



42H08NE0022 2.9270 BLAKELOCK

010

GEOLOGICAL REPORT  
on the  
25 Claim Property  
of  
DEERFOOT RESOURCES INC.

Blakelock Township

**RECEIVED**

**JUL 23 1986**

**MINING LANDS SECTION**

by  
Ian Coster, B.Sc.

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ROBERT S. MIDDLETON EXPLORATION SERVICES INC.  
P. O. Box 1637                      136 Cedar Street South  
Timmins                      Ontario                      P4N 7W8

June 20, 1986



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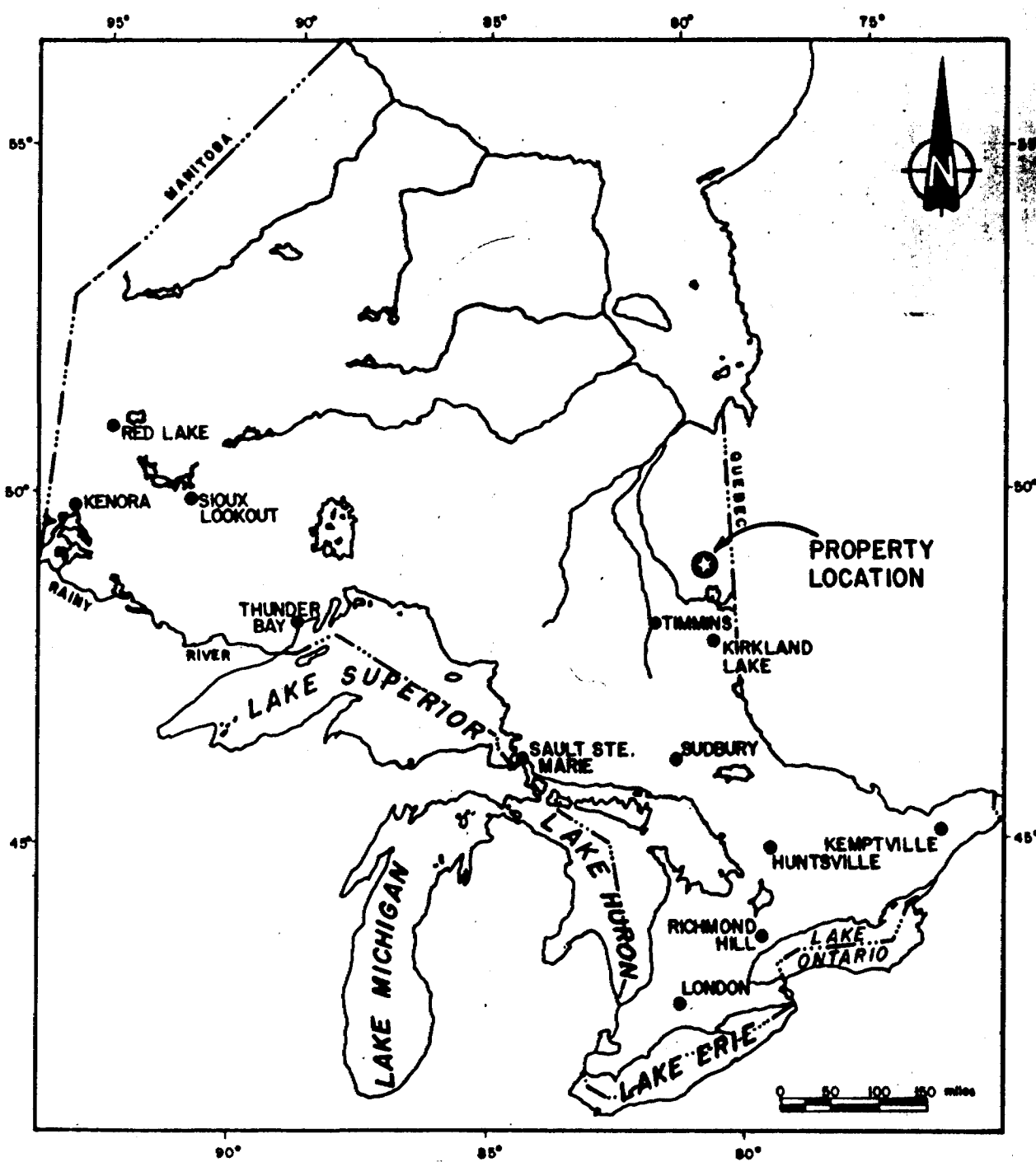
Figure 1	Property Location Map	1:250,000
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Figure 3	Regional Geology Map	1" = 1/2 mi
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## INTRODUCTION

A geological mapping program was conducted on the Deerfoot Resources Inc. property between June 6 and June 16, 1986 by two geologists (Ian Coster and David M. Strain) of Robert S. Middleton Exploration Services Inc. The 25 contiguous claim property is located within Blakelock Township, 48 miles (77 km) northeast of Cochrane, Ontario, and is underlain by mafic metavolcanics, metasediments and felsic intrusive rocks of the Burntbush greenstone belt.

### Location and Access

The Deerfoot property is located in southern Blakelock Township (N.T.S. 42/H), approximately 48 air miles (77 km) northeast of Cochrane, Ontario (see Figure 1). Winter access to the property is via the Detour Mine road which passes within 5 miles (8 km) to the northwest of the property. From this point a snowmobile is needed to traverse south through Mikwam Lake and the Mikwam River. Summer access via float plane is possible by landing on Magiskan Lake, which is situated approximately 1/2 a mile (0.8 km) southeast of the property. From here, a boat is required to traverse up the Mikwam river which flows northward out of the Magiskan Lake, and passes within 150 m of the northeast corner of the property. Float/ski plane and helicopter services as well as boat and snowmobile rentals are all available from Cochrane.



PROVINCE OF ONTARIO

REVISIONS	<b>ROBERT S. MIDDLETON EXPLORATION SERVICES INC.</b>		
	for <b>Deerfoot Resources Inc.</b>		
	Title Blakelock Twp. District of Cochrane		
	<b>PROPERTY LOCATION</b>		
	Larder Lake Mining Division, Ontario Fig. 1		
	Date: MAY, 1985	Scale: 1" = 160mi.	N.T.S.
	Drawn: K. B.	Approved:	File: M-106

Topography and Vegetation

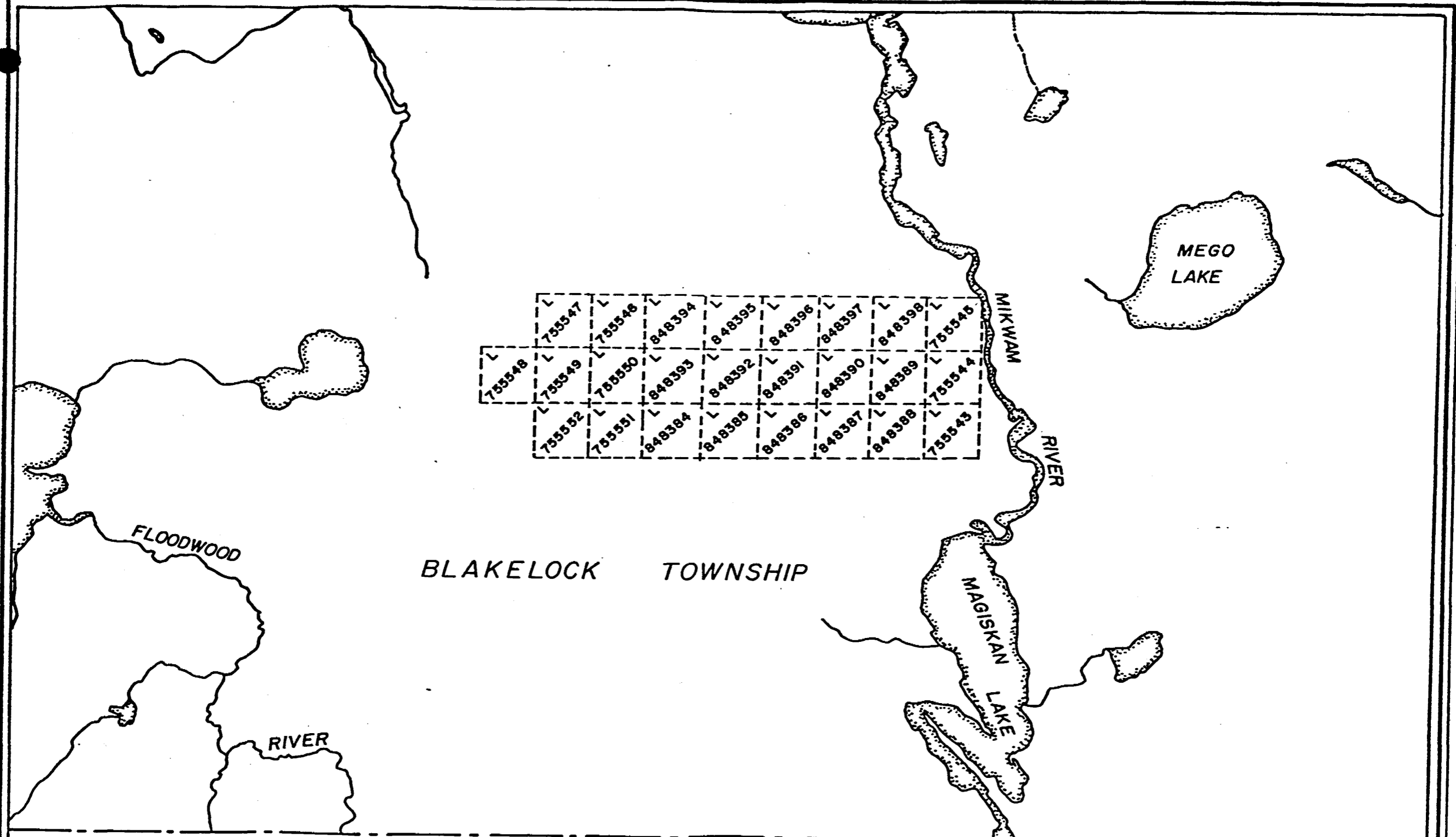
Relief on the property is minimal (estimated 10 m maximum) as most of the area is covered by dense, flat peat bog-stunted spruce growths, as well as areas of poplar, tamarack and cedar swamp. Most swampy areas are densely overgrown with tag alder and willow. Several discontinuous northeast trending bouldery esker hills are found in the south-central and eastern part of the property. Outcrop accounts for less than 5% of the property and is found mainly on L6W and 7W as well as several scattered outcrops in the southwestern and eastern parts of the property.

Property

The Deerfoot Resources Inc. property consists of 25 contiguous claims encompassing approximately 1,000 acres of mining land (see Figure 2). The claims are situated within the Larder Lake Mining Division of Ontario and are numbered as follows:

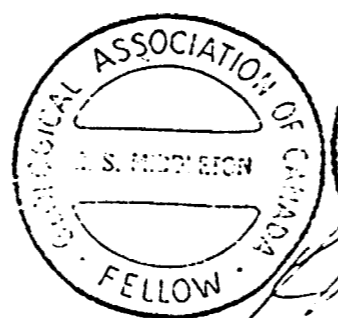
<u>Claim Number</u>	<u>Total</u>	<u>Recording Date</u>
L848384-L848398	15	April 19, 1985
L755543-L755552	<u>10</u>	May 17, 1985
	25	

The claims were staked by David Jones of Maurex Resources Limited, and are held in trust by Maurex for Deerfoot Resources Inc.



BLAKE LOCK TOWNSHIP

NEWMAN TOWNSHIP



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.	
	for	Deerfoot Resources Inc.
	Title	Blake Lock Twp. District of Cochrane
	<b>CLAIM MAP</b>	
	Larder Lake Mining Division, Ontario	Fig. 3
	Date: MAY, 1985	Scale: 1" = 1/2mi. N.T.S.
	Drawn: K. B.	Approved: [Signature] File: M-106

Previous Work

The first work in the area was done by Conwest Exploration Limited who carried out a horizontal loop electromagnetic ground survey and diamond drilling in 1960 on a group of 63 contiguous claims centered approximately 2.5 km northwest of Magiskan Lake over parts of the Deerfoot claims. The electromagnetic survey revealed one broad, northwest-dipping highly conductive zone in the south-central part of the claim group. A total of 437.7 m of diamond drilling in four short holes, two near the northern boundary and two near the southern boundary (of the Deerfoot claims) encountered disseminated and stringer pyrite and pyrrhotite.

In 1976 further limited ground electromagnetic surveys and diamond drilling were carried out by Geophysical Engineering Limited on a group of 16 claims located 2.4 km northwest of Magiskan Lake over part of the Deerfoot claims. Two holes (CC-6 and CC-7) were drilled which reportedly intersected stratabound pyrite-chert (iron formation) mineralization hosted in sericitized intermediate to felsic tuffs. Also in 1976 Hudson Bay Mining and Smelting outlined a series of conductors on the southwest portion of the Deerfoot property area, near the Floodwood River (H.B.M.S. Grid G) but there is no record of drilling on file. Noranda Exploration Company Limited did a ground EM and magnetic survey on a small area 1 mile east of the

Deerfoot property and one hole was drilled roughly 2000 feet west of the Mikwam River (hole BK 75-2). (An old drill pad was located at LAW/6+00S on the present Deerfoot grid that roughly corresponds to this drill hole location.) Gold values of .03 oz Au over 3 feet at a depth of 106 - 109 feet were contained in a disseminated pyrite zone in porphyry in this hole.

In 1982 - 1985 Newmont Exploration have been carrying out an extensive overburden drilling, geophysical and diamond drill program 10 miles east of the property and have announced an important drill intersection of 4 gm/7.5m. This hole is on the same iron formation trend that extends west through the Blakelock and Tweed Township area. Extensive staking has taken place west of the Newmont property by Esso Resources, coning within 3 miles of the Deerfoot property.

In early May, 1986, linecutting, proton magnetometer and electromagnetic (Max Min II) surveys were conducted over the entire Deerfoot property [Meikle (1986)]. The results of the surveys are rather complex, outlining three EM conductors of interest, as well as numerous complex magnetic features. EM Anomalies 1 and 2 appear to be the same linear conductor (offset by a fault) and have direct magnetic correlation which is characteristic of pyrrhotite and/or strong iron formation response. EM anomaly 3 is short and weak with no magnetic correlation.



### REGIONAL GEOLOGY

Geology within Blakelock and surrounding townships according to Wilson (1979) "... consists of metavolcanics, metasediments, and ultramafic, mafic, and felsic intrusive rocks of Early Precambrian age intruded by Early to Late Precambrian diabase dikes." These rocks form part of the Burntbush greenstone belt, which is part of the main Abitibi greenstone belt of Quebec and Ontario. The felsic intrusive rocks may be remobilized rocks derived from a pre-existing basement. The supercrustal rocks (metavolcanics and metasediments) have been folded overlying the felsic intrusive rocks due to gravity-driven subsidence (Wilson, 1979) into elongate synclinal and anticlinal axes. The Deerfoot property is situated along the north limb of a major east-northeast plunging syncline, and more specifically, along the contact of the metasediments and metavolcanics (see Figure 3).

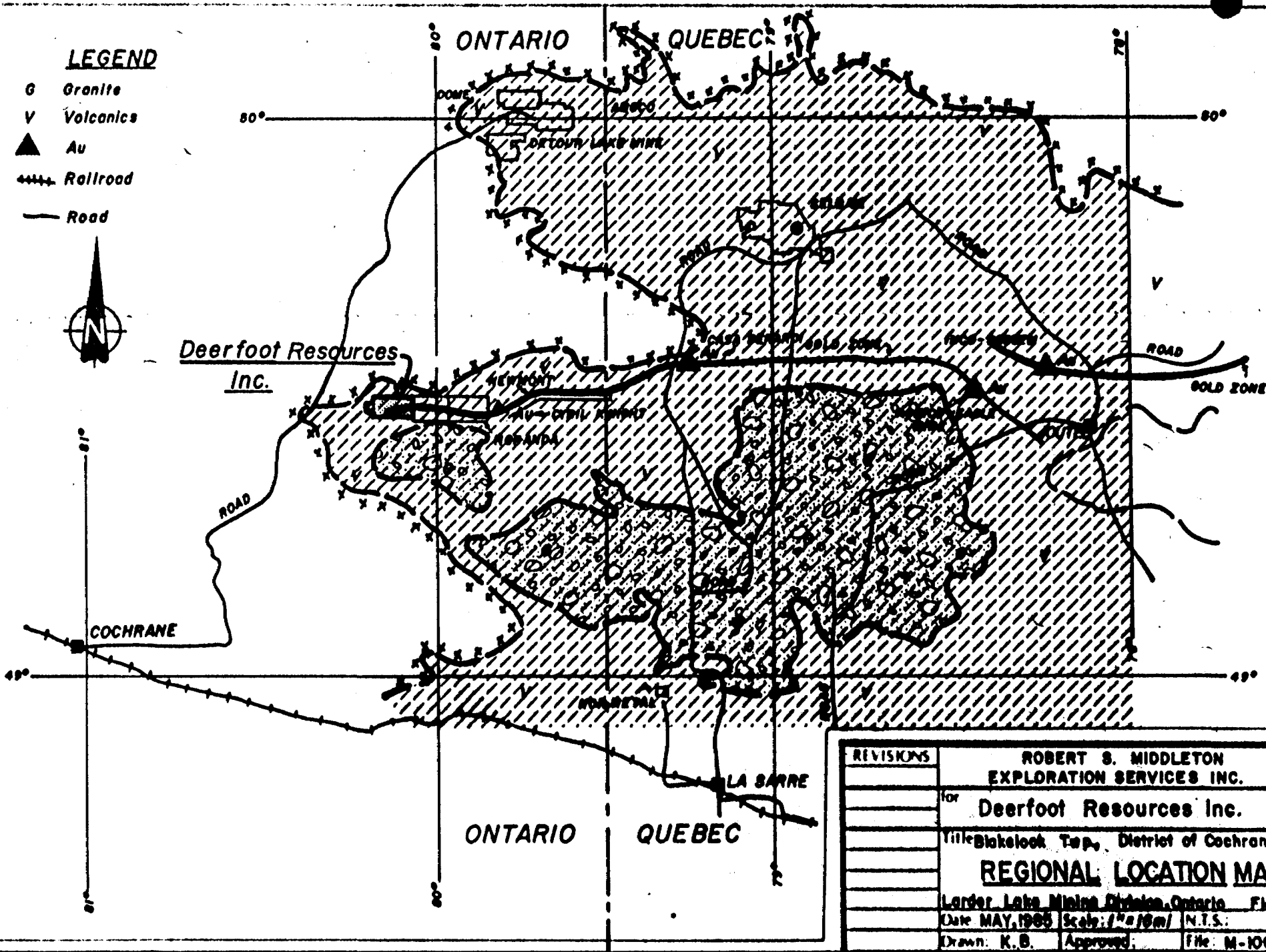
A series of iron formations hosted in sediments and felsic to mafic volcanics has been traced by aeromagnetic data, from the Casa Berardi area of Quebec into the Burntbush greenstone belt area in Ontario. These iron formations are closely related to the gold mineralization as shown by the Casa Berardi discovery by Inco. Upon detailed examination gold occurs within several rock types including oxide and sulphide iron formation, argillites, greywackes, conglomerate and felsic tuffs. Carbonate and silica

**LEGEND**

- G Granite
- V Volcanics
- ▲ Au
- +—+— Railroad
- Road



**Deerfoot Resources  
Inc.**



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.
	for Deerfoot Resources Inc.
	Title: Blakelock Twp., District of Cochrane
	<b>REGIONAL LOCATION MAP</b>
	Order: Lake Michale Division, Ontario, File 5
	Date: MAY, 1965 Scale: 1" = 10mi N.T.S.
	Drawn: K.B. Approved: File: M-106

alteration - veining with pyritization is directly associated with the gold values within the various rock types at the Inco discovery. Bedded stratabound pyrite zones within the oxide iron formation also contain important gold values. Assays released by Inco give gold grades and widths in widely spaced holes of .13 oz/ton over 6.7 feet, .26 oz/ton over 24.9 feet, .73 oz/ton over 15.7 feet, .23 oz/ton over 81.5 feet.

