

LOG NO: 08/24	RD.
ACTION:	
FILE NO:	

1989 GEOLOGICAL, GEOPHYSICAL & TRENCHING PROGRAMMES

ON THE

MIDAS PROPERTY

CLINTON MINING DIVISION

BRITISH COLUMBIA

Lat. 51° 22'N.; Long. 122° 28'W
NTS 92-0/7E and 8W

(Immediately North of Black Dome Mountain
approximately 71 kms. WNW of Clinton, B.C.)

SUB-RECORDER
RECEIVED
AUG 17 1990
M.R. # _____
VANCOUVER, B.C.

Prepared for:
BLACKDOME MINING CORPORATION

Prepared by:
D. Wadsworth, B.Sc., Geologist
I. M. Watson & Associates Ltd.

June, 1990

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

20,238

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 LOCATION AND ACCESS	1
1.2 TERRAIN	1
1.3 PROPERTY DEFINITION & HISTORY	1
1.4 CLAIM STATUS	2
1.5 SUMMARY OF WORK DONE	2
2.0 GEOLOGY	4
2.1 REGIONAL	4
2.2 CLAIM GROUP GEOLOGY	4
2.3 MINERALIZATION AND STRUCTURE	8
3.0 GROUND GEOPHYSICS SURVEY	10
3.1 SURVEY OPERATIONS	10
3.2 SURVEY SPECIFICATIONS	10
3.3 RESULTS AND INTERPRETATION	11
4.0 TRENCHING	13
4.1 TARGET AREAS	13
4.2 RESULTS AND INTERPRETATION	15
5.0 GEOCHEMISTRY	16
5.1 SOIL SAMPLES	16
5.2 ROCK SAMPLES	16
6.0 CONCLUSIONS	18
7.0 CERTIFICATES	19
8.0 BIBLIOGRAPHY	21
9.0 STATEMENT OF COSTS - MIDAS CLAIMS	22

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>	<u>Scale</u>	<u>After Page</u>
1	Location Map	1:7,500,000	1
2	Location Map	1:50,000	1
3	89-1, 89-2 Trench Map	1:500	Appendix I
4	89-3 Trench Map	1:500	Appendix I
5	89-4 Trench Map	1:500	Appendix I
6	89-5 Trench Map	1:500	Appendix I
7	89-6 Trench Map	1:500	Appendix I
8	89-7 Trench Map	1:500	Appendix I
9	89-8 Trench Map	1:500	Appendix I
10	Property Geology	1:5000	In Pocket
11	Property Geochemistry, Target Areas and Geophysics	1:5000	In Pocket

LIST OF APPENDICES

Appendix I	Trench Maps
Appendix II	Analytical Data
Appendix III	Petrographic Report
Appendix IV	Geophysical Data

1.0 INTRODUCTION

1.1 LOCATION AND ACCESS

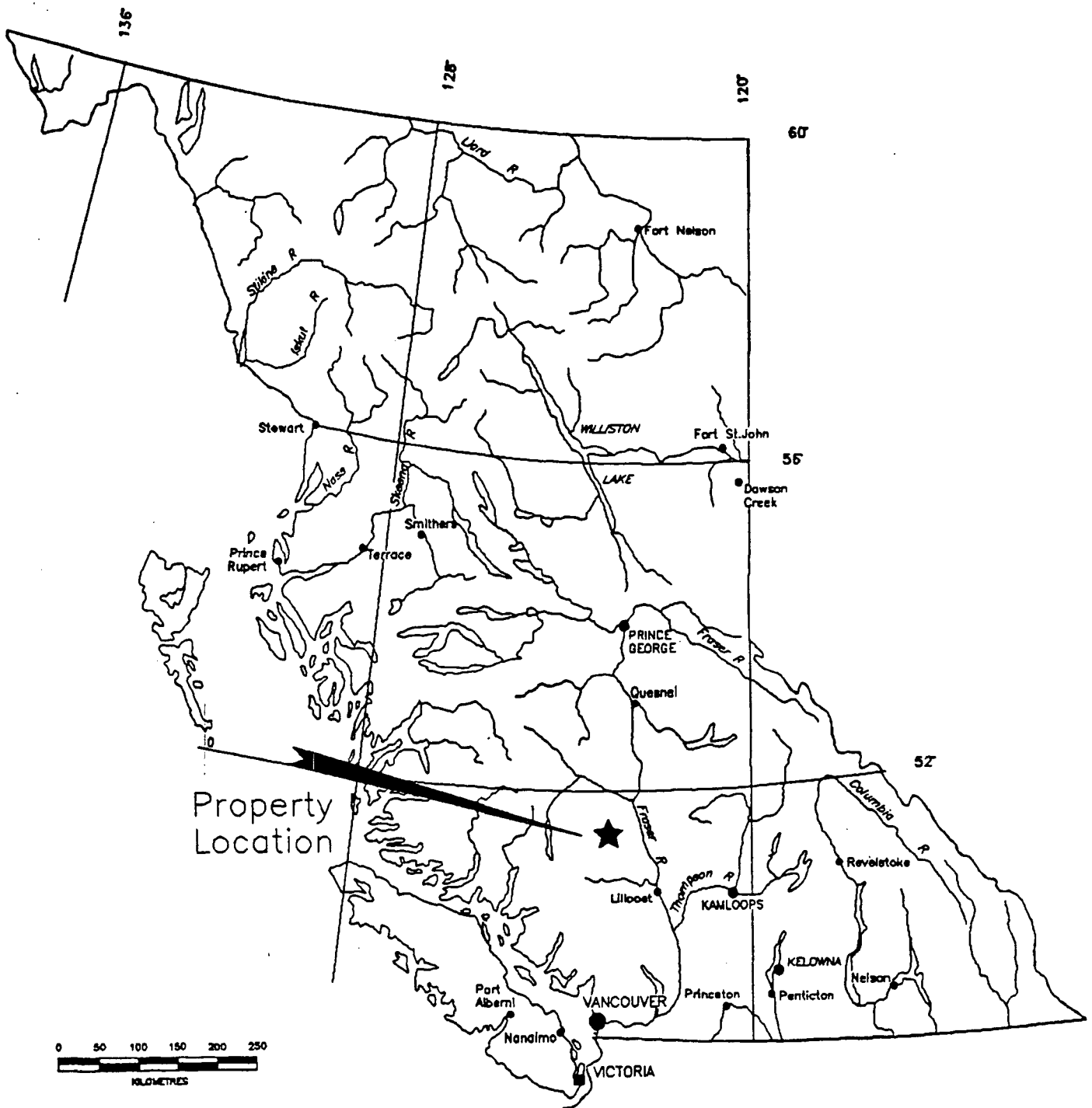
The Midas property is located in South Central British Columbia, about 70 kilometres west-northwest of Clinton (See Fig. 1) and is situated 4 kilometres north of Blackdome mountain. Access is by a well maintained gravel road leaving Highway 97 about 15 kilometres north of Clinton. The road heads northwest to the suspension bridge over the Fraser River, south of Dog Creek. The road then heads south towards the Empire Valley Ranch and Brown Lake. At Brown Lake, the road heads southwest towards the Blackdome Mine for about 25 kilometres. Access on the property is good as the main Blackdome road traverses the claims. A secondary road along Borin Creek (See Fig. 2) allows access to the northern portion of the claim group.

1.2 TERRAIN

Total relief on the property is in the order of 425 metres, with elevations ranging from 1,980 metres to the south, to 1,555 metres in the southeast. The terrain is moderate, characterized mostly by gently dipping slopes with open forest cover. Tree coverage is almost exclusively lodgepole pine, with local white bark pine, spruce, and willows along the creeks. The claim block covers the headwaters of Borin, Porcupine, and Grinder Creeks, with the major watercourses flowing year-round.

1.3 PROPERTY DEFINITION AND HISTORY

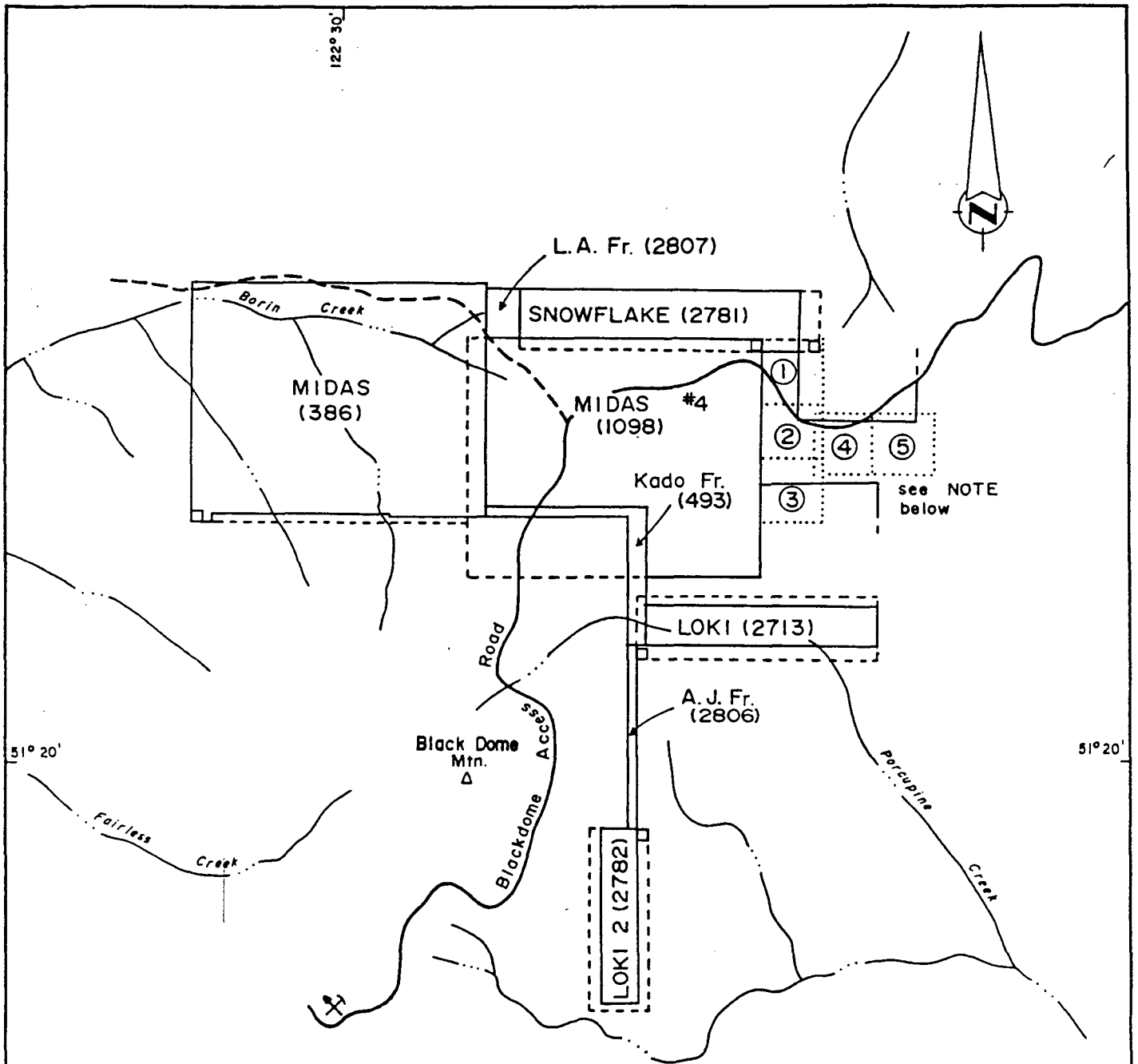
The Midas claim and the KADO fraction were located by Mr. C.E. Gunn in the latter part of 1979. The Midas #4 claim was added in August, 1981. The claims were staked to cover the possible extