<sub>5</sub>** calcareous, fossiliferous siltstone

**DMIE<sub>6</sub>** black siltstone, interbedded black slate and black to brown mudstone

**DMIE<sub>7</sub>** silicified and/or calc-silicate altered graywacke and minor siltstone with or without Pb/Zn

### ORDOVICIAN, SILURIAN, DEVONIAN

**QSDRR** ROAD RIVER FORMATION: black, graphitic graphitic shale & slate

### CAMBRIAN-ORDOVICIAN

**EOkp** KECHIKA GROUP: silver gray sericite phyllite, altered basic volcanics

## SYMBOLS

geological boundary

thrust fault

trench

rock sample location

stream sediment sample location

soil sample location

helicopter pad

100m 0 100 200 300 400 500m

NOTE:

DROMEDARY EXPLORATION CO. LTD.  
DROMEDARY PROJECT  
MAYO MINING DISTRICT

COMPILATION MAP  
KAL & BARITE ZONES  
GEOLOGY

Aurum Geological Consultants Inc. NOVEMBER, 1988

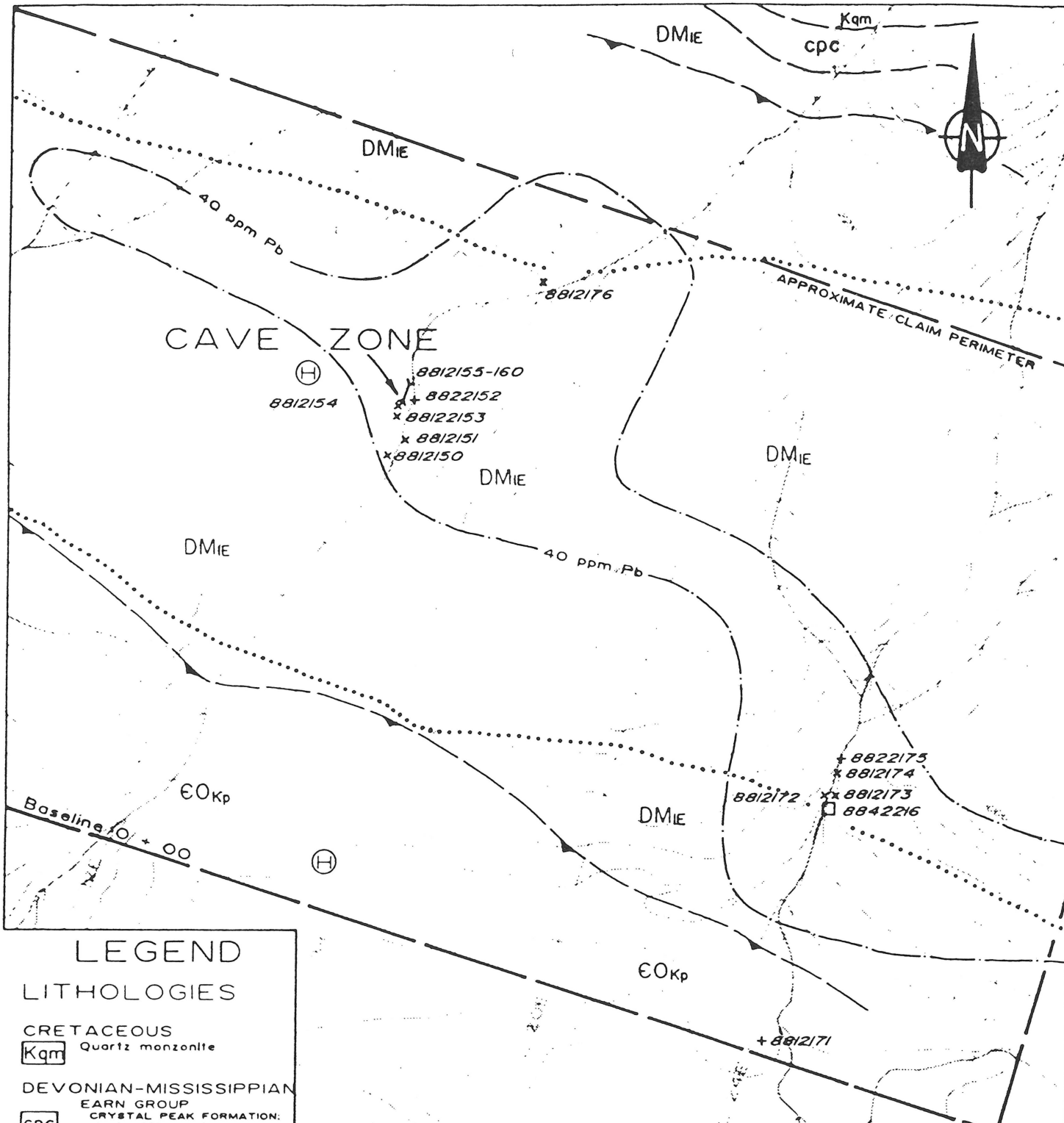
### **Cave Zone**

The Cave Zone (Figure 7) was discovered by Anaconda in 1981 in a deeply incised creek on the current DMC 19-36 claim block approximately five km west of the Kal Zone. Sulfide mineralization consists of stratabound disseminated to massive pyrrhotite, pyrite, sphalerite, and galena within a sequence of brown weathering thinly interbedded calcareous sandstones and fossiliferous, silty shales. Samples collected from surface exposures of this occurrence in 1988 by Aurum Geological Consultants Inc. returned up to 0.64% lead, 18.17% zinc, and 12.8 g/t silver across 35 cm. Immediately below the Cave Zone, the creek is underlain by thick geochemically barren ferricrete.

### **Other Mineralization**

A south-flowing creek one km east of the Kal trenches has a geochemically barren zone of ferricrete visually similar to that recognized downstream of the Cave Zone. Sulfide mineralization has not yet been identified in this area.

The Francois Grid target area is an area of low relief and no outcrop, on strike of favorable stratigraphy and known mineralization between the Kal Zone and Dromedary Mountain. No mineralization has been identified here to date.



**LEGEND**

**LITHOLOGIES**

**CRETACEOUS**  
 [Kqm] Quartz monzonite

**DEVONIAN-MISSISSIPPIAN**  
 EARN GROUP  
 [cpc] CRYSTAL PEAK FORMATION:  
 chert pebble conglomerate,  
 chert granule grit & sandstone

[DMIE] LOWER EARN GROUP: black mudstone & siltstone,  
 graphitic slate, andalusite hornfels

**CAMBRIAN-ORDOVICIAN**  
 [EO Kp] KECHIKA GROUP: silver grey sericite phyllite,  
 altered basic volcanics

NOTE: "IE" used in an informal sense

**SYMBOLS**

[Dashed line] Anaconda soil anomaly zone

[Dotted line] Anaconda conductive strata

[x] rock sample location

[+ ] float sample location

[□] silt sample location

[Trench symbol] trench



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 DROMEDARY PROJECT  
 MAYO MINING DISTRICT

**CAVE ZONE  
 COMPILATION**

Aurum Geological Consultants Inc.      NOVEMBER, 1988

## GEOCHEMISTRY

A total of approximately 300 km of line was cut by Anaconda during their 1981 and 1982 exploration programs at spacings of either 200 or 400 meters. Soil samples were collected at depths averaging 25 cm at 25 m intervals. Stream sediment samples were also collected from most drainages in the project area. The 1988 exploration program continued the sampling with fill-in soil and sediment geochemistry. An uncertain degree of dilution is present due to inclusion of volcanic ash.

Results of the geochemical work have outlined coincident anomalous concentrations of lead, zinc, and silver in two discrete areas; (1) a discontinuous and irregular northwest trending anomalous zone about the Dromedary Mountain area, and (2) a discontinuous 7 km long northwest trending anomalous zone centered on the Kal and Cave zones.

No anomalies were identified from conventional soil sampling at the Francois Grid area, possibly due to permafrost, thick overburden, and/or a thick ash layer. However, sampling by percussion drill on a reconnaissance basis by Anaconda in 1982 at depths of 1 to 3 m in permafrost over geophysical targets encountered anomalous values of up to 280 ppm lead, 1250 ppm zinc, and 12 ppm silver.

## GEOPHYSICS

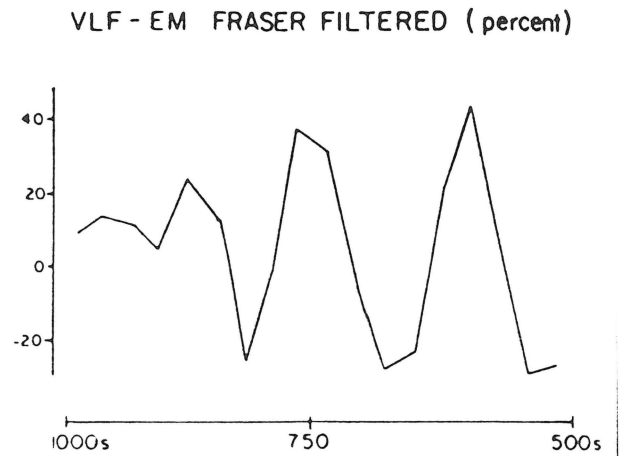
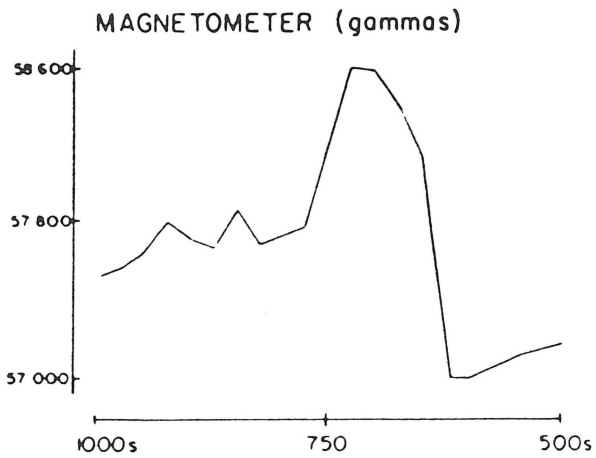
Total field magnetometer, horizontal loop electro-magnetometer, and gravity surveys were carried out by Anaconda in 1981 and 1982 in the Francois Grid, Dromedary Mountain, and Lone Mountain areas to follow-up on a 1981 airborne survey (Scott 1982a). The magnetic survey was carried out with readings at 25 meter intervals with corrections for diurnal variations, and the HLEM survey readings were taken with a coil separation of 100 m and at frequencies of 444, 888, and 1777 Hz. Gravity data were corrected for tidal and meter drifts after elevation corrections for the relatively flat surveyed area (Scott 1982b).