In Noseworthy township a gold showing is reported to occur near the Burntbush River (Cyrill Knight showing) which is situated along the same magnetic horizon that links the iron formation markers in Quebec with the area containing the property. Overburden cover and general lack of outcrop in the region has prevented conventional gold prospecting and the principle exploration effort in the past 25 years has been base metal exploration using electromagnetic methods for outlining conductors. Gold analysis was not routinely done during these base metal programs, and as a result the gold potential for the area was not assessed nor was the geological setting appreciated until recent gold discoveries were made elsewhere along this greenstone belt.

#### PROPERTY GEOLOGY

As previously mentioned, outcrop accounts for less than 5% of the Deerfoot property. Lithologic contacts drawn on the

Property Geology Map (Figure 4) are therefore over simplified and have been largely interpreted from data obtained from the recent ground geophysical surveys conducted on the property (Meikle, 1986).

Stratigraphic trends within supercrustal rocks vary from east-northeasterly on the east end of the property, to northeasterly on the west end of the property. General geology underlying the property from south to north, includes variable mafic (iron tholeiitic) metavolcanic pillowed and massive flows hosting rare, narrow interflow metasediments; mafic tuff and lapilli tuff; a package of epiclastic metasedimentary rocks; mafic tuff and a highly deformed mixture of epiclastic and chemical metasediments. A 300 m wide package of metasediments is inferred to underlie the central part of the property, as interpreted from the recent ground geophysics (Meikle, 1986). This package may be the strike continuation of the Epiclastic - Chemical Sediment Melange unit. A (dike or) sill of gabbro intrudes epiclastic metasediments in the southwest part of the property. A small scale (100 m  $\pm$ ) stock of granodiorite (plus related dikelets) intrudes mafic metavolcanics, also in the southwest of the property. Northtrending, post-tectonic diabase dikes intrude all the supercrustal and basement rocks, as seen in the eastern part of the property.

TABLE OF FORMATIONS

PRECAMBRIAN

EARLY TO LAKE PRECAMBRIAN

Mafic Intrusive Rocks  
5 Diabase

EARLY PRECAMBRIAN (Archean)

Felsic Intrusive Rocks  
4a Biotite Granodiorite  
4b Aplite  
4c Quartz-eye Feldspar Porphyry

METASEDIMENTS

2a Variable Fine Arenite - Wacke  
2b Cherty Siltstone - Argillite  
2c Epiclastic - Chemical Sediment Melange

MAFIC METAVOLCANICS

1a Massive and Pillowed Flows  
1b Pillow Breccia  
1c Tuff  
1d Lapilli Tuff  
1e Gabbro

LITHOLOGIC DESCRIPTIONS

5 MAFIC INTRUSIVE ROCKS

5a DIABASE (Dikes)

Two north trending diabase dikes are found on the property. One (35 m wide) outcrops between most of L6W and L7W and the other (15 m ? wide) outcrops between L0 and L1W near TL 10+50S. The rock is dark green, massive and generally coarse grained. In places it is porphyritic hosting rare roundish phenocrysts up to 20 mm wide of pale green saussuritized plagioclase, set in the (50:50) plagioclase-pyroxene matrix. The diabase is ubiquitously moderately to highly magnetic.

4 FELSIC INTRUSIVE ROCKS

4a BIOTITE GRANODIORITE

This rock was seen as a small circular outcrop (small stock?) at L27W/9+20S. The rock is a massive,

predominantly equigranular biotite granodiorite, medium to coarse grained texture, hosting subhedral 2 mm biotite (10%); 3 mm plagioclase (60%); 4 mm quartz (20%); and 3 mm potassic feldspar (10%) and trace pyrite.

The same rock was seen as a 30 cm irregular dike trending 170° through pillowed mafic metavolcanics at L25W/10+50S. This dike is probably related to the stock mentioned above.

#### 4b APLITE (Dikes)

This rock was seen in a single outcrop at L25/10+50S as a very irregular dikelet cutting the Biotite Granodiorite dike and pillowed mafic metavolcanics. The rock is pinkish-grey in color, fine grained and sugary (aplitic) textured, felsic in composition, hosting rare (1%) round, coarse quartz eyes and a trace fine magnetite. The rock is believed to be genetically related to the biotite granodiorite stock.

#### 4c QUARTZ-EYE FELDSPAR PORPHYRY (Sills)

Four 1-2 m wide quartz-eye feldspar porphyry sills were seen intruding mafic tuff in the vicinity of the larger diabase dike near L7W/1+75S. The rock is comprised of 40% subhedral to euhedral 1-10 mm plagioclase phenocrysts, 4-6% roundish grey 2-4 mm quartz eyes, and 1% finely disseminated pyrite set in a medium grey sugary, fine grained felsic matrix. Several chloritized fragments of wallrock were seen incorporated near the sill margins, and the wallrocks have also been moderately to weakly chloritized for 1/2 a sill width on either side of the sill.

## 2 METASEDIMENTS

### 2a VARIABLE FINE ARENITE-WACKE

These rocks were seen mainly in the southwestern part of the property as part of an estimated 400 m thick package, and to a minor degree as less than 3 m wide interflow epiclastic sediments within the massive and pillowed mafic flows. Rocks are variably poorly to more commonly well laminated and moderately foliated parallel to lamination. Grain size is variable,

ranging from sand to silt size. All outcrops observed were moderately recrystallized and sugary textured, which prevented the field interpretation of stratigraphic tops. The rock is comprised of recrystallized fine quartz and feldspar, with up to 20% fine grained biotite, and minor (less than 5%) sericite along foliation. These rocks host from trace to 1%, and locally up to 4% pyrite, as fine disseminations and as massive blebs. Outcrop weathers dark grey to rusty brown (from the biotite and pyrite), while fresh surfaces are medium to dark grey-brown with a purplish tinge.

#### 2b CHERTY SILTSTONE-ARGILLITE

This rock was seen in a single outcrop at L31W/10+75S as broken subcrop. The rock is well laminated and bedded, very fine grained dense and highly siliceous. Outcrop weathers medium grey-brown and fresh surfaces are medium to dark grey-black. Very thin streaky laminations of up to 2% pyrite are hosted within this outcrop. This rock is found north of the Variable Fine Arenite-Wacke and is undoubtedly part of the same sedimentary package.

#### 2c EPICLASTIC-CHEMICAL SEDIMENT MELANGE

This rock was mapped in the vicinity of the large diabase dike between L6W and L7W from BLO to 1+00S. This is a highly variable looking rock showing well laminated alternating cream colored to black recrystallized felsic to intermediate to mafic and amphibolitic layers up to 50 cm wide, as well as rare pods (boudinaged layers) and wispy streaks of massive magnetite up to 8 cm thick. All these alternating layers are highly deformed into tight isoclinal folds up to 3 m in amplitude. It is unclear as to whether this deformation is in part, primary (e.g. gravity sliding and soft sediment deformation).

Amphibolitic layers are comprised of 100% euhedral hornblende semi-aligned parallel to foliation. Felsic layers are highly recrystallized and hornfelsed (probably due to close proximity of the diabase dike). In some areas these felsic layers host rare red-black garnet crystals. Intermediate to mafic layers are chloritic and in places host up to 2% pyrite as fine disseminations and coarse blebs.

A spiderwebbing of hairline silicified fractures is fairly ubiquitous throughout this unit with the silica (probably) being locally derived or remobilized from the more felsic layers.

It is thought by the writer that this rock type is the result of penecontemporaneous epiclastic, chemical precipitate and possibly mafic volcanic deposition. Wilson (1979) suggests that these rocks were "... derived from consolidated and unconsolidated pyroclastic, hyaloclastic and erosional volcanic and [clastic and chemical precipitate] sedimentary material...".

## 1 MAFIC METAVOLCANICS

### 1a PILLOWED (and Massive) FLOWS

These rocks were seen in the southeastern and southwestern parts of the property. The pillowed flows are more common than the massive flows, but it is possible that the massive flows are, in part, fine tuff. Pillows are poorly to moderately developed, and as seen on weathered surfaces, are ellipsoidal and bun-shaped, but are deformed enough to largely prohibit tops determinations. Pillows range in size from 10 x 20 cm to 50 x 100 cm. The centers are generally aphanitic to fine grained, dark to light grey-green, chloritic to weakly amphibolitic and epidotic, often showing ellipsoidal pea-size varioles. Pillows and rims host from trace to 2% pyrite and minor pyrrhotite. The pillow rims average 2 cm in thickness and are comprised of brown soft hyaloclastic material.

All of the mafic rocks were variably weakly to highly magnetic, so it is presumed by the writer that these rocks are high iron tholeiitic in composition.

### 1b PILLOW BRECCIA

These rocks were observed in the vicinity of the pillowed flows, at L28W/9+00S, and are essentially identical to the pillowed flows in all respects except for texture. The brecciated texture was only evident on weathered surfaces and shows subangular peices and irregular slabs of pillow rims and pillows compositionally identical to the matrix material.



1c TUFF

This rock type was mapped in the northeastern and southeastern parts of the property. In the northeastern part of the property the tuff is in gradational contact with the Epiclastic-Chemical Sediment Melange (unit 2c). As previously mentioned, parts of this unit may in fact, be a recrystallized mafic flow. Outcrops are weakly to moderately foliated, moderately laminated and fine grained, only portraying the tuffaceous texture on weathered surfaces. The outcrops weather dark grey-green-brownish with occasional lighter colored laminae. The rock is generally fine grained and uniform showing very fine fragments and rare feldspar crystals less than or equal to 1 mm in size, as well as rare ellipsoidal chloritic and felsic lapilli up to 4 cm long, all set in a very fine grained chloritic (and weakly amphibolitic) matrix. The rocks are variably magnetic and host from trace to 1% pyrite.

1d LAPILLI TUFF

This rock type was seen in several outcrops between 8+00S and 9+00S on L6W. The rock is virtually identical to the tuff except for the percentage and types of lapilli. The lapilli comprise from 5 to 20% of the rock and are of three different types; highly flattened (8:1), highly chloritic fragments up to 6 cm long; ellipsoidal mafic feldspar porphyry (mafic crystal tuff ?) fragments up to 3 cm long; and rare ellipsoidal intermediate to felsic feldspar porphyry (as in unit 4c) fragments up to 5 cm long, all set within a very fine grained chloritic matrix.

1e GABBRO

This unit was found in the extreme southwest corner of the property, intruding the metasediments. No contacts were observed. Outcrops are massive to very weakly foliated and "diabasic speckled" on weathered surfaces. The rock is medium to coarse grained, comprised of 75% slightly chloritized euhedral hornblende, and 25% euhedral feldspar. The rock is not magnetic and hosts trace to 1/2% pyrite. Although this unit is probably intrusive in origin, it is believed by the writer to be directly related to the mafic metavolcanics. Wilson (1979) states that "... these

rocks probably represent subvolcanic intrusions from the same magma source as the flows".

#### Metamorphism

The regional grade of metamorphism of rocks outcropping on the Deerfoot property is upper greenschist to lower amphibolite garnet facies. Metamorphically grown hornblende was observed in some of the mafic rocks and metamorphically grown (almadine ?) garnet was observed in some of the sedimentary rocks.

Contact metamorphism observed was restricted to a moderate degree of hornfelsing within rocks in contact with the large diabase dike between L6W and L7W, and it is possible that the garnet observed in the sedimentary rocks is resulting from contact metamorphism.

#### Structure

Many of the structural features and lithologic contacts on the property have been interpreted and inferred from ground geophysical data (Meikle, 1986).

A northwest trending dextral fault is inferred, trending through TL20W and BL29W. This fault was interpreted from an offset in EM anomalies 1 and 2 and termination of magnetic trends as well as by the location of the long linear regional esker (which commonly are formed in paleo-valleys caused by faulting).

Another northwest trending fault (this time sinistral) is inferred trending through BL11W and LO,8S. Again, this fault was

interpreted from geophysical data and corresponding linear esker deposits.

Tight isoclinal "s" and "z" folding was observed in the Epiclastic-Chemical Sediment Melange unit. The folds have amplitudes up to 3 m and plunge 20° towards the northeast.

#### ECONOMIC GEOLOGY

Sulphide minerals observed on the property consisted of minor (trace to locally 4%) disseminated pyrite hosted within the metasediments, and minor (trace to 2%) disseminated pyrite and pyrrhotite hosted within the rest of the geology. No anomalous amounts of sulphidic rock outcrops on the property.

Magnetite occurs as wispy, near massive boudinaged streaks up to 8 cm thick in folded layers within the southern part of the Epiclastic-Chemical Sediment Melange (unit 2c).

Quartz veining observed is generally as "sweats" parallel to foliation showing no appreciable wallrock alteration or mineralization. In places, a quartz stockworking was noted, although it appears to be remobilized locally derived quartz.

A total of eight rock samples were collected from mineralized and/or altered outcrops on the property, and were geochemically analyzed for gold.

Sample Number	Location	Description	Au (ppb)
59851	L1W,3+20S	mafic volcanic (1a) silicified pyritic (2-3%) alteration envelope of quartz sweat	33
59852	6+90W,1+25S	magnetite rich pods (40%) in Epiclastic-Chemical Sediment Melange (2c)	30
59853	6+95W,1+75S	quartz eye-feldspar porphyry (4c) hosting 1% disseminated pyrite	12
59854	24+95W,9+35S	4 inch boudinaged limonitic, vuggy, coarsely crystalline quartz vein hosting trace pyrite	22
59855	L25W,9+45S	sugary, recrystallized limonitic fine wacke interbed (2a) hosting 1-3% fine pyrite	14
59856	L31W,10+27S	limonitic fine wacke (2a) hosting 2-4% disseminated and blebby pyrite	40
59857	L31W,10+85S	siliceous siltstone-argillite (2b) hosting 1-2% streaky syngenetic pyrite	6
59858	24+80W,9+50S	stockwork limonitic quartz veinlets in pillowed metavolcanic (1a)	14

### CONCLUSIONS

The Deerfoot property is underlain by a sequence of mafic metavolcanics and tuffs and variable metasediments that have been intruded by minor felsic and mafic intrusions. The stratigraphy has been faulted in a (probable) graben type structure, offsetting stratigraphy by approximately 50 m. Mineralization and alteration that exists in the few outcrops on the property is minimal and the results of the rock samples collected are not considered anomalous in gold.

### RECOMMENDATIONS

The interpretation of the recent magnetometer and Max Min data has defined or inferred geological contacts and structures on the Deerfoot property. Although none of the rock samples are anomalous in gold, the paucity of outcrop has made proper sampling impossible. Correlation of stratigraphy with the Max Min and magnetic anomalies has targeted some areas of potential base and/or precious metal concentration. Namely, the metasedimentary horizon striking through the centre of the property contains Max Min anomalies 1 and 2. These conductors lie near the contact of the metasediments and metavolcanics and show a distinctive exhalative massive sulphide signature.

It is recommended that an Induced Polarization survey be conducted on at least every second line to help define drilling

targets. Once complete, a diamond drilling program of at least three holes (1200+ feet total) should be conducted to test targets defined by the I.P. Spotting of holes (targets) will be done after the I.P. data is available.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ian Coster', written over a horizontal line.

Ian Coster, B.Sc.

REFERENCES

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including Map 2410, Scale 1" = 1/2 mile.

CERTIFICATION

I, IAN P.D.A. COSTER, B.Sc., of Timmins, Ontario certify that:

- 1) I am a graduate of the University of British Columbia, Vancouver, B.C., with a B.Sc. degree in Geology obtained in 1981.
- 2) I have been practising my profession in Canada since 1981.
- 3) I have no direct or indirect interest in the properties, leases or securities of Deerfoot Resources Inc., nor do I expect to receive any.

Dated this 20th day of June, 1986, Timmins, Ontario.



IAN P.D.A.COSTER, B.Sc.



A P P E N D I X



# BELL - WHITE ANALYTICAL LABORATORIES LTD.

P.O. BOX 187.

HAILEYBURY, ONTARIO

TEL: 672-3107

## Certificate of Analysis

NO. 0925

DATE: July 2, 1986

SAMPLE(S) OF: Rock (8)

RECEIVED: June 1986

SAMPLE(S) FROM: Mr. Ian Coster, R.S. Middleton Exploration Services Inc.

PROJECT: #M-106

<u>Sample No.</u>	<u>Gold ppb</u>
59851	33
2	30
3	12
4	22
5	14
6	40
7	6
8	14

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

PER: 



your file 2.9270

Mining Act

Type of Survey: **GEOLOGICAL**

Claim Holder(s): **DEERFOOT RESOURCES INC.**

Address: **18 CEDARBANK CRES. DON MILLS, ONTARIO M3B 3A4**

Survey Company: **R.S. MIDDLETON EXPL. SERVICES INC.**

Date of Survey (from & to): **06 06 86** to **16 06 86**

Name and Address of Author (of Geo-Technical report): **IAN COSTER % BOX 1637 TIMMINS, ONT P4N7W8**

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	<b>20</b>
	Geochemical	

Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	848384		L	755551	
	" 85			" 52	
	" 86				
	" 87				
	" 88				
	" 89				
	" 90				
	" 91				
	" 92				
	" 93				
	" 94				
	" 95				
	" 96				
	" 97				
	" 98				
	755543				
	44				
	45				
	46				
	47				
	48				
	49				
	50				

**RECEIVED**  
SEP 09 1986  
MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$  ÷ 15 = Total Days Credits

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. **25**

For Office Use Only

Total Days Cr. Recorded: **500**

Date Recorded: **AUG 27 1986**

Date Approved as Recorded: **86.9.17**

Mining Recorder: *[Signature]*

Director: *[Signature]*

Date: **Aug 28/86**

Recorded Holder or Agent (Signature): *[Signature]*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: **IAN COSTER % BOX 1637 TIMMINS, ONT P4N7W8**

Date Certified: **Aug 26/86**

Certified by (Signature): *[Signature]*



File \_\_\_\_\_

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) GEOLOGICAL  
Township or Area BLAKELOCK TWP  
Claim Holder(s) DAVID V. JONES

Survey Company R.S. MIDDLETON EXPL. SERVICES INC.  
Author of Report IAN COSTER  
Address of Author PO BOX 1637 TIMMINS, ONT  
Covering Dates of Survey JUNE 6-16, 1986  
(linecutting to office)  
Total Miles of Line Cut 0

MINING CLAIMS TRAVERSED	
List numerically	
L 848384 (prefix)	L 755551 (number)
" 385	" 552
" 386	" 543
" 387	" 544
" 388	" 545
" 389	" 546
" 390	" 547
" 391	" 548
" 392	" 549
" 393	" 550
" 394	
" 395	
" 396	
" 397	
" 398	
TOTAL CLAIMS <u>25</u>	

If space insufficient, attach list

<u>SPECIAL PROVISIONS</u> <u>CREDITS REQUESTED</u>	<u>DAYS</u> <u>per claim</u>
ENTER 40 days (includes line cutting) for first survey.	Geophysical -Electromagnetic _____ -Magnetometer _____ -Radiometric _____ -Other _____
ENTER 20 days for each additional survey using same grid.	Geological <u>20</u> Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: JUNE 20/86 SIGNATURE: [Signature]  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications 2.6024

Previous Surveys

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

**GEOPHYSICAL TECHNICAL DATA**

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations \_\_\_\_\_ Number of Readings \_\_\_\_\_

Station interval \_\_\_\_\_ Line spacing \_\_\_\_\_

Profile scale \_\_\_\_\_

Contour interval \_\_\_\_\_

**MAGNETIC**

Instrument \_\_\_\_\_

Accuracy – Scale constant \_\_\_\_\_

Diurnal correction method \_\_\_\_\_

Base Station check-in interval (hours) \_\_\_\_\_

Base Station location and value \_\_\_\_\_

**ELECTROMAGNETIC**

Instrument \_\_\_\_\_

Coil configuration \_\_\_\_\_

Coil separation \_\_\_\_\_

Accuracy \_\_\_\_\_

Method:  Fixed transmitter  Shoot back  In line  Parallel line

Frequency \_\_\_\_\_  
(specify V.L.F. station)

Parameters measured \_\_\_\_\_

**GRAVITY**

Instrument \_\_\_\_\_

Scale constant \_\_\_\_\_

Corrections made \_\_\_\_\_

Base station value and location \_\_\_\_\_

Elevation accuracy \_\_\_\_\_

**INDUCED POLARIZATION  
RESISTIVITY**

Instrument \_\_\_\_\_

Method  Time Domain  Frequency Domain

Parameters – On time \_\_\_\_\_ Frequency \_\_\_\_\_

– Off time \_\_\_\_\_ Range \_\_\_\_\_

– Delay time \_\_\_\_\_

– Integration time \_\_\_\_\_

Power \_\_\_\_\_

Electrode array \_\_\_\_\_

Electrode spacing \_\_\_\_\_

Type of electrode \_\_\_\_\_

SELF POTENTIAL

Instrument \_\_\_\_\_ Range \_\_\_\_\_

Survey Method \_\_\_\_\_

Corrections made \_\_\_\_\_

RADIOMETRIC

Instrument \_\_\_\_\_

Values measured \_\_\_\_\_

Energy windows (levels) \_\_\_\_\_

Height of instrument \_\_\_\_\_ Background Count \_\_\_\_\_

Size of detector \_\_\_\_\_

Overburden \_\_\_\_\_

(type, depth - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey \_\_\_\_\_

Instrument \_\_\_\_\_

Accuracy \_\_\_\_\_

Parameters measured \_\_\_\_\_

Additional information (for understanding results) \_\_\_\_\_

AIRBORNE SURVEYS

Type of survey(s) \_\_\_\_\_

Instrument(s) \_\_\_\_\_

(specify for each type of survey)

Accuracy \_\_\_\_\_

(specify for each type of survey)

Aircraft used \_\_\_\_\_

Sensor altitude \_\_\_\_\_

Navigation and flight path recovery method \_\_\_\_\_

Aircraft altitude \_\_\_\_\_ Line Spacing \_\_\_\_\_

Miles flown over total area \_\_\_\_\_ Over claims only \_\_\_\_\_

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_  
\_\_\_\_\_

Soil Horizon Sampled \_\_\_\_\_

Horizon Development \_\_\_\_\_

Sample Depth \_\_\_\_\_

Terrain \_\_\_\_\_  
\_\_\_\_\_

Drainage Development \_\_\_\_\_

Estimated Range of Overburden Thickness \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SAMPLE PREPARATION**

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

General \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ANALYTICAL METHODS**

Values expressed in: per cent   
p. p. m.   
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, (circle)

Others \_\_\_\_\_

Field Analysis (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory (\_\_\_\_\_ tests)

Name of Laboratory \_\_\_\_\_

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

General \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# BLAKELOCK

M:419  
ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

LARDER LAKE MINING DIVISION

DISTRICT OF COCHRANE

Scale - 40 Chains - 1 Inch

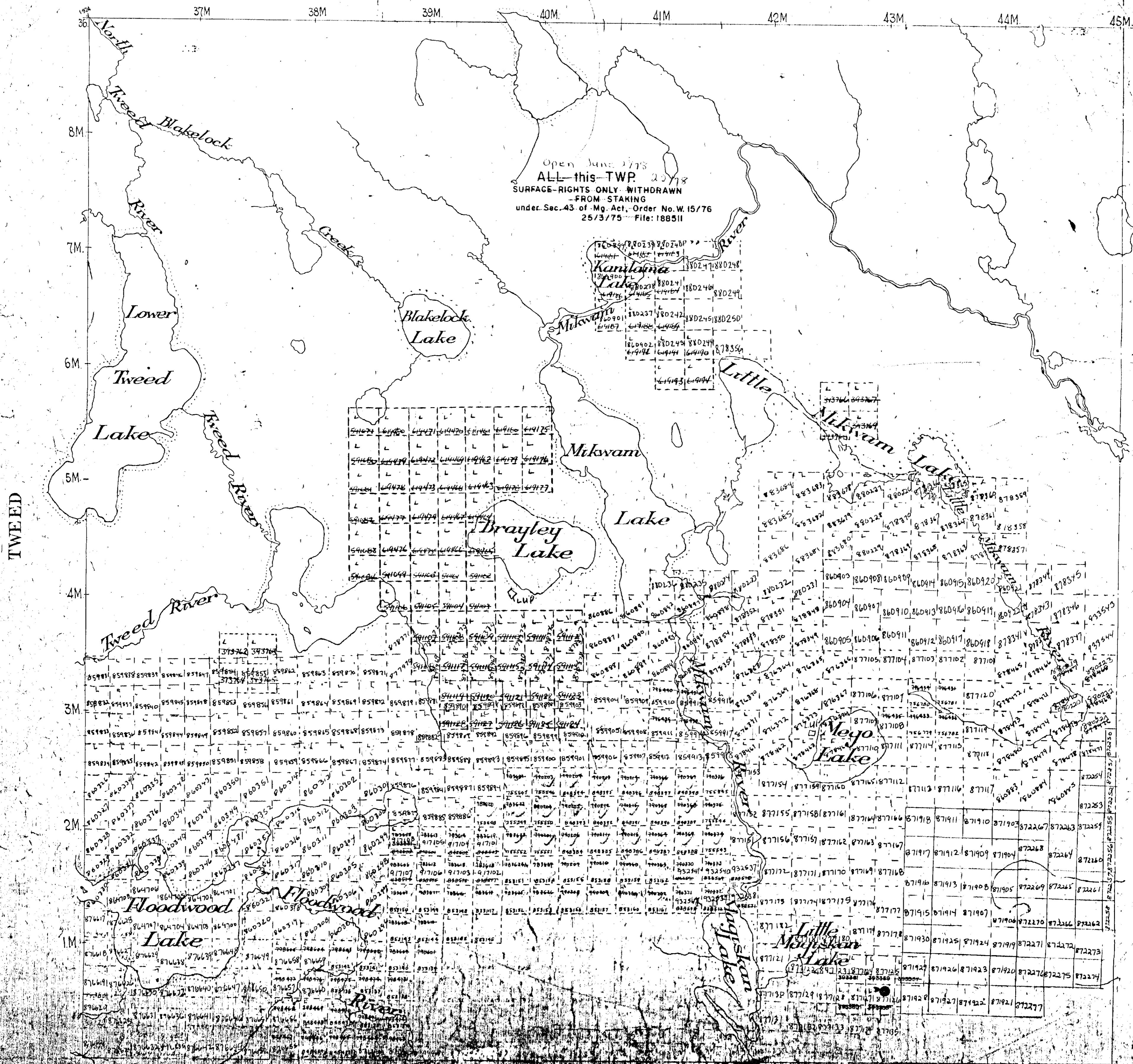
JUL 10 1986

#17

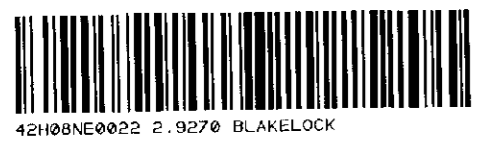
### LEGEND

- CANCELLED
  - PATENTED LAND
  - CROWN LAND SALE
  - LEASES
  - LOCATED LAND
  - LICENSE OF OCCUPATION
  - MINING RIGHTS ONLY
  - SURFACE RIGHTS ONLY
- C
  - CS
  - ⊙
  - LOC
  - L.O.
  - M.R.O.
  - S.R.O.

North Ast

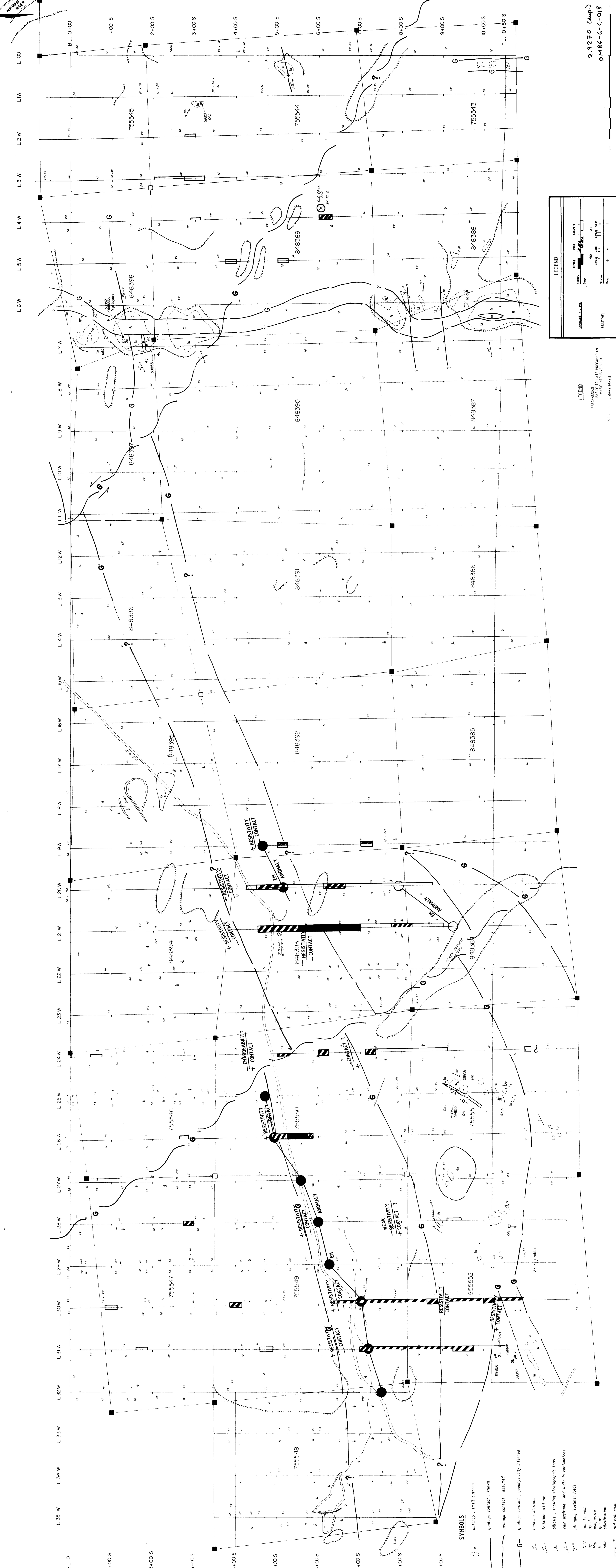
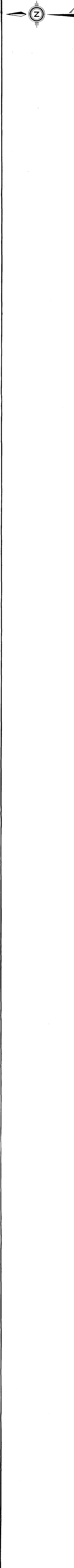
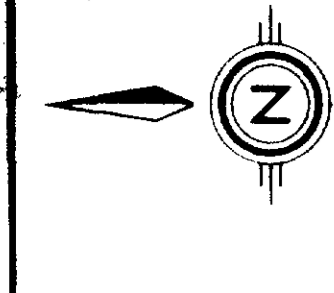


490- Surface rights, reservation, ground, etc. fees and more



W. 1710





REVISED	DATE	BY	REASON

**ROBERT S. MIDDLETON**  
**EXPLORATION SERVICES INC.**  
 Deerfoot Resources Inc.

Title: *Blakerock Township*  
 GEOLOGY MAP  
 WITH COMPILED OF GEOPHYSICAL INTERPRETATION  
 Date: JUNE 1966 Scale: 1:2500 N.T.S.  
 Drawn: C.G. Approved: *[Signature]* File: M-106

- LEGEND**
- |  |                      |
|--|----------------------|
|  | Topographic Contour  |
|  | Drainage             |
|  | Water Body           |
|  | Road                 |
|  | Building             |
|  | Well                 |
|  | Monument             |
|  | Cross-section Line   |
|  | Strike-slip Fault    |
|  | Normal Fault         |
|  | Thrust/Reverse Fault |
|  | Unknown Fault        |
|  | Metamorphic Zone     |
|  | Metamorphic Grade    |
- 1.00: 100m  
 2.00: 200m  
 3.00: 300m  
 4.00: 400m  
 5.00: 500m  
 6.00: 600m  
 7.00: 700m  
 8.00: 800m  
 9.00: 900m  
 10.00: 1000m

PRE-CAMBRIAN  
 EARLY PRE-CAMBRIAN (MAGNETIC)  
 LATE PRE-CAMBRIAN (TENSILE)  
 MIDDLE PRE-CAMBRIAN (TENSILE)  
 EARLY PROTEROZOIC (MAGNETIC)  
 LATE PROTEROZOIC (TENSILE)  
 EARLY PALEOZOIC (MAGNETIC)  
 LATE PALEOZOIC (TENSILE)  
 EARLY MESOZOIC (MAGNETIC)  
 LATE MESOZOIC (TENSILE)  
 EARLY CENOZOIC (MAGNETIC)  
 LATE CENOZOIC (TENSILE)

**SYMBOLS**  
 outcrop, small outcrop  
 geologic contact, known  
 geologic contact, assumed  
 geologic contact, geophysically inferred  
 bedding attitude  
 foliation attitude  
 pillows, showing stratigraphic tops  
 vein attitude, and width in centimetres  
 plunging axial folds  
 quartz vein  
 pyrite  
 magnetite  
 sulfide  
 salic  
 old drill hole

topographic slope  
 boulders (rounded, local)  
 dams, beaver pond  
 swampy ground  
 claim post, located  
 claim post, assumed location  
 claim number

848386  
 955552  
 755548  
 755549  
 755550  
 755546  
 848394  
 848393  
 848392  
 848391  
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 848383