

GARY LEE, P.Eng.

**SUMMARY REPORT ON
THE DALE PROPERTY,
RANCHERIA AREA
SOUTHERN YUKON TERRITORY**

093 73 8



M.A. Power M.Sc. P.Geo.

QUARTZ CLAIMS

FROSTBITE 1-4	YB46377 - YB46380
FROSTBITE 5-6	YB47316 - YB47317
FROSTBITE 7-8	YB56537 - YB56538
FROSTBITE 9-40	YB57055 - YB57086

Mining District: Watson Lake

NTS: 105 B 1

Location: 60° 01' N 130° 29' W

July 4, 1997

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 4600.00.

M. B. Mc

for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

SUMMARY

This report summarizes exploration work conducted on the Dale Property, Rancheria District, Y.T. (NTS 105 B1). The Dale showing (Minfile # 105 B 1 - 7) consists of a series of fault hosted veins cutting granitic rocks of the Cassiar Batholith. The quartz-calcite veins host shoots of high grade argentiferous galena, sphalerite and pyrite. The Main Showing was discovered in 1952 and has been trenched, diamond drilled and explored with an 180 m adit since then. A second showing to the east has received less attention. Diamond drilling in 1981 of the Main Showing and at locations further east defined discontinuous low grade silver mineralization over a strike length of over 800 m. Poor recovery hampered the diamond drilling program and it appears that the Main Showing may not have been adequately tested. Mineralization is controlled by the Dale Fault, a regional scale, steeply dipping fault connecting the Ketchika and Cassiar Faults. Recent trenching and mapping delineated a series of narrow high grade veins in the Main Showing and mapped the Dale Fault to the east with geophysical surveys. Mineralization appears to be associated with the intersection of magnetically susceptible Eocene mafic dykes and the trace of the Dale Fault. Recommendations for further drilling of the Main Showing and for additional exploration work on the East Showing are appended.

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1.0 INTRODUCTION

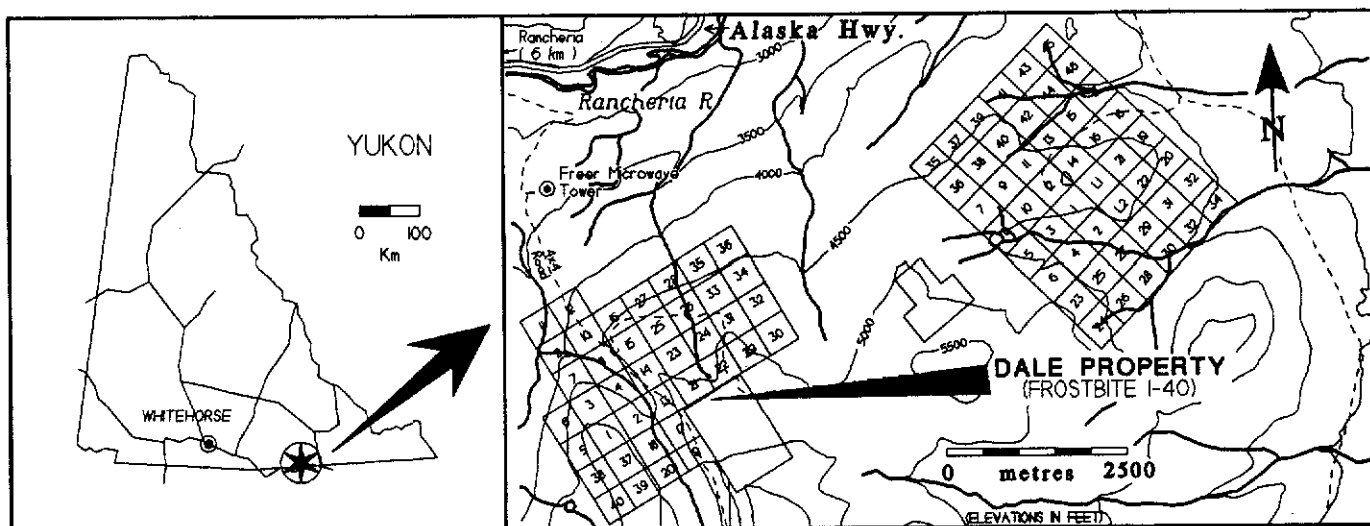
This report summarizes the results of exploration work conducted on the Dale Property in the Rancheria area of the southwest Yukon in 1994 through 1997. The work is described more completely in Power (1995) (1996).

2.0 LOCATION AND ACCESS

The Dale Property is located at 60° 01' N 130° 28'W southeast of Rancheria, Y.T. in the Watson Lake Mining District, Yukon Territory (Figure 1- below). The property is approximately 350 km from Whitehorse by road. The route to the property is as follows:

<u>Section</u>	<u>Distance (km)</u>
Alaska Highway to Rancheria	330
Rancheria to Freer Creek microwave tower road	10
Alaska Highway to Freer Creek tower	5
Freer Creek tower to Dale Property	5

The Freer Creek tower road is a two wheel drive road, intermittently ploughed during the winter. A 4x4 access road in good condition runs from the Freer Creek tower road to the property. The turnoff for the road is approximately 300 m west of the Freer Creek microwave tower.



3.0 PROPERTY

The Dale Property consists of the following Quartz Claims staked under the Yukon Quartz Mining Act and recorded in the Watson Lake Mining District:

<u>Claims</u>	<u>Grant Number</u>	<u>Expiry Date¹</u>
DALE 1-4	YB46377 - YB46380	January 13, 1999
DALE 5-6	YB47316 - YB47317	March 2, 1999
DALE 7-8	YB56537 - YB56538	October 31, 2000
DALE 9-40	YB57055 - YB57086	February 10, 1998

The Quartz Claims are owned by Gary Lee of Whitehorse, Y.T.

4.0 TOPOGRAPHY AND CLIMATE

The Dale Property is in the Cassiar Mountains of the southern Yukon Territory. It lies at elevations of between 4,000 and 5,800 feet above sea level. The terrain can be described as a dissected plateau with peaks to 7,000 feet rising from a plateau lying at an average elevation of 5,000 feet. Creeks and glaciation have incised steep walled valleys at lower elevations. West and south facing slopes are noticeably steeper than north and east facing slopes on the property. The local climate is northern continental with cool short summers and long cold winters. High winds are frequently encountered at high elevations. Water in quantities suitable for drilling is available in the creek valleys during the summer months. Timber suitable for underground support is difficult to find in the area although some timber of this size and quality can be found near the Freer Creek road.

5.0 REGIONAL GEOLOGY

The geology of the Rancheria area district is well documented by Lowey and Lowey (1987). The property is located in the mid-Cretaceous Cassiar Batholith, a 20 km wide belt extending 400 km from northern British Columbia into the southeast Yukon Territory. Rocks mapped in the batholith include granite (**Kgt**) and orthogneiss (**Kog**). These are intruded by Eocene diabase dykes generally less than 1 m wide, notably present in a major fault (Dale Fault) cutting the Cassiar Batholith on the property.

¹Expiry dates based on acceptance of the work described herein for assessment credit.

The overall regional structure is dominated by the Kechika and Cassiar Faults lying southwest and northeast respectively of the Dale Property. These are large, northwest trending, steeply dipping dextral strike slip faults. Up to 170 km of Late Cretaceous to Oligocene displacement is inferred along the Kechika Fault (Gabrielse 1985) while no estimates of displacement have been made for the Cassiar Fault. Steeply dipping, apparent normal faults, some extending for several tens of kilometres have been identified between the Cassiar and Kechika Faults.

6.0 PREVIOUS EXPLORATION

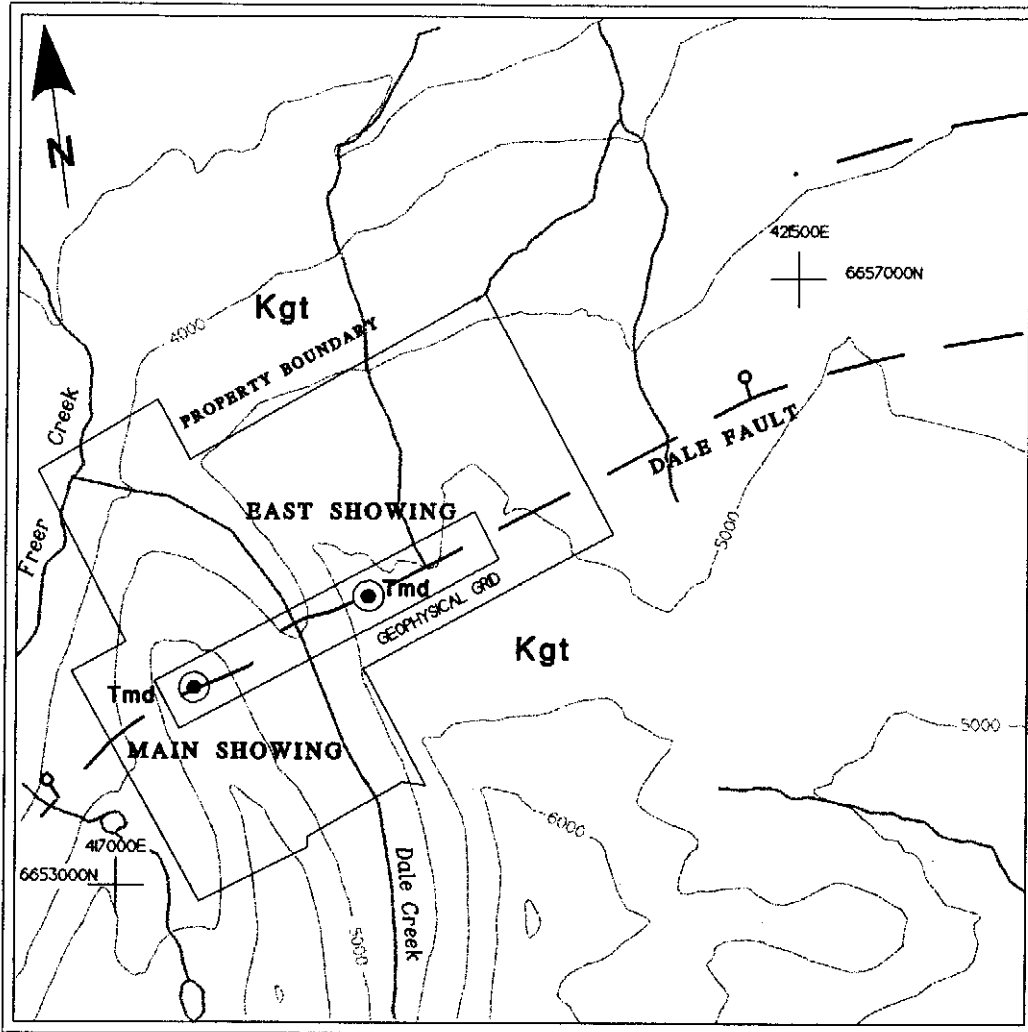
Mining exploration in the Rancheria area commenced in earnest with the opening of the Alaska Highway and regional mapping by the Geological Survey of Canada in 1942. Exploration of the Dale Property is documented in the Yukon Minfile (Occurrence # 7 - 105B1). It was originally staked as the Tiger and Lion Claims in 1952 and hand trenched during 1953-55. The property lapsed and was restaked as the Dale Claims by Dale Mountain Mines Ltd. in 1956 which performed trenching and EM surveys followed by driving a 180 m adit in 1958 from which 69 m of underground diamond drilling was conducted. In 1967, the property was restaked by Paul Poggenburg as the L Claims. He trenched the property in 1968 and R. Kirkman shipped 8.7 tons of hand-cobbed ore in the same year to the American Smelting and Refining Co. in East Helena (Fowers 1971). The property was optioned to Ida Ore Mines Ltd. in 1970 which shipped 21.3 tons of hand-cobbed ore to the East Helena smelter the same year. It was then transferred to Mineral Hill Mines Ltd. and Mark IV Mines Ltd. which performed trenching, geological mapping and soil sampling in 1971 and 1973 and trenched in 1976 and 1980. The property was acquired by Grant Stewart (Loann Silver Mines Ltd.) in 1981 who conducted a VLF and mag survey and drilled 6 holes. Several were drilled on the main showing and an additional hole was drilled in the valley to the east of the Main Showing near Dale Creek. Only the hole drilled east of the Main Showing was filed for assessment and it returned low assays in silver over a 5 m intersection in the fault zone (Cukor, 1982). The holes were drilled with BQ bits and recovery in the fault zone appears to have been poor because of the small hole diameter. The property was then rolled into Butler Mountain Mines Ltd. together with the nearby Lord Property (Minfile Occurrence # 1 - 105B1) who performed EM and geochemical surveys and geological mapping. Most of this work was concentrated in the area of the main showing on the western end of the current property. The property lapsed and was restaked in January 1994 by G. Lee and M. Power. In 1994 and early 1995, Lee and Power performed magnetometer, VLF and topographic surveys, excavator trenching, surveying and underground rehabilitation. In 1997, they performed VLF and magnetometer surveys, extending the existing grid well to the east of the main showing. Details of the work performed are contained in Power (1995) and Power (1996).

7.0 PROPERTY GEOLOGY

The Dale Property is underlain by intrusive rocks of the Cassiar Batholith and is cut by Eocene dykes and a regional fault. Property geology is shown in Figure 2. The property is underlain by granite (Kgt) which is white to light grey, equigranular and locally porphyritic with phenocrysts of pink feldspar up to 2 cm long. It is locally sheared and chloritized. The granite is in turn cut by Eocene(?) mafic dykes and quartz veins, mostly within the aforementioned regional fault. The dykes are black to dark grey with an aphanitic ground mass and biotite phenocrysts and are up to 1 m wide. An east-northeast trending, steeply-dipping fault (Dale Fault - informal) cuts the granitic rocks and controls the known mineralization on the property. In the vicinity of the main showing, the fault is oriented 70° 70° N and up to 20 m wide with strong footwall alteration. The fault zone is composed of clay gouge and silicified fault breccia within which quartz veins have developed in dilutant zones. Steeply dipping north trending small scale faults with restricted (<50 cm) alteration were observed underground.

The main showing is in the Dale Fault at the crest of the ridge between Dale and Freer Creeks. The earliest reliable description described it as a 10 to 12 m long and 50 cm wide vein of galena and sphalerite with quartz and hematite gouge (Laanela 1973). The 1968 shipment of 8.2 tons averaged 103 OPT Ag and 56% Pb and the 1970 shipment of 21.3 tons averaged 62.4 OPT Ag, 0.07 OPT Au and 49% Pb (Minfile).

The results of mapping and trenching conducted in 1994 and 1995 are shown in Figure 3. The Dale Fault in the area of the main showing is an approximately 10 to 15 m wide vertical zone of weathered granite hosting diabase dykes and quartz veins. The groundmass consists of kaolinite, limonite and clay with grains of quartz and feldspar. Locally, 10-30 cm bands of soft chlorite cross-cut the fault zone. Virtually all rock within the fault zone has been ground to fault gouge. Mafic dykes cut the fault at a shallow angle and the known mineralization is strongest in the area where the dykes are most prevalent. Anastomosing discontinuous quartz-calcite veins occur across the fault zone. They are difficult to trace because of the highly decomposed wall rock but appear to be vertical to steeply dipping, individually up to 10 metres long and up to 0.5 m wide. Their vertical extent has not been determined. The veins are composed primarily of quartz with lesser calcite and limonite. Massive galena, brown sphalerite, pyrite and lesser chalcopryrite, argentite(?) and cerrusite are found in steeply dipping shoots within the veins and disseminated sulphide mineralization is common throughout the veins. Silver grades vary from 10 - 20 OPT in disseminated sulphide phases of the vein to well over 100 OPT in portions of the vein containing massive sulphides. Weak gold grades are also coincident with the higher silver grades; the best assay returned 0.129 OPT Au from a sample assaying 85 OPT Ag.



LEGEND

EOCENE

Tmd

MAFIC DYKES - aphanitic to locally porphyritic with biotite and augite phenocrysts in a dark green to grey groundmass. Occurs in dykes from 0.5 to 2 m wide.

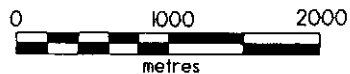
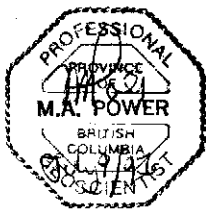
CRETACEOUS

Kgt

GRANITE - light grey to pink, medium to coarse crystalline, equigranular to porphyritic. Orthoclase feldspar (40%), quartz (30%), plagioclase (20%), biotite and muscovite (10%). Locally, dark green chloritic included amphibolite.



SILVER SHOWINGS - quartz-calcite veins from 10 cm to 0.5 m wide with limonite, galena, sphalerite, pyrite and chalcopyrite. Veins are steeply dipping, a few metres long and found in en-echelon to anastomosing series in length up to 30 metres. Locally contain massive argentiferous sulphide mineralization.



ELEVATIONS IN FEET ASL

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DALE PROPERTY
REGIONAL GEOLOGY

AMEROK GEOSCIENCES LTD.

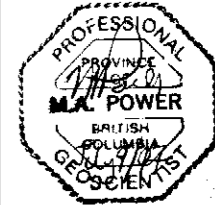
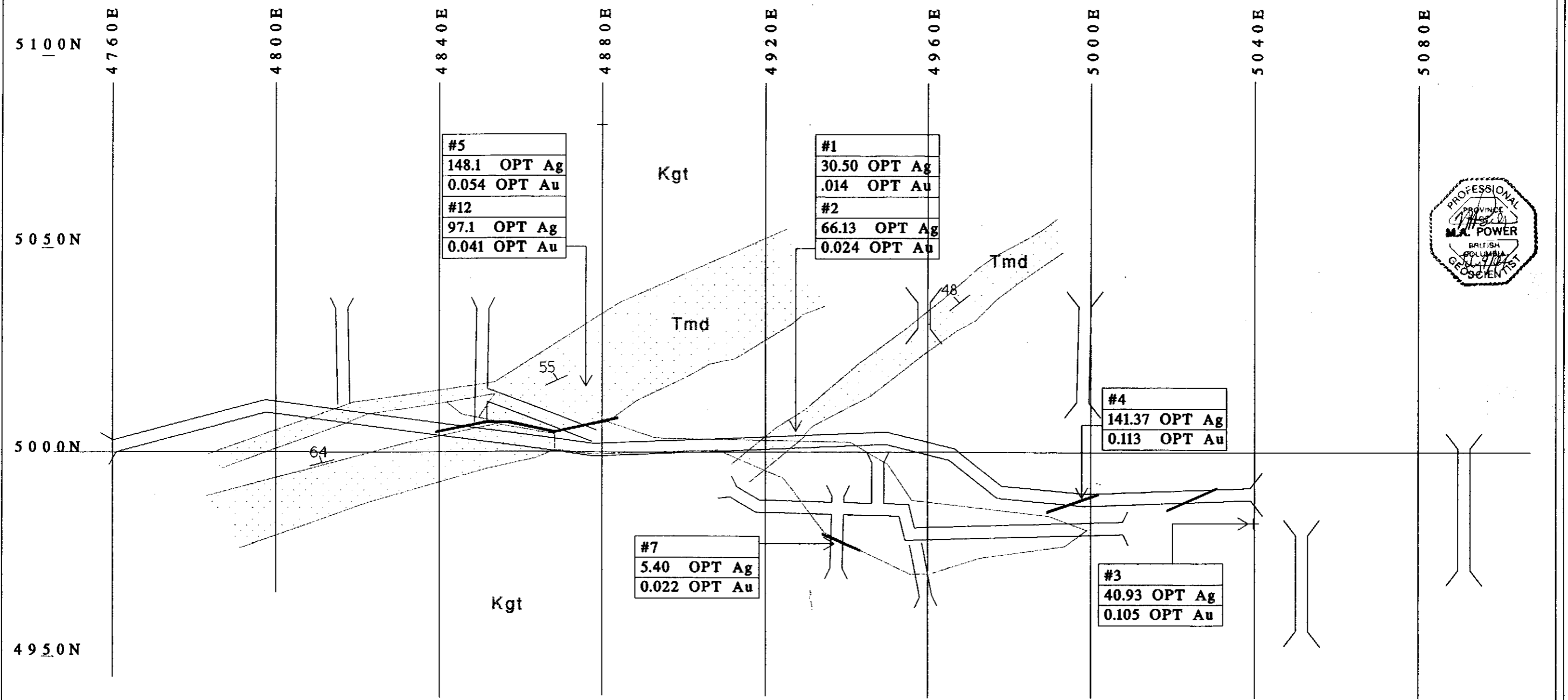
CLAIMS:FROSTBITE I-40

MINING DISTRICT: WATSON LAKE

NTS: 105 B I SCALE: 1:50,000

DRAWN BY: M.P.

DATE: 04 JUL 97 FIGURE: 2



GEOLOGY FROM NOTES BY G. LEE

-MINERALIZED QUARTZ-CALCITE VEIN



COMPILATION OF REPRESENTATIVE ASSAY RESULTS FROM MASSIVE SULPHIDE MINERALIZATION IN QUARTZ-CALCITE VEINS AT MAIN SHOWING. TRENCHES WERE EXCAVATED IN 1995 TO RE-OPEN HIGH GRADE PITS.

GARY LEE, P. ENG.	CLAIMS: FROSTBITE 1-40	
COMPILATION MAP MAIN SHOWING	MINING DISTRICT: WATSON LAKE	
	NTS: 105 BI	SCALE: 1: 1000
AMEROK GEOSCIENCES LTD.	DRAWN BY: JB	
	DATE: 04 JUL 97	FIGURE: 3

GEOLOGICAL LEGEND AS PER FIGURE 2.

8.0 GEOPHYSICAL SURVEYS

Total magnetic field and VLF-EM surveys were conducted over a grid centred on Dale Creek in 1995 through 1997. The grid baseline is oriented at 70° and the origin is at 5000N, 5000E, just north of the old high grading pit (Figure 3). Lines were picketed at 20 m intervals with half length wooden pickets and scribed metal tags. The grid and the underground workings were surveyed into a network of fixed rebar hubs in 1995 (Power 1995).

The VLF-EM and magnetometer surveys were conducted with an EDA Omni Plus and synchronized base station magnetometer at a station interval of 10 m. The 1997 survey was conducted with a McPhar fluxgate magnetometer and a Geonics EM-16 VLF receiver during January 17-21, 1997. The VLF survey was conducted using the Cutler, Maine transmitter (Station NAA). The local station azimuth to NAA is 90° and thus it is well coupled with the Dale Fault (azimuth 70°).

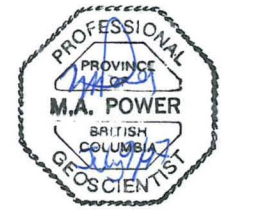
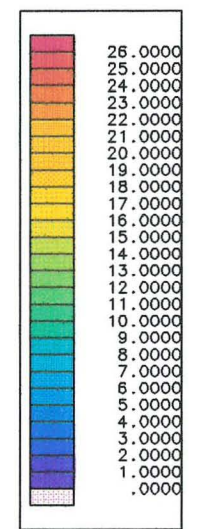
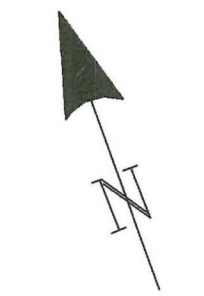
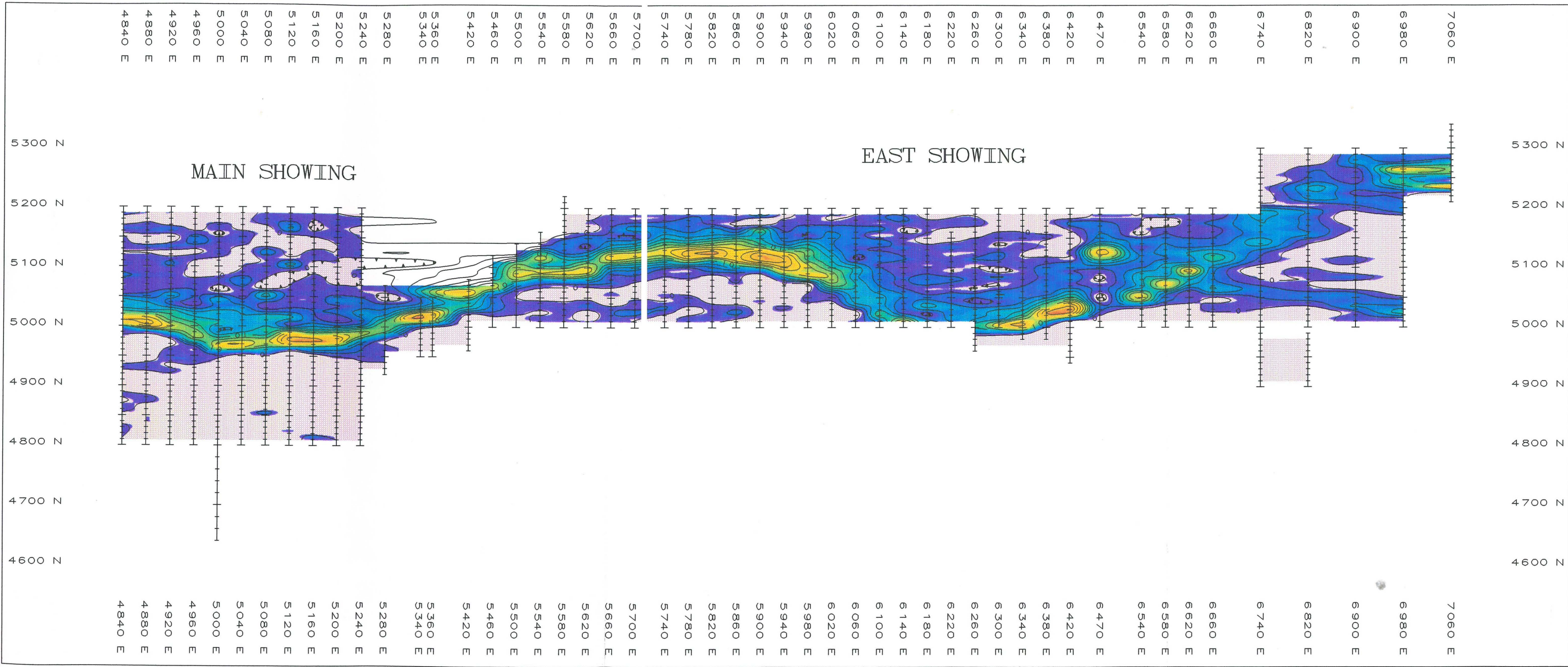
Fraser filtered VLF data is shown in Figure 4. Only positive values are contoured and the highs indicate the location of VLF conductors. Magnetic field data is plotted in Figure 5. Vertical component (fluxgate) data was transformed to total field readings by overlapping a portion of the two surveys and performing a vector transformation using the known inclination of the total field. All the magnetic field data are thus plotted as total field values. The conductor axis, underlying the point of maximum inflection, is indicated by a thick dashed line in Figure 5 to show the location of the Dale Fault relative to magnetic field anomalies.

The Dale Fault is clearly evident in the VLF responses as a strong in-phase cross-over and Fraser filter peak. Mafic dykes produce strong positive magnetic responses and silver mineralization is concentrated where the dykes cut the Dale Fault at the Main Showing. The location of the Main Showing and the East Showing are indicated on the plots. The fault zone itself is a broad relative magnetic low, perhaps caused by magnetite destruction during wall rock alteration.

10.0 CONCLUSIONS

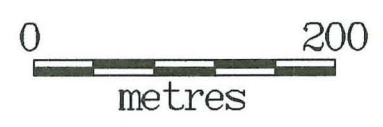
Exploration work conducted to date on the Dale Property leads to the following conclusions:

- a. Mineralization on the Dale Property consists of a series of narrow discontinuous quartz-calcite veins hosting high grade silver-bearing galena-sphalerite-pyrite shoots. Individual veins are traceable over tens of metres and are up to 0.5 m wide. The veins are anastomosing or found en-echelon across the width of the regional fault hosting the mineralization.



Contour interval: 2% Hz

Scale: 1:5,000



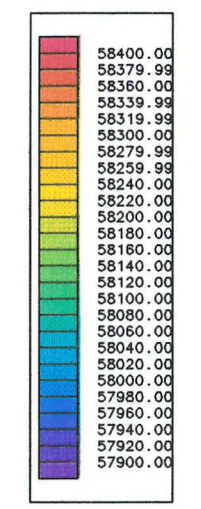
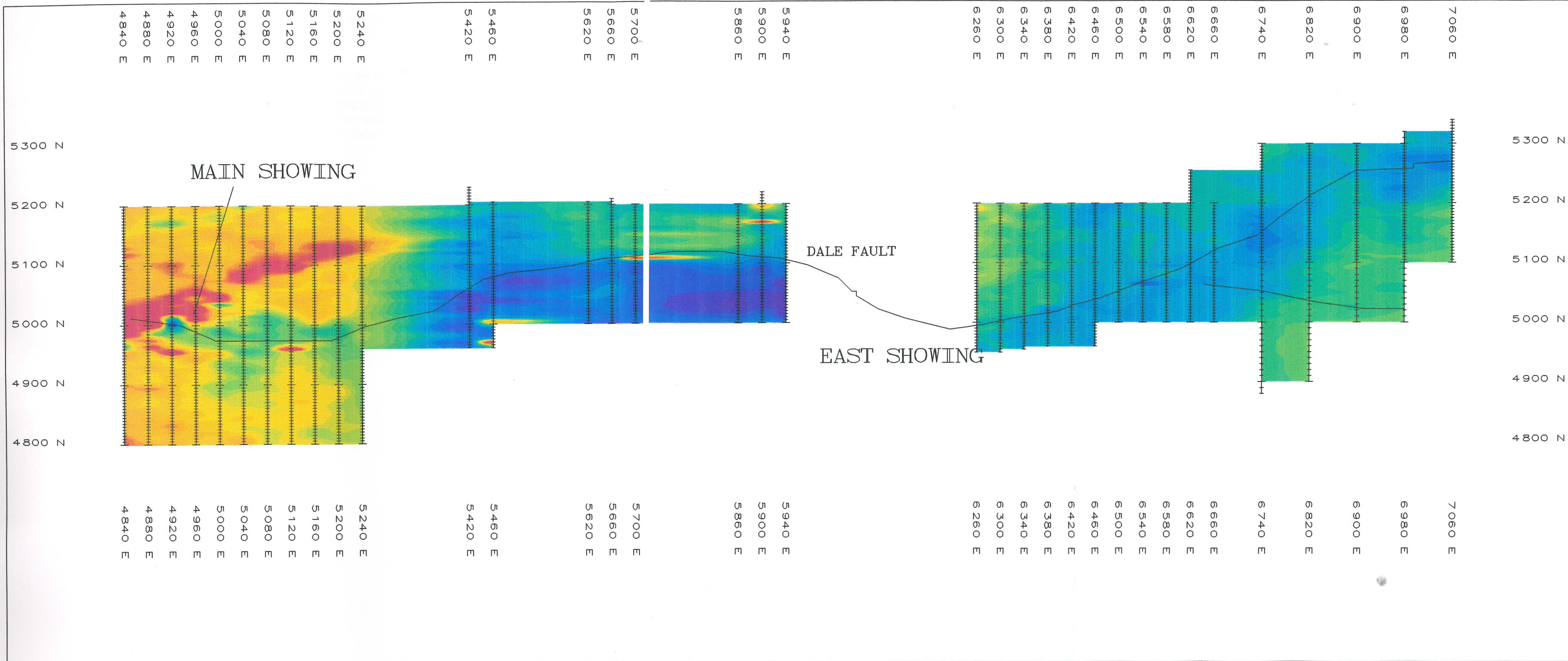
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DALE PROPERTY
(NTS 105 B/1)

FRASER FILTERED VLF
IN-PHASE

Amerok Geosciences Ltd.

093738 DWG ①



Total field in nT
Scale: 1:5,000
0 200 metres

GARY LEE, P.ENG.
DALE PROPERTY
(NTS 105 B/1)

TOTAL MAGNETIC FIELD

Amerok Geosciences Ltd.

DWG ②
093738

b. The silver mineralization is controlled by the Dale Fault and by the presence of cross-cutting mafic dykes in the fault zone. The vertical extent of the silver mineralization in the fault is unknown.

c. An economic deposit within the fault zone may be present where a sufficient concentration of closely spaced high grade veins occur. This would most likely be in the vicinity of the mafic dykes which apparently control vein emplacement. In view of the difficult ground conditions for diamond drilling, large diameter drill holes would be required to explore for such a deposit.

11.0 RECOMMENDATIONS

The following recommendations are made for further work on the Dale Property:

a. Diamond drilling should be conducted on the Main Showing to test the known mineralization to depth of 150 m. Core diameter should be a minimum of NQ. A proposed budget is appended to this report.

b. The East Showing should be tested by blast trenching and diamond drilling, if trenching results are favourable.

Respectfully submitted,
AMEROK GEOSCIENCES LTD.



M.A. Power M.Sc. P.Geo.
Geophysicist

July 4, 1997

REFERENCES CITED

- Fowers, W.A. (1971) Report on Mineral Claims L1&L2, L11-16, Mineral Claims Lola 1 and 2 and Dem 17-38, Mile 706, Alaska Highway. Watson Lake Mining Recorder: AR060785.
- Gabrielse, H. (1985) Major dextral transcurrent displacements along the Northern Rocky Mountain Trench and related lineaments in north-central British Columbia. Geological Survey of America Bulletin Volume 96, p1-14.
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- Power, M.A. (1995) Geophysical surveys, trenching and underground rehabilitation program on the Dale Property, Rancheria area, Y.T. INAC: Assessment report.
- Power, M.A. (1996) Geophysical surveys and trenching program on the Dale Property, Rancheria area, Y.T. INAC: Assessment report.

APPENDIX A. STATEMENT OF QUALIFICATIONS

I, Michael Allan Power of Whitehorse, Yukon Territory, certify that:

1. I obtained a Bachelor of Science Degree with First Class Honors in Geology from the University of Alberta in 1986 and a Masters Degree in Geophysics from the University of Alberta in 1988. I am a Professional Geoscientist registered in the Province of British Columbia (Reg. No. 21131).
2. I have been employed in mineral exploration and geophysical research since 1984.
3. I assisted with the geological and geophysical surveys summarized in this report.



Michael A. Power M.Sc. P. Geo.

Whitehorse, Yukon Territory
July 4, 1997

APPENDIX B. PROPOSED BUDGET

Diamond drilling: 1000 m NQ diamond drilling (all in) @ \$150/m	\$150,000
Blast trenching:	\$15,000
Assays, report preparation	<u>\$5,000</u>
Total project budget	\$170,000



APPENDIX C. STATEMENT OF EXPLORATION EXPENSES (1997)**Line cutting and geophysics**

Gary Lee: 4.0 days @ \$275	\$1,100
M. Power: 4.0 days @ \$275	\$1,100
Truck rental: 4.0 days @ \$50	\$200
Truck mileage & gas charges	\$280
Snowmobile rental: 2 machines for 4.0 days @ \$50 each	\$400
VLF and magnetometer instrument rental: 3.0 survey days @ \$50	\$150
Hotel & meals - Rancheria	\$330
Pickets, flagging & tags	\$65
Total - Gridding & geophysics (Jan 97)	\$3,625

Summary report

M. Power: 4.0 days @ \$300	\$1,200
CADD, plotting, reproduction	\$300
Total - Summary report	\$1,500

TOTAL EXPENSES **\$5,125**

I certify that this statement of expenses is correct to the best of my knowledge.



M. A. Power P.Geo.
Geophysicist

093738