A compilation of results for part of the Francois Grid is shown on Figure 8. Of particular geophysical interest are the four gravity anomalies ranging up to 0.5 mgal ('A', 'B', 'C', and 'D') in relatively flat terrain (ie, data are free of terrain effects) almost perfectly coincident with strong HLEM and magnetic anomalies. Anomalies A, B, and C are aligned along the known lithologic strike and may represent the same stratigraphic unit. Anomaly B (Figure 9) is particularly well defined, with high amplitude gravity, electromagnetic, and magnetic profiles.

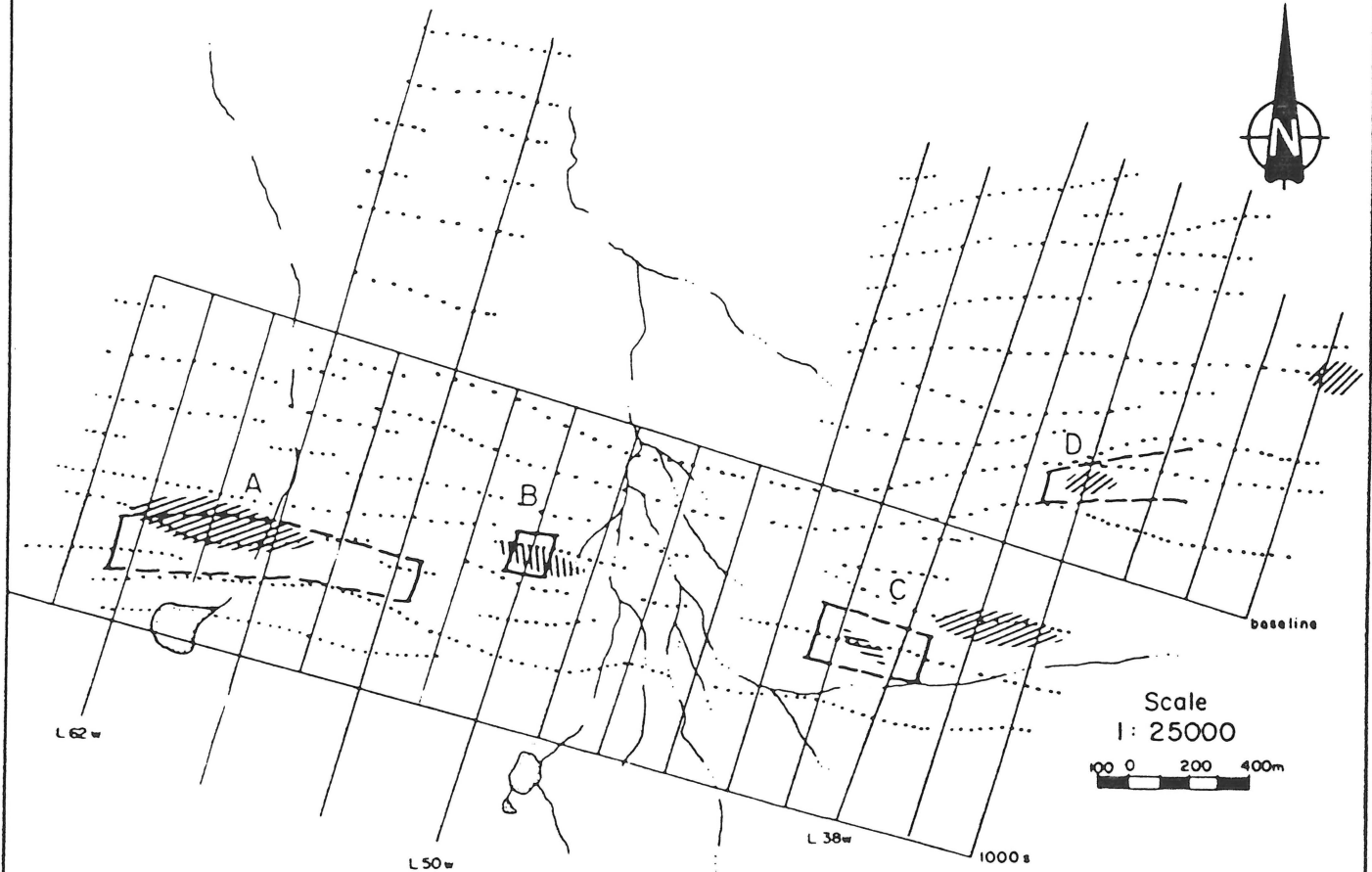
Results of ground magnetometer and VLF-EM surveys completed as part of the 1988 program substantiate the 1982 results in this heavily overburden covered area. Magnetometer and VLF-EM anomalies from surveys completed in 1982 and 1988 at the Kal zone (Figure 10) closely coincide with known mineralization.

Pyrrhotite mineralization ± silver, lead, and zinc, as exposed at the Dromedary Mountain, Kal, and Cave zones, could respond well to magnetic surveying and possibly EM and gravity. EM also defines graphitic horizons and gravity provides definition of massive barite and/or massive sulfide mineralization. Both pyrrhotite and graphite are commonly


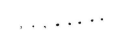

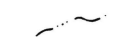
1988 GEOPHYSICAL SURVEY L 62w



1982 GEOPHYSICAL COMPILATION ( After Scott, 1983. )

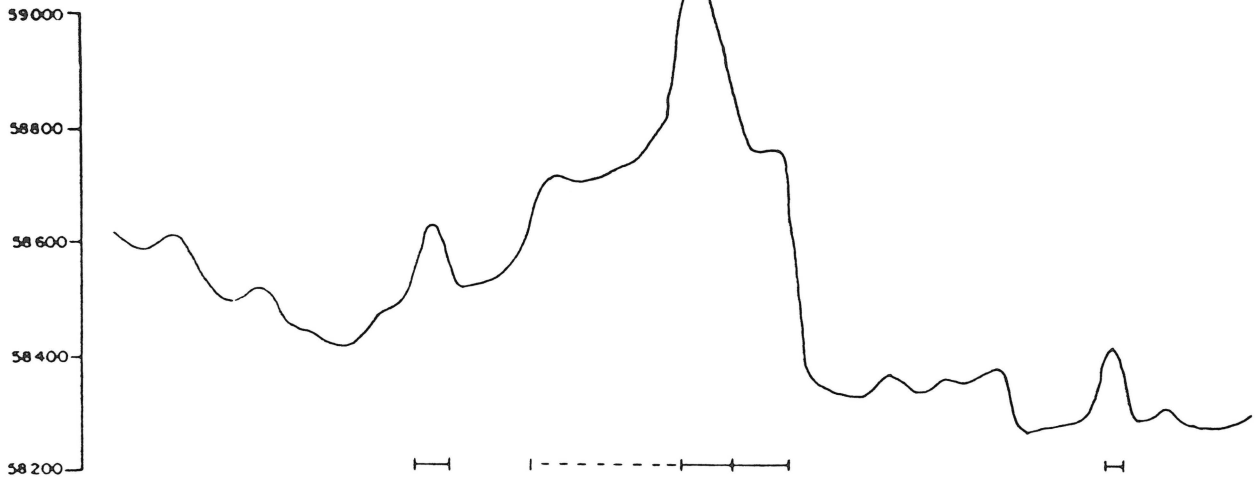


LEGEND

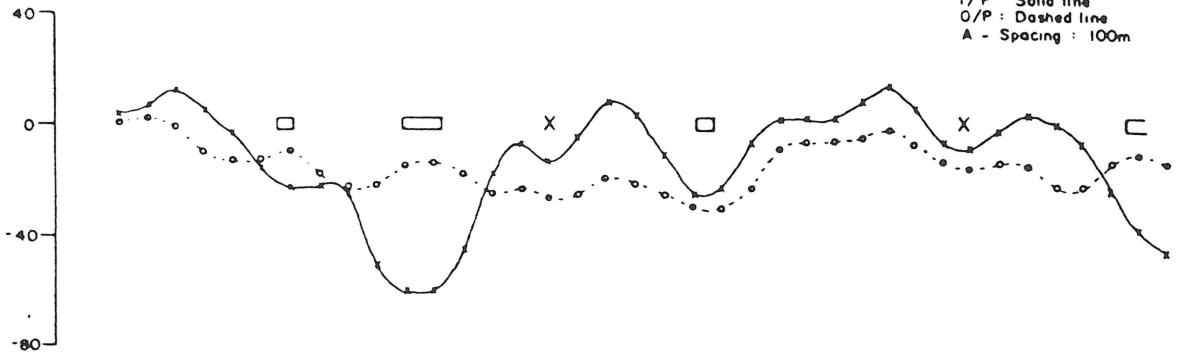
-  Magnetic anomaly
-  HLEM conductor
-  Gravity high
-  creek

DROMEDARY EXPLORATION CO. LTD.	
DROMEDARY PROJECT	
GEOPHYSICAL DATA	
FRANCOIS GRID	
<i>Aurum Geological Consultants Inc.</i>	NOVEMBER, 1988
NTS 105L	Drawn by GS
	FIGURE 8

MAGNETOMETER (gammas)

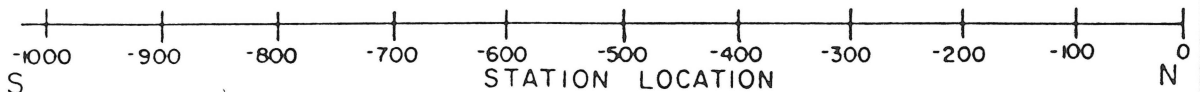


HORIZONTAL LOOP EM (percent)



FREQUENCY : 444 hertz  
 I/P : Solid line  
 O/P : Dashed line  
 A - Spacing : 100m

GRAVITY (milligals)

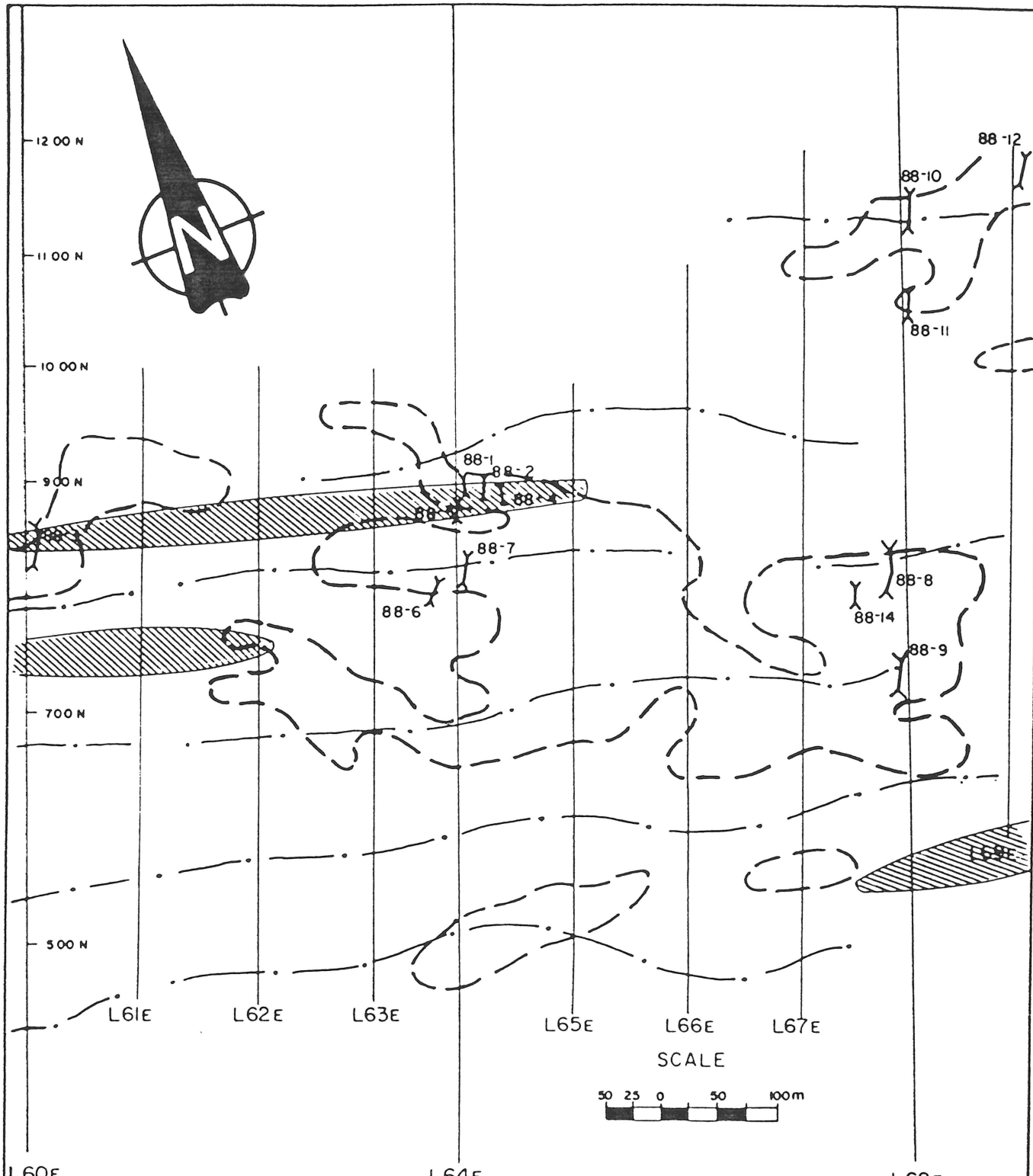


LEGEND





- Magnetic anomaly
- Broad magnetic high
- Broad HLEM conductor
- Narrow HLEM conductor
- Residual gravity high

DROMEDARY EXPLORATION CO. LTD.	
DROMEDARY PROJECT	
1982 GEOPHYSICAL DATA	
FRANCOIS GRID L50w	
ANOMALY B	
Aurum Geological Consultants Inc.	NOVEMBER, 1988
NTS 105L	Drawn by GS
	FIGURE 9

NOTE : Simplified from Scott, 1983.



LEGEND

-  EM conductor
-  Soil geochemical contour > 40ppm Pb
-  Magnetic anomaly; Anaconda, 1982 (from Scott, 1983).
-  1988 Trench

DROMEDARY EXPLORATION CO. LTD.			
DROMEDARY PROJECT			
KALZAS TRENCHES ZONE 1988 COMPILATION			
Aurum Geological Consultants Inc.		NOVEMBER, 1988	
NTS 105L	Drawn by GS	Scale 1:5000	FIGURE 10



associated with base metal mineralization. Barite could be related to massive sulfides or as a facies variation along strike.

## CONCLUSIONS

The Dromedary Project area is underlain by Selwyn Basin stratigraphy favorable for stratabound sedimentary exhalative silver-lead-zinc mineralization. Stratabound sulfide mineralization has been identified on the property at three areas along a strike length of 35 km, all possibly within the same stratigraphic horizon. Geological mapping and stratigraphic correlation are difficult as the best outcrops, including the mineralized outcrops, occur in resistive weathering hornfelsed contact aureoles with large areas of no outcrop in between.

Stratabound sulfides and barite appearing in close association with the localized deposition of coarse clastic rocks of the Earn Group indicates a close similarity between the stratigraphic and structural setting of the Dromedary Mountain area and the Tom and Jason deposits at MacMillan Pass.

Mineralization tested by Anaconda at Dromedary Mountain appears to represent small remobilized occurrences related to metasomatic effects of quartz monzonite intrusion. The showings may be derived from a stratabound occurrence of the type being sought.

The Kal and Cave zones are relatively new untested zones of stratabound silver-lead-zinc mineralization. Although a degree of metasomatic remobilization is present here as well, sulfide minerals clearly have strata-like characteristics and therefore most likely have a sedimentary exhalative origin. The showings are contained within a 7 km long geochemically anomalous zone which remains untested.

A heavily overburden-covered outcrop-free area between the Dromedary Mountain and Cave/Kal zones, known as Francois Grid, was explored with a combined program of geophysics and geochemistry. The lack of outcrop is indicative of underlying recessive weathering lithologies. The soil is

anomalous in lead, zinc, and silver. In addition, the geophysical surveys defined a strong coincident mag, EM, and gravity anomaly on strike with the same stratigraphic horizon hosting the known mineralization in the same area as the soil anomalies. The geological, geochemical, and geophysical anomalies may represent a stratabound accumulation of silver and base metal sulfides.

#### RECOMMENDATIONS

A one-phase exploration program is recommended.

1. Diamond drilling to test the coincident geological, geochemical, and geophysical anomalies at the Francois Grid area.
2. Diamond drilling to test the known mineralization at the Kal zone.

The following five holes are recommended:

No.	Grid	Location	Azimuth	Dip	Length	Target
1	Francois	L60W, 5+00S	200°	-45°	160m	A
2	Francois	L50W, 3+00S	200°	-45°	150m	B
3	Francois	L38W, 2+50S	200°	-45°	150m	C
4	Kal	L64E, 9+30N	200°	-45°	50m	D
5	Kal	L64E, 9+30N	200°	-60°	<u>90m</u>	D
					600m	

Targets: A: Geophysical/Geochemical Anomaly 'A'  
 B: Geophysical/Geochemical Anomaly 'B'  
 C: Geophysical/Geochemical Anomaly 'C'  
 D: Known Ag-Pb-Zn mineralization at Kal Zone.

#### Proposed Budget

NQ drilling, 600 m @ \$120/m:	\$ 72,000.00
Fixed wing support:	16,000.00
Helicopter support:	50,000.00
Camp costs:	15,000.00
Geology, engineering, and supervision:	15,000.00
Analytical costs:	5,000.00
Drill pad preparation:	10,000.00
Assessment filing:	<u>7,000.00</u>
<b>Total Estimated Cost:</b>	<b><u>\$ 190,000.00</u></b>

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**CERTIFICATE OF QUALIFICATIONS**

I, Clarence Mark Rebagliati, of 3536 West 15th Avenue, Vancouver, B.C., hereby certify that:

1. I am a consulting Geological Engineer with offices at 3536 West 15th Avenue, Vancouver, B.C.
2. I am a graduate of the Provincial Institute of Mining, Haileybury, Ontario (Mining Technology, 1966).
3. I am a graduate of the Michigan Technological University, Houghton, Michigan, U.S.A. (B.Sc., Geological Engineering, 1969).
4. I have practiced my profession continuously since graduation.
5. I am a member in good standing of the Association of Professional Engineers of British Columbia.
6. The foregoing report is based on:
  - a) A study of all available company and government reports.
  - b) My personal knowledge of the general area resulting from regional studies and from an examination of the property made on September 18, 1988.
7. I have not directly or indirectly received nor do I expect to receive any interest, direct or indirect, in the property of Dromedary Exploration Company Ltd., or any affiliate, or beneficially own, directly or indirectly, any securities of Dromedary Exploration Company Ltd., or any affiliate.
8. I consent to the inclusion of this report in a Statement of Material Facts or a Prospectus.

C.M. Rebagliati, P.Eng.  
November 28, 1988

SUMMARY REPORT

DROMEDARY MOUNTAIN EXPLORATION PROJECT

NTS 105L/14, 15, 16

YUKON TERRITORY

Anaconda Canada Exploration Ltd.

March, 1984

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## SUMMARY

Outcropping silver-lead-zinc mineralization was discovered by Anaconda geologists on the west face of Dromedary Mountain during a reconnaissance exploration program in 1980. Further work identified an extensive belt of unexplored stratigraphy favorable for Cyprus Anvil-type stratabound massive sulfide deposits. Claims were staked over the central part of this belt and early in 1981 an airborne geophysical survey was conducted. Claims staked by Anaconda total 30,102 hectares in five separate groups.

During the summers of 1981 and 1982, detailed exploration consisting of linecutting, geological mapping, soil sampling, and Max-Min and magnetometer surveys was conducted to define geological and geophysical targets. Where topographically possible, gravity surveys were run over the more interesting anomalies. Late in the 1981 season, ten holes totalling 1900 m were diamond drilled on Dromedary Mountain. This drilling suggests that mineralization in the discovery area is lens-like with low-grade Pb-Zn-Ag values. Along strike to the east, however, the drilling intersected a shallow, stratiform, massive to semi-massive pyrrhotite zone up to 50 m thick with a strike length of over 800 m. During the 1982 field season, exploration consisted of regional geological mapping, interpretation and further drill target definition.

Several mineralization styles are present on the property. The most promising are showings, with related geophysical anomalies, which show similarities in geologic setting and metal content to the barite-associated Ag-Pb-Zn mineralization at the Tom and Jason properties in the MacMillan Pass area, and to that at the Cirque deposit in northern B.C. The occurrence of both stratabound barite and stratabound pyrrhotite within the section, with associated enhanced base metal values, shows that sedimentary exhalative mineralization processes were active in the basin. Two target zones, the Kal Trenches with exposed Ag-Pb-Zn mineralization and the Francois with strong geophysical and geochemical anomalies, require drill testing.

## INTRODUCTION

### Exploration Objectives

The principal objective of the Selwyn Exploration program has been to outline an open-pit mineable deposit of Ag-Pb-Zn massive sulphide mineralization, preferably with a significant Ag content. The project area, a portion of the western segment of the Selwyn Basin, represents a relatively unexplored portion of an emerging world class Ag-Pb-Zn district.

### Purpose and Scope of Report

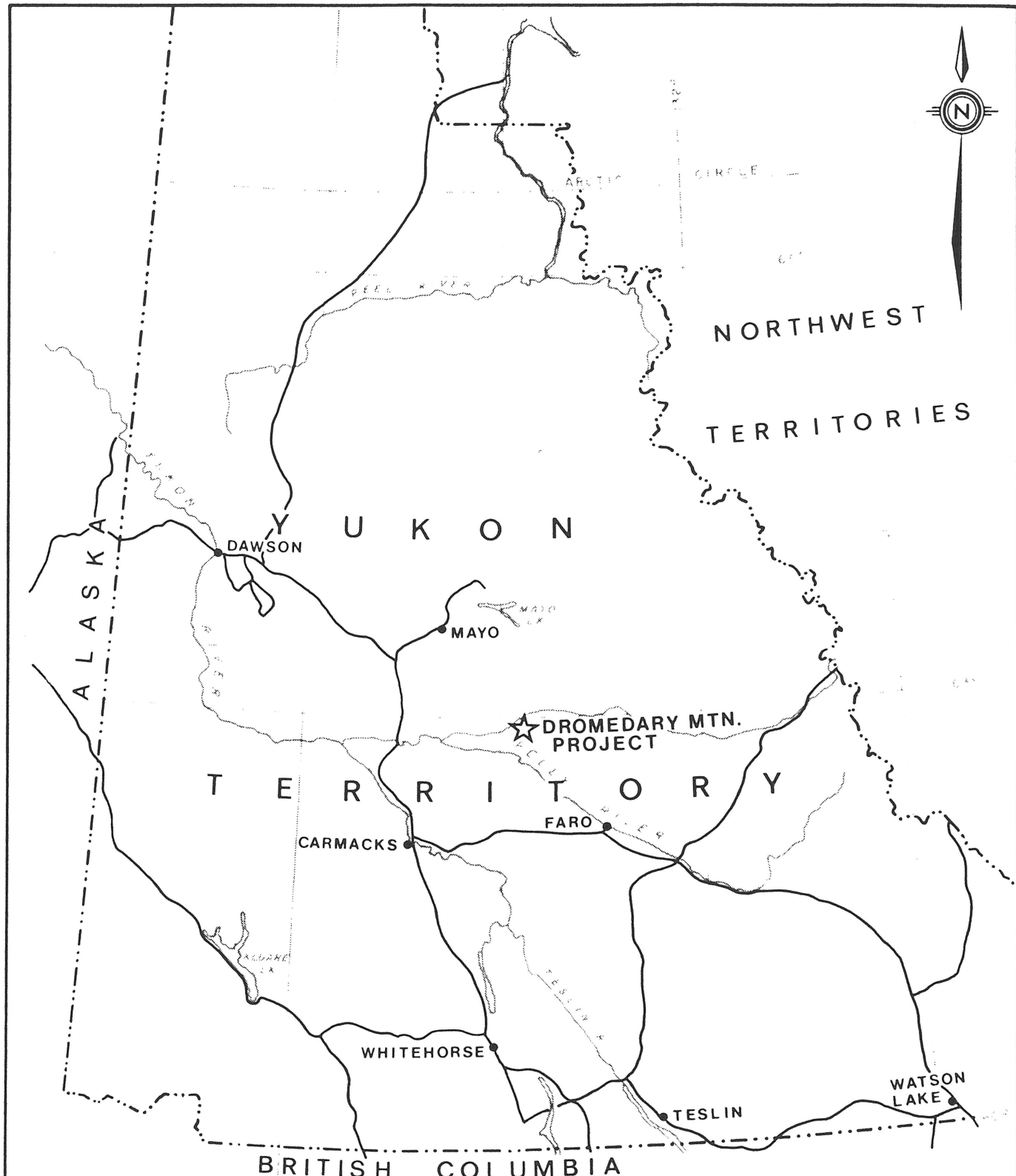
This report provides a summary of the exploration program carried out during the 1980, '81 and '82 field seasons and a brief evaluation of the results. A description of the principal targets developed is provided as well as a proposal for diamond drilling to test these targets.


### Location and Access

The Selwyn Project area (NTS 105L/14, 15 and 16) is located 240 km north of Whitehorse and about 75 km east of the confluence of the Pelly and MacMillan Rivers, Yukon Territory. The towns of Mayo, Carmacks and Faro are approximately 130 km northwest, southwest and southeast, respectively, from the project area (see Figure 1).

Potential road access exists along the Pelly River valley, either from Pelly Crossing to the west or Faro to the east. A winter road from Pelly Crossing traverses the southern boundary of the property.

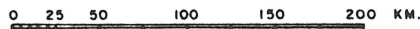
Exploration in the project area was conducted from a base camp located on the north shore of Earn Lake (see Figure 2 and 4). Access to the Earn Lake camp is by float-equipped aircraft from Whitehorse or Mayo. The Detour airstrip, 23 km south of Earn Lake, will accommodate aircraft



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**DROMEDARY MTN. PROJECT**

**LOCATION MAP**



geology by:	drawn by: D. M. C.	date: MAR, 84
scale: 1: 4,295,000	n.t.s. 105,106,115,116	fig./proj no. 1

up to Twin Otter in size. A communications system consisting of a VHF mountain top repeater, tied into the telephone exchange at Pelly Crossing, allowed telephone and on-line computer operations at the camp.

### **Physiography**

The area of investigation is situated within the Yukon Plateau physiographic province, on the northern edge of the Tintina Valley, along the south flank of a northwest-trending range of mountains and rolling hills. Elevations range from 600 to 2000 m. Upper slopes are moderately rugged and bare of vegetation. Below 1400 m, slopes are moderate to gentle and vegetation is thick and usually low growing, consisting predominantly of spruce, alder and willow.

Wide, flat east-west valleys filled with glacial overburden transect the topography and include major drainage features such as Earn Lake and South MacMillan River.

Bedrock exposure is excellent above 1500 m, modest to poor between 800 and 1500 m and virtually nonexistent below 800 m.

Figures 2 and 3 illustrate some of the variety of topographic features encountered within the project area.

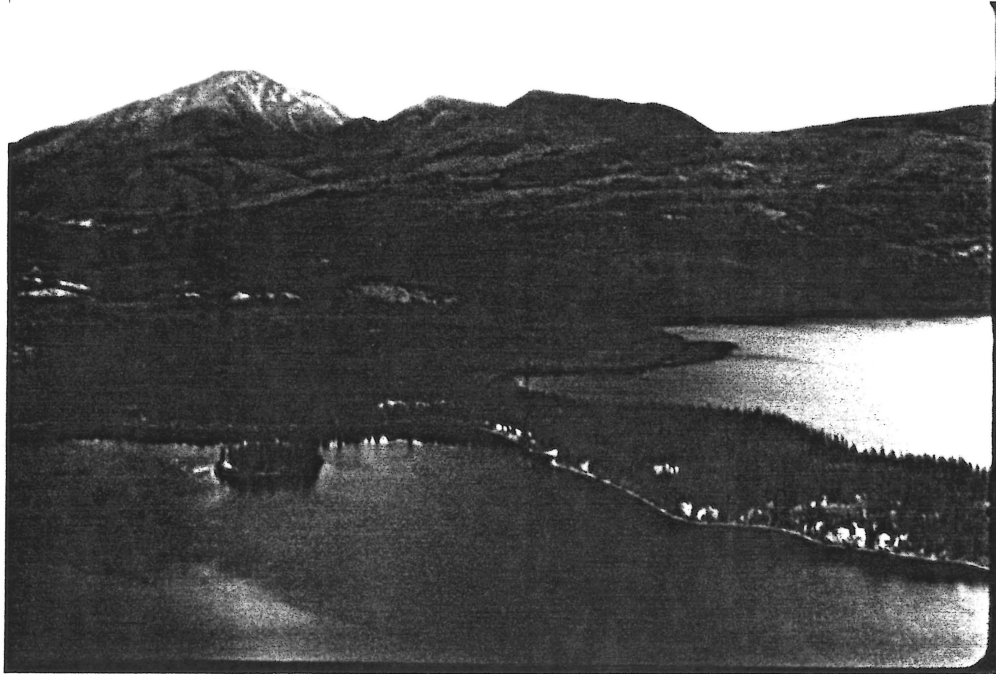


Figure 2. Earn Lake base camp, looking northwest towards Crystal Peak, where the VHF mountain top repeater is located.



Figure 3. Earn Hills (left), Horsefall Valley, and Dromedary Mountain (right) are prominent physiographic features of the ACE claim group.

## Exploration Program

Preliminary exploration work was carried out in the vicinity of Dromedary Mountain to investigate an occurrence of possible Anvil-equivalent stratigraphy reported by Tempelman-Kluit (GSC Paper 80-1A, p.361,1980). During the course of mapping, it became apparent that a nearly complete Selwyn Basin stratigraphic package is present, and that the most favourable environment is for Devonian-Mississippian barite-associated Ag-Pb-Zn mineralization, similar to the Tom, Jason and Cirque deposits.

During the early stage of the program, while following up anomalous stream sediment geochemistry results, a reconnaissance exploration team discovered outcropping massive silver-lead-zinc mineralization in an extensive gossan zone. Claims were staked to cover the showing. A 70 km long belt of favourable geology was identified and, during the winter of 1981, an airborne magnetometer-EM survey was flown. During the 1981 field season linecutting, geologic mapping, soil sampling, and Max-Min and magnetometer surveys were carried out over Dromedary Mountain. Late in the season, 10 holes totalling 1900 m were diamond-drilled to test segments of the gossan zone and coincident geochemical-geophysical anomalies.

During the 1982 field season, surface geological evaluation of the claims continued. This work extended coverage of the line grids and included gravity surveys in selected areas. Percussion drill soil sampling was undertaken to test geophysical anomalies in overburden-covered areas.

A total of approximately 300 km of line has been cut at spacings of either 200 m or 400 m. Geological mapping, soil sampling at 25 m intervals, and magnetometer and Max-Min surveys have been completed over most of these lines. Results have been compiled into a comprehensive data package on file at Anaconda's Vancouver office.

## Summary of Exploration Program

The exploration history of Anaconda's Selwyn project is summarized in Table 1. No prior significant exploration activity is recorded.

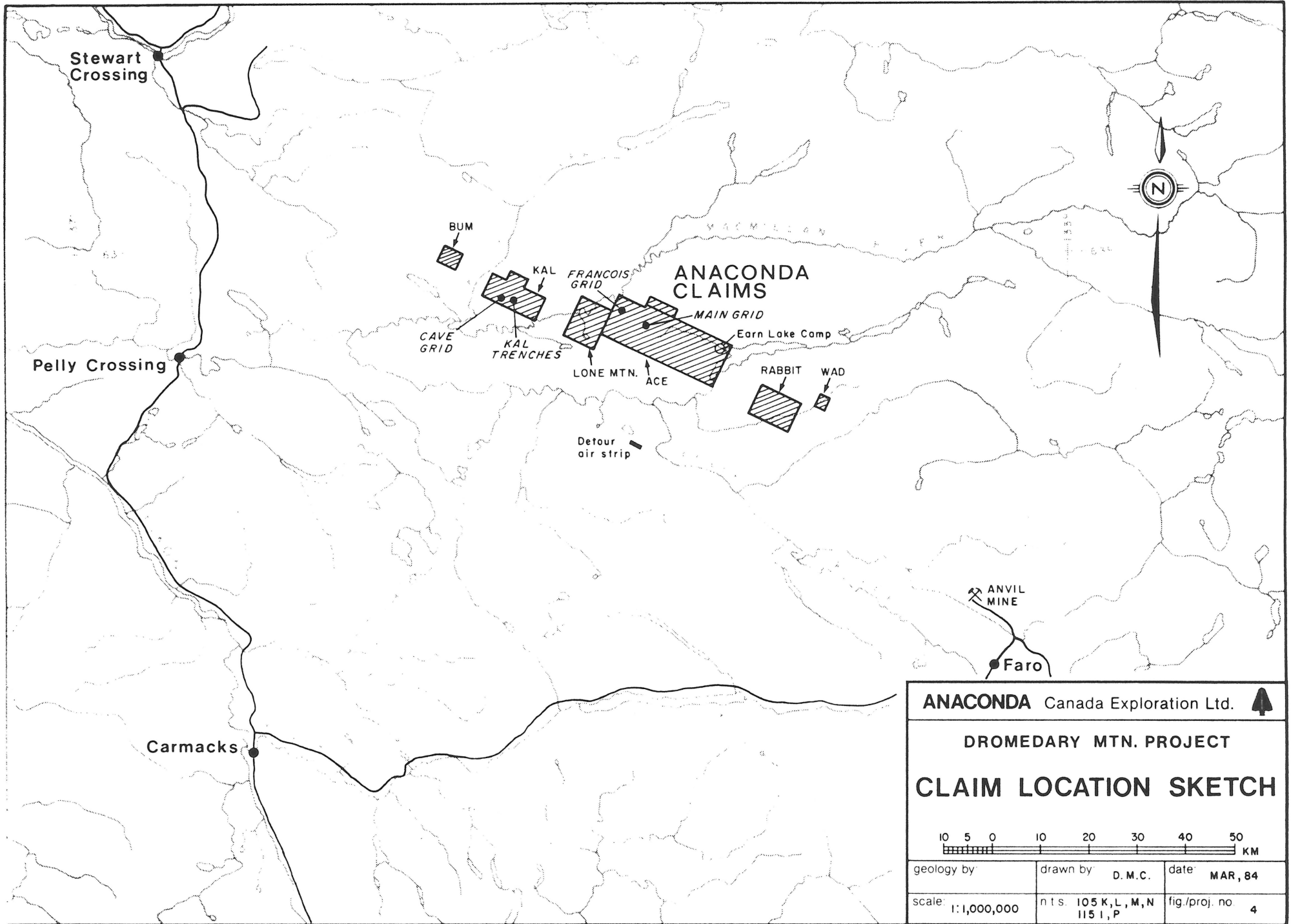
TABLE 1  
Exploration Summary

Date	Description of Work
1980 August	Reconnaissance program initiated; Dromedary Mountain showing discovered.
1980 Sept-Nov	Staked original 48 claim ACE group; subsequently expanded to 728 claims to cover favourable stratigraphy.
1981 Mar-Apr	Helicopter-borne magnetometer-EM survey over claim blocks, with substantial coverage along strike. Additional claims staked.
1981 May-Sept	Field program initiated on Dromedary Mountain, including linecutting, geological mapping, soil sampling, ground mag and EM. Reconnaissance prospecting outside claims, discovery of Cave showing in Kalzas Mountain area; additional staking.
1981 Aug-Sept	Diamond drilled 1900 m in 10 holes, testing original Dromedary showing as well as geophysical anomalies on the east flank of Dromedary Mountain.
1982 Mar-Apr	Winter geophysical program, including some gravity, for assessment credit.
1982 May-Oct	Continued ground follow-up of airborne geophysical anomalies, mainly outside the original ACE claim group, and centered on the Francois and Kalzas areas. Regional exploration program continued. Numerous barite discoveries made. Significant new showing discovered by trenching in the Kal area.
1982 Post-Oct	Compilation and interpretation of exploration data.

## PROPERTY STATUS AND OWNERSHIP

An initial group of 48 claims was staked in 1980, followed by a substantial amount of subsequent staking resulting in a total of 1436 claims, covering 30,108 ha. These are located in five non-contiguous blocks, along a strike length of 80 km. All claims are wholly-owned by Anaconda. Most have a common anniversary date of May 1, and several years' credit of applied assessment work. The claim group outlines are shown in Figures 4 and 5. A list of claims is provided in Table 2.

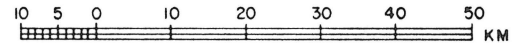




**ANACONDA** Canada Exploration Ltd. 

**DROMEDARY MTN. PROJECT**

**CLAIM LOCATION SKETCH**



geology by	drawn by: D. M. C.	date: MAR, 84
scale: 1:1,000,000	n t s. 105 K, L, M, N 115 I, P	fig./proj. no 4

TABLE 2

## Selwyn Project Claims

## Whitehorse Mining Division

CLAIM NAME	RECORD NUMBER	EXPIRY DATE
ACE 1- 64	YA 52055-18	May 1, 1989
ACE 65- 96	YA 51438-69	May 1, 1989
ACE 97-192	YA 52119-214	May 1, 1989
ACE 193-224	YA 52251-282	May 1, 1989
ACE 225-504	YA 52283-562	May 1, 1989
ACE 505-724	YA 59089-308	May 1, 1989
ACE 719B-724B	YA 74825-830	May 1, 1988
ACE 725-734	YA 74831-840	May 1, 1988
ACE 739-754	YA 74853-868	May 1, 1988
EARN 1-2	YA 59031-032	May 1, 1986
EARN 3-4	YA 59309-310	May 1, 1986
EARN 5-6	YA 74171-172	Oct. 14, 1984
CLARE 1-42	YA 59696-737	May 1, 1985
CLARE 49-54	YA 59738-743	May 1, 1985
CLARE 65	YA 59744	May 1, 1985
CLARE 67-72	YA 59745-750	May 1, 1985
CLARE 65B-72B	YA 74841-848	May 1, 1987
CLARE 73-76	YA 74849-852	May 1, 1987
BUSH 1-32	YA 59895-926	May 1, 1987
BUSH 33-48	YA 74809-824	May 1, 1987
RABBIT 1-128	YA 59767-894	May 1, 1984
WAD 1-16	YA 59751-59766	May 1, 1987

## Mayo Mining Division

CLAIM NAME	RECORD NUMBER	EXPIRY DATE
CLARE 43-48	YA 43599-604	May 1, 1985
CLARE 55-64	YA 43605-614	May 1, 1985
CLARE 66	YA 43695	May 1, 1985
KAL 1-80	YA 43615-694	May 1, 1986
KAL 81-115	YA 63123-157	May 1, 1986
KAL 116	YA 76084	May 1, 1986
KAL 117-192	YA 63158-233	May 1, 1986
KAL 193-292	YA 76085-184	May 1, 1986
BUM 1-32	YA 43696-727	May 1, 1990
BUM 33-96	YA 76589-652	May 1, 1987
BUM 97-106	YA 76653-662	May 1, 1987

## GENERAL GEOLOGY

### Regional Setting

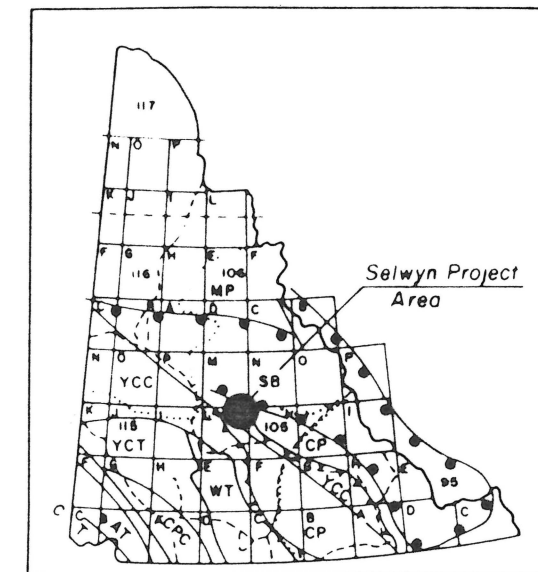
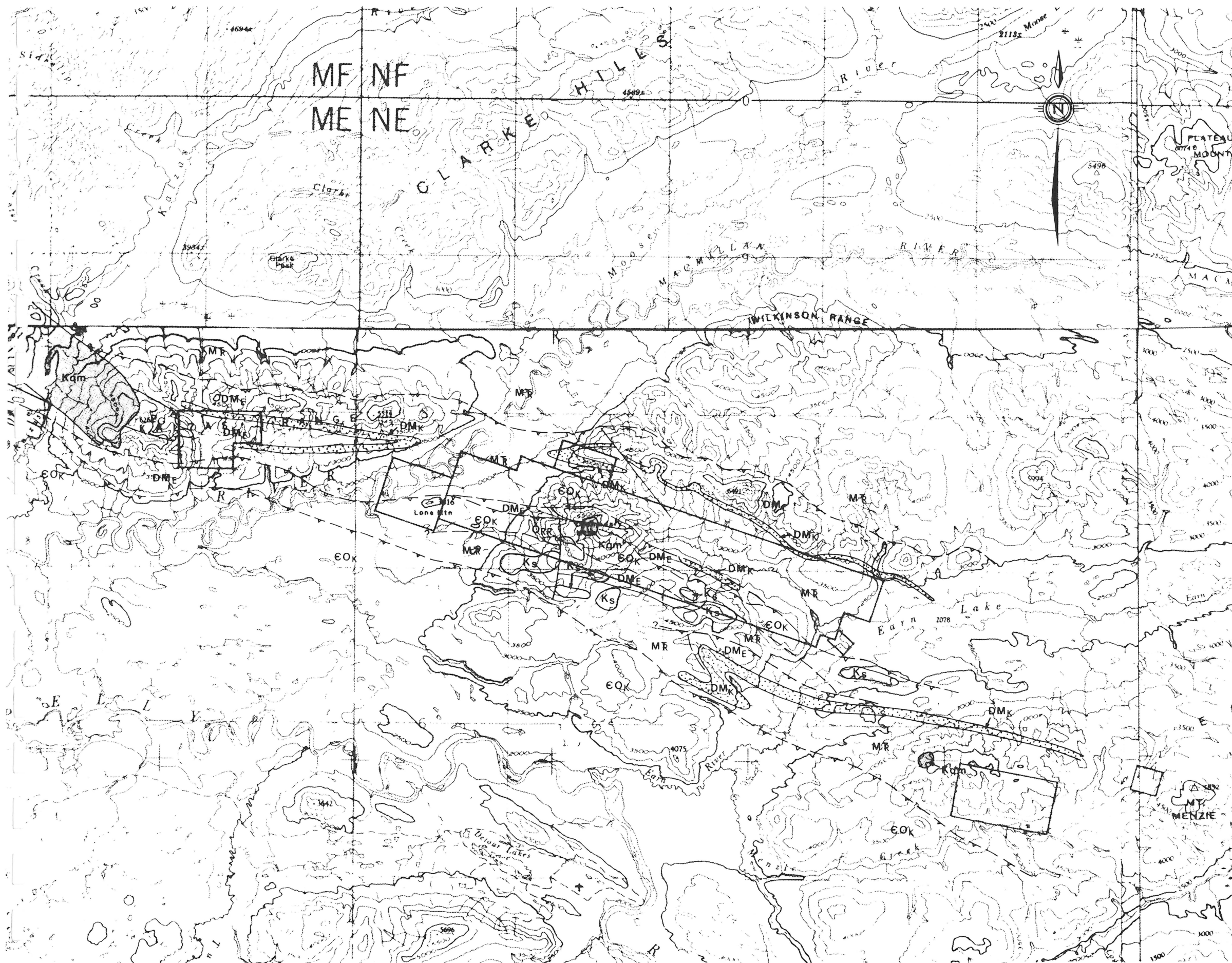
The exploration project area is located near the boundary between the Cassiar Platform and Selwyn Basin tectonic elements and includes much of the stratigraphic sequence favourable for sedimentary exhalative silver-lead-zinc mineralization in the Western Selwyn Fold Belt north of the Tintina Trench (see Inset Figure 5). The area is underlain primarily by the Devonian-Mississippian Earn Group, representing mainly proximal facies of turbidite fan complexes deposited in submarine troughs controlled by local graben development within the basin. The sedimentary units are preserved in three parallel linear belts referred to here as the Earn Mountain, Crystal Peak and Dromedary Mountain Belts.

### Stratigraphy

The stratigraphy of the area has been documented by mapping at 1:25,000 and 1:50,000 scales. The general geology is summarized in Figure 5. Conodont dates and ages of assemblages of macrofossils, collected during the 1982 field season by GSC geologists, provided some paleontological control for correlation of map units. Results of some of the paleontological work are pending.

The oldest stratigraphic unit in the area consists mainly of a small outcropping of siliceous clastic rocks exposed in the core of an antiform in the Kalzas Range. This sequence has been assigned to the Upper Proterozoic-Lower Cambrian 'Grit Unit'.

The next oldest sequence is referred to as the Cambro-Ordovician Kechika Group and occurs along the southern edge of the project area. This sequence consists of 'wavy-banded' carbonate and calc-silicate rocks, phyllites and greenstone. The basal contact between the grey weathering, calcareous muscovite phyllite of the Kechika Group and the siliceous



LOCATION MAP

**LEGEND**

- CRETACEOUS
- Kqm** Biotite quartz monzonite intrusives
  - Ks** South Fork volcanics; Sub-volcanic intrusives
- UPPER PALEOZOIC
- MR** Chert, siltstone, sandstone, shale, limestone
- DEVONIAN-MISSISSIPPIAN: Earn Group
- DMk** Kalzas Formation: limestone
  - DME** Clastic sediments: shale, chert pebble conglomerate
- ORDOVICIAN: Road River Group
- ORR** Shale
- CAMBRO-ORDOVICIAN: Kechika Group
- EOx** Phyllite, carbonate, volcanics
- PROTEROZOIC
- EG** "Grit unit"



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**DROMEDARY MTN. PROJECT**

**GENERAL GEOLOGY**

geology by: R. H.	drawn by: D. M. C.	date: MAR, 84
scale: 1: 250,000	n.t.s. 105 L, M, N, K	fig./proj. no. 5

clastic rocks of the Upper Proterozoic-Lower Cambrian 'Grit Unit' is not exposed in the project area. The phyllites are stratigraphically equivalent to the units which host the Anvil Pb-Zn-Ag deposits approximately 80 km on strike to the east.

Middle to Upper Ordovician Road River Group is exposed in the project area as a 30 m thick horizon of graptolitic shale which has been observed at three widely separated localities.

The Road River unit is overlain by the Devonian-Mississippian Earn Group, one of the most extensively exposed sequences in the project area. The Earn Group has been divided into three distinct units. The lowermost, an unnamed, possibly upper Devonian formation, consists of a variety of clastic rocks including chert-granule grit, chert-lithic sandstone, siltstone, shale, mudstone and minor conglomerate. The unit, which also includes some chert and several baritic horizons, may be equivalent in age to the 'Black Clastic' sediments which host the important Ag-Pb-Zn mineralization at MacMillan Pass. The middle unit is the Lower Mississippian Crystal Peak Formation. This unit consists of chert pebble conglomerate lenses, approximately 800m thick, which form resistive topographic features such as Crystal Peak, and also includes minor interbedded shale, siltstone and grit. The Kalzas Formation, a fossiliferous, upper Early Mississippian limestone, which ranges from 5 to 15 m in thickness, caps the Earn Group. Because of structural repetition, the total thickness of the group is uncertain, but is at least 900 m.

An extensive, unnamed, orange-weathering chert and siltstone unit, about 200 m thick, occurs in the north-central part of the project area. Because of similarities in lithology and weathering characteristics, this unit has been correlated with a Mississippian tuffaceous chert which occurs extensively in the Pelly Mountains to the south.

Permo-Triassic sandstone, siltstone and shale units apparently disconformably overlie older rocks. These units are mainly thin-to medium-bedded, calcareous and fossiliferous, and locally include thin

limestone beds. The sandstone is ripple cross-laminated and the shale is bioturbated.

The sedimentary sequence is intruded by post-tectonic, "S" type granitoid stocks of the 120-90 m.y. Middle Cretaceous biotite-quartz monzonite suite and locally by intrusive equivalents of the Cretaceous South Fork Volcanics.

### Structure

In the project area, the distribution of lithologies in the area is controlled by several major northwest-trending, south-dipping thrust sheets, which form part of an imbricate thrust and fold belt. An uncertain degree of repetition of units occurs along smaller, subsidiary structures. Large scale, open folding has been observed locally within the thrust sheets, with shallow-dipping fold axes parallel to the fault planes.

On a more local scale, extensive small-scale cross-faulting and tight folding characterize the structural style adjacent to the intrusive bodies.

## ALTERATION AND MINERALIZATION

### Dromedary Mountain

The discovery showing on the upper west flank of Dromedary Mountain consists of an outcropping lens of massive pyrrhotite, sphalerite, galena and chalcopyrite, at least one meter wide (see Figure 6). Chip samples across this outcrop assayed 7.2% Zn, 3.5% Pb, 58 gm/t Ag and 0.5% Cu. The sulfide lens occurs within a cherty, pyritic argillite unit, tentatively assigned to the Earn Group. Subsequent exploration located several similar showings, all of relatively small size, and a number of pyrrhotite-rich zones with minor chalcopyrite and scheelite. These showings appear to occur along the same stratigraphic horizon over a strike length of 8 km. This horizon is best exposed within a resistant zone of hornfels developed around the quartz monzonite stock on Dromedary Mountain.

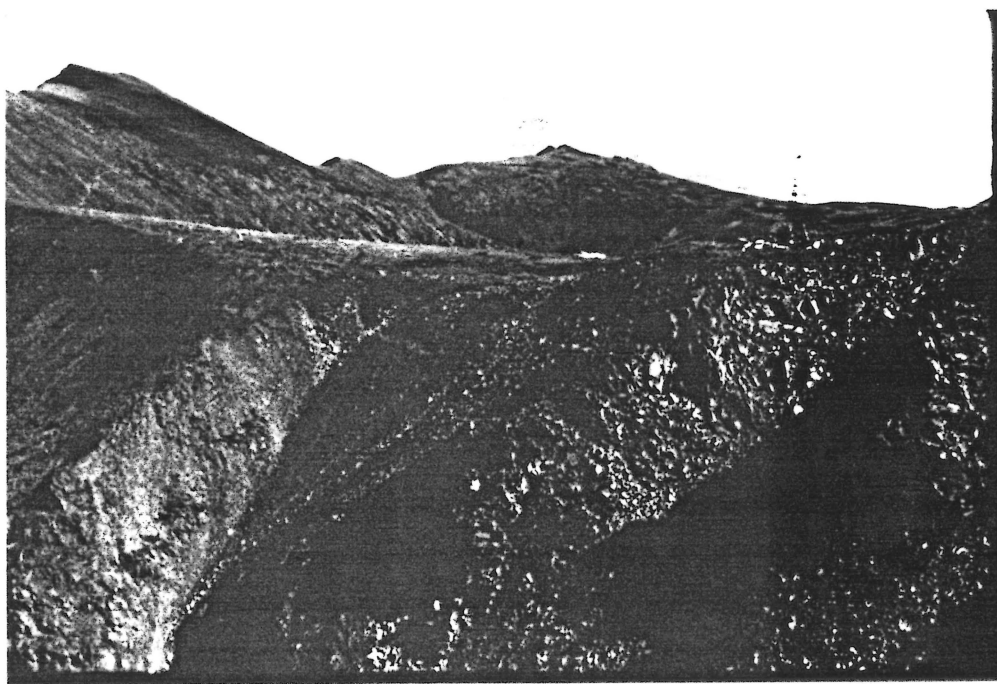


Figure 6. Looking east towards the Discovery Showing in south dipping rocks of the Earn Group on the northwest side of Dromedary Mountain. The Discovery Showing is the rusty outcrop in the lower left center of photo. Diamond drill is set up on DDH 81-1 and 81-2 drill sites.

The hornfels grades locally into a skarn assemblage of tremolite-actinolite, quartz, iron sulphides and calc-silicates, with or without base metal sulphides and scheelite. Because of masking by contact metamorphism, local stratigraphic correlations are difficult.

Adjacent to intrusive contacts, numerous small quartz veins commonly are mineralized with pyrite, pyrrhotite and arsenopyrite, with or without chalcopyrite and scheelite. At one location, massive, honey-coloured sphalerite replaces calcareous sediments for a distance of several meters adjacent to a cross fracture. Massive to disseminated pyrite occurs peripherally to the sphalerite.

East of Dromedary, hornfels alteration decreases and outcrop exposure becomes minimal. Sulphide mineral zones exhibit stratabound characteristics, but are low grade with lesser skarn development.

Between six and seven km east of the main showings, drilling to test a coincident mag-EM anomaly encountered a pyrrhotite-rich zone up to 50 m thick and over 800 m in strike length (see Figure 7). Sulphides, although somewhat recrystallized, reflect bedding and other sedimentary features. Base metal values are low, but significantly anomalous, in the three intersections encountered (see Appendix 1, DDH 81-8, -9 and -10).

Figure 8 shows the 1981 diamond drill locations, the pyrrhotite zone and the barite horizon. No ore grade intersections were encountered in the drilling. However, the list of assay results (Appendix 1) indicates that most of the holes encountered significant widths of geochemically anomalous Ag, Pb and Zn values. These anomalies correspond with a specific stratigraphic horizon near the base of the Earn Group which, in turn, correlates with the pyrrhotite zone encountered in holes 81-8, 81-9 and 81-10. This horizon may be equivalent to the K1 mineralized horizon and anomalies on the Francois Grid.

Bedded barite mineralization in the Lower Mississippian Earn Group and in the Middle Mississippian chert-siltstone map unit were discovered during the 1982 field season. A baritic unit up to 50 m thick,



containing one massive barite bed over 10 m thick, occurs in the Middle Mississippian chert-siltstone map unit on the north slope of Dromedary Mountain. No lead or zinc sulphides were observed with this occurrence. The occurrence of stratabound sulphides and barite in close association with the localized deposition of coarse clastic rocks of the Earn Group indicates a close similarity between the stratigraphic and structural setting of the Dromedary Mountain area and MacMillan Pass. Extensive geochemical anomalies, with local geophysical expression, attest to the potential for discovery of significant base metal deposits, on the order of magnitude of camps such as MacMillan Pass, Howard's Pass, Cyprus Anvil and Gataga.



Figure 7. Diamond drilling (DDH 81-10) the east-west trending geophysical anomaly 7 km east of Dromedary Mountain. Looking north towards Crystal Peak.



## Kalzas Mountain

Stratabound mineralization was discovered on the south flank of Kalzas Mountain within conductive, fine-grained, locally fossiliferous turbidites of the Lower Earn Group (see Figure 9). Mineralization includes pyrite, pyrrhotite, massive and nodular barite, and disseminated and stringer-type silver-lead-zinc mineralization. This latter mineralization has been observed at two localities, the Cave showing (Figure 10) and Kalzas Trenches area, within a 7 km trend of anomalous Ag-Pb-Zn. Exposure is poor within this belt, although overburden cover is relatively thin.

In the Kalzas Trenches area, assay values for rock chip samples range to 8.9% Pb, 2.77% Zn and 180 gm/t Ag over 1 m, with an average of 0.5% Pb, 0.3% Zn and 11 gm/t Ag representing 46 m of trenching (See Figure 11). Sulphides include disseminated to semi-massive pyrrhotite, galena and sphalerite occurring within a sequence of dark brown-weathering, interbedded calcareous sandstones and fossiliferous, silty shales. Sulphide minerals are recrystallized and remobilized to some extent, but appear to represent a stratabound occurrence. Lead isotope analysis of a galena sample from this showing gave an Ordovician-Silurian age and clustered with lead isotope determinations from other Cordilleran shale-hosted mineralization samples (Godwin, pers. comm.).



Figure 9. Looking past Kalzas Range (left) east towards Lone Mountain and Dromedary Mountain, on strike with mineralization in the Kal Group.

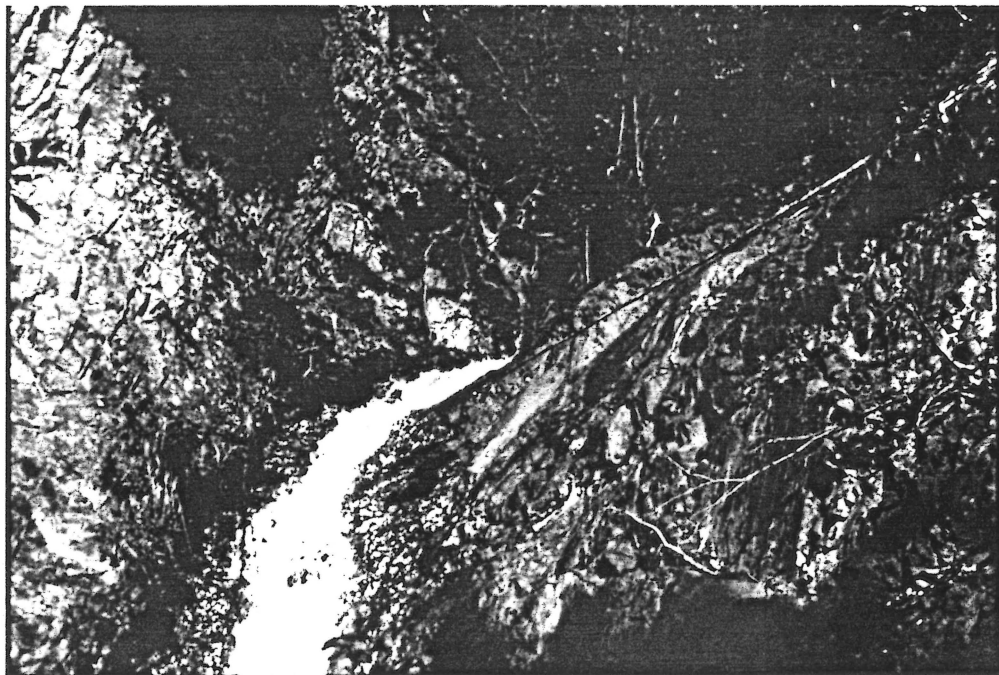


Figure 10. Cave showing (right) on south flank of Kalzas Mountain. Stratabound Pb-Zn mineralization, approximately 0.45m in width, in gossanous turbidites of the Devonian-Mississippian Earn Group.

## EXPLORATION RESULTS

As a result of the two seasons of intensive exploration, a comprehensive data base of geological, geochemical and geophysical information has been compiled. All significant airborne geophysical targets have had some ground follow-up.

### Geology

Geological mapping and stratigraphic correlation are difficult as the best outcrops occur within contact aureoles adjacent to intrusive stocks. In these aureoles hornfels-textured units now represent original lithologies. The commonly subtle distinctions between the various Paleozoic Selwyn Basin lithologies are partially masked by this metamorphic overprint. A concentrated regional mapping effort during 1982, combined with collaboration from DIAND and GSC geologists, has resulted in a much clearer understanding of the regional and local stratigraphy. The study of macro-fossils and conodonts provides age bracketing and permits correlations with similar stratigraphic units at MacMillan Pass and Howard's Pass.

It is now appreciated that mineralization at MacMillan Pass, Howard's Pass, Anvil, Midway and Gataga occurs over a wide stratigraphic interval. All these occurrences are associated with clastic sediments and appear to be related to faulting contemporaneous, or nearly so, with mineralization. Bedded barite, which also shows a wide stratigraphic range, is an important association. Other indicators of exhalative mineralization are bedded sulphides and sediments enriched in base metals.

## Geochemistry

In general, soil geochemistry has proven useful at higher elevations, where overburden is thin. In the Francols area, a program of overburden drilling to obtain samples from the bedrock interface, provided interesting geochemical values- coincident with geophysical anomalies. This sampling method was expensive and utilized locally on an experimental basis.

## Geophysics

Pyrrhotite zones are well defined by magnetometer, EM and, where applicable, gravity surveys. EM also defines graphitic horizons and gravity provides definition of massive barite and base metal zones. Both pyrrhotite and graphite are commonly associated with base metal mineralization. Barite could be associated with massive sulphides or as a facies variation along strike. Geophysical methods provide numerous anomalies and must be used in conjunction with geological mapping and geochemistry in order to define and rank drill targets.

## TARGETS

On Dromedary Mountain, the mineralized showings which have been tested appear to represent small, remobilized occurrences related to metasomatic effects of quartz monzonite intrusion. The showings may have been derived from a stratabound occurrence of the ore deposit-type being sought.

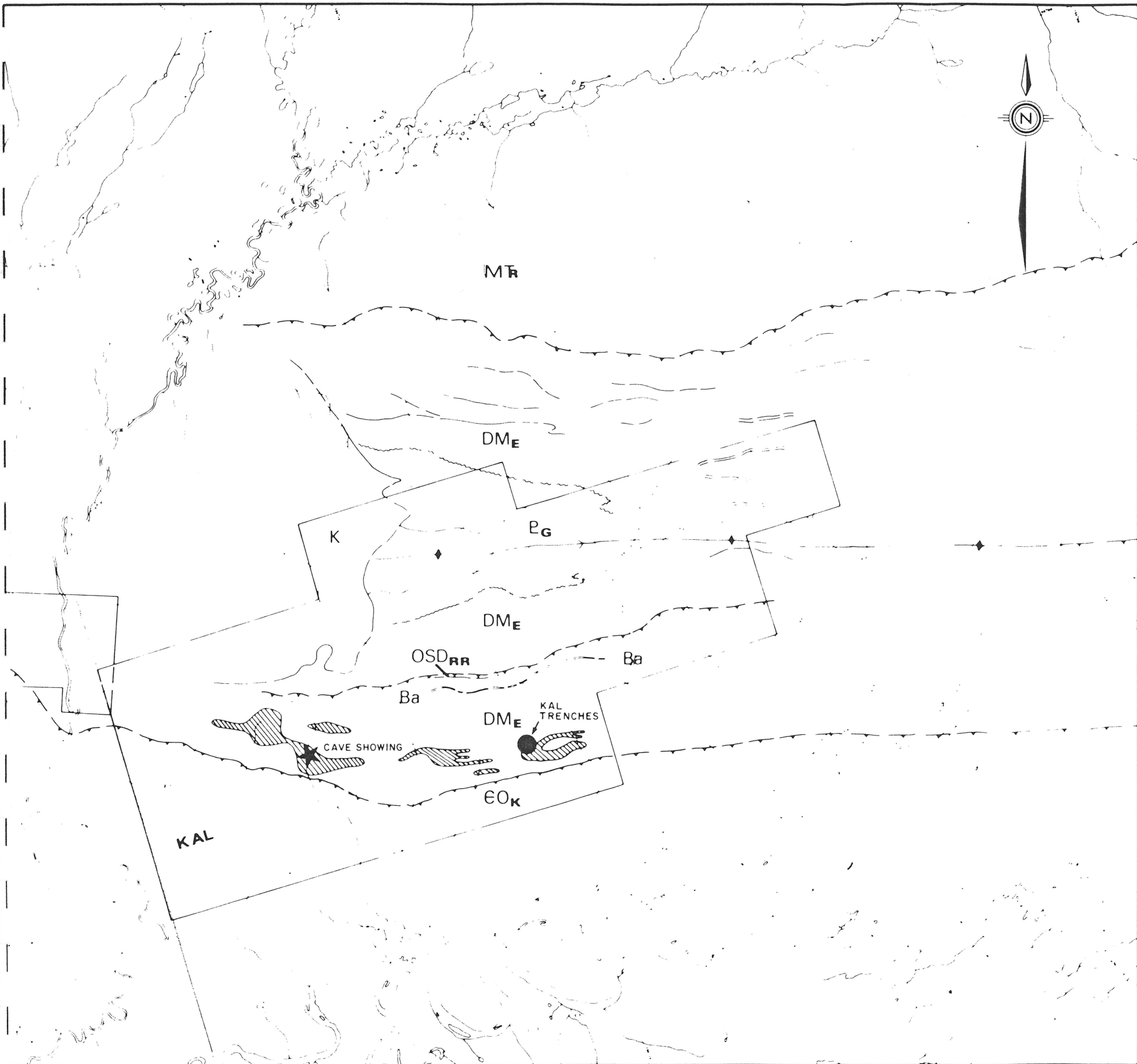
Two new target areas, Kal and Francois, show strong evidence of a stratabound character, with base and precious metal values, and require testing by diamond drilling. In the Kal area, Ag-Pb-Zn mineralization crops out at surface.

### Kal Trenches

The Kal Trenches and Cave showings (Figure 11) occur within the Lower Earn Group sediments, a favourable host for massive sulfide mineralization. Several bedded barite horizons are present and an occurrence of nodular barite apparently occupies the same stratigraphic horizon as the showings.

The showings are contained within an untested anomalous soil geochemical trend approximately 7 km in length. These and associated rock geochemical anomalies are typical of the metal rich 'chemical fringe' typically found with major sediment-hosted, base metal, massive sulphide deposits and represent primary dispersion of metals during or immediately after the mineralizing event.

Geophysics indicates that the geochemically anomalous zone follows a conductive unit up to 1 km in width. Strong conductors are not associated with the Kal Trenches' showings as the iron sulphide content is relatively low. These discoveries were made relatively late in the 1982 season. Fill-in geophysics is needed to define drilling sites. Gravity surveys may not be practical because of steep topography.



**LEGEND**

- K Cretaceous intrusives
- MTR Unnamed groups
- DM<sub>E</sub> Earn Group
- OSD<sub>RR</sub> Road River Group
- EO<sub>K</sub> Kechika Group
- P<sub>G</sub> "Grit" Unit
  
- Ba Barite horizon
- Pb anomaly in soils



<b>ANACONDA</b> Canada Exploration Ltd		
DROMEDARY MOUNTAIN PROJECT KAL TRENCHES AREA GEOLOGY AND GEOCHEMISTRY		
geology by	R.H.	drawn by
date	105-L-14	fig. no.
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## Francols

The Francols Grid area, between Dromedary and Lone Mountain, is along the strike of the favourable stratigraphy which hosts the Dromedary showings and the massive pyrrhotite lens to the east. (See Figures 4 and 12). No outcrops occur on the grid. Overburden is thick and initial soil geochemical sampling produced no anomalous values.

Ground geophysical surveys produced strong, coincident magnetometer and EM anomalies, possibly indicating a massive pyrrhotite sulfide zone. Gravity was run in this relatively flat terrain and produced a number of anomalies, up to .5 mgal, coinciding with the mag and EM anomalies. (See Figure 13.)



Figure 12. The Francols Grid, between Dromedary Mountain (foreground) and Lone Mountain (center), is an area of flat terrain with few outcrops and strong geophysical anomalies.

In an effort to obtain direct evidence of mineralization, a soil sampling program was undertaken utilizing a compressor and drill with soil sampling bit. Sampling through glacial overburden was difficult and few samples resulted. However, a strong geochemical anomaly coincident with gravity, mag and EM was defined along one profile.

A number of drill targets identified as anomalies A, B, C, D (Figure 13) are presently outlined within the Francois grid.

### Other Targets

Although the more easily accessible upper and lower slope areas have been prospected within the project area, a significant interval of untested favourable stratigraphy is present beneath thick till cover in the valleys. Massive sulfide mineralization in this situation might provide moderate to weak geophysical anomalies but would be difficult to identify geologically or geochemically.

## RECOMMENDED PROGRAM

Work by Anaconda to date has shown a geological environment at Dromedary Mountain, previously unrecognized, with the potential for hosting significant, open pittable, stratabound Ag-Pb-Zn mineralization. The reconnaissance phase of the project has been essentially completed. Target testing has been restricted to the well exposed initial discovery zone on Dromedary Mountain.

A program is recommended which would provide drill testing of two significant, more recently defined targets, the Kal Trenches and the Francois Grid area. Both of these show strong evidence for the occurrence of major stratabound base metal deposits.

Since a major proportion of the Anaconda land position at Dromedary Mountain is overlain by extensive overburden cover, further effort is required, utilizing both geophysical and geochemical tools, to extrapolate favourable stratigraphic units. It is highly probable that additional drill targets would be defined with such a program.

APPENDIX 1

APPENDIX 1

Selwyn Basin 1981 Drill Assay Results

	Interval (m)		Width (m)	%Cu	%Pb	%Zn	Ag gm/t
	From	To					
DDH 81-1	75.20	77.35	2.15	0.07	*	0.38	1.70
	77.35	78.40	1.05	0.19	0.52	2.00	31.20
	78.40	79.95	1.55	0.23	0.38	3.72	18.80
	79.95	80.75	0.80	0.07	0.10	0.61	4.50
	99.20	101.45	2.25	0.11	0.30	0.57	6.50
DDH 81-2	2.92	7.92	5.0	0.02	*	0.10	0.70
	43.00	48.0	5.0	0.06	*	0.23	2.06
DDH 81-3	37.0	41.0	4.0	0.1	*	0.17	2.40
DDH 81-4	40.0	44.0	4.0	*	*	0.11	1.03
	44.4	48.0	4.0	*	*	0.20	1.37
	48.0	53.0	5.0	*	*	0.12	2.40
	100.0	105.0	5.0	*	*	0.10	0.86
DDH 81-5	39.2	40.0	0.8	0.17	*	0.37	3.77
	47.0	48.0	1.0	0.11	0.01	0.52	1.70
	49.0	50.0	1.0	0.13	*	0.19	2.06
DDH 81-6	25.75	26.86	1.16	0.16	0.09	0.33	9.94
	56.90	57.0	1.0	*	*	0.23	0.45
	123.00	128.0	5.0	*	1.55	0.05	52.46
DDH 81-7	68.5	73.5	5.0	*	*	0.12	0.69
	83.5	88.5	5.0	*	*	0.14	1.03
	97.5	102.5	5.0	*	*	0.13	1.03
DDH 81-8	34.0	39.0	5.0	0.02	*	0.13	3.43
	74.1	75.3	1.2	*	0.10	0.20	5.83
	76.6	80.25	3.65	*	0.17	0.25	7.88
	133.0	135.0	2.0	*	0.06	0.10	2.06
	135.0	137.0	2.0	*	0.15	0.15	4.46
	145.8	151.6	5.8	*	0.04	0.11	2.40

\* Less than 0.01

	Interval (m)		Width(m)	%Cu	%Pb	%Zn	Ag gm/t
	From	To					
<b>DDH 81-8</b>							
	155.5	157.5	2.0	*	0.07	0.12	3.09
	157.5	159.5	2.0	*	0.14	0.15	4.11
	159.5	161.5	2.0	*	0.05	0.10	3.43
	172.3	174.5	2.2	*	0.02	0.12	1.71
	194.5	196.5	2.0	*	0.13	0.12	3.43
	196.5	198.5	2.0	0.01	0.06	0.14	3.77
	198.5	200.5	2.0	*	0.05	0.15	3.09
	200.5	202.5	2.0	*	0.08	0.12	3.77
<b>DDH 81-9</b>							
	88.3	92.1	3.8	0.02	*	0.14	1.03
	107.0	112.0	5.0	*	*	0.11	0.69
	202.5	205.0	2.5	*	0.19	0.12	3.77
	205.0	208.0	3.3	*	0.18	0.18	5.14
	219.9	215.5	2.6	*	0.05	0.11	4.46
<b>DDH81-10</b>							
	174.8	179.3	4.5	0.01	*	0.13	0.69
	252.0	253.75	1.75	*	0.07	0.12	3.77

\* Less than 0.01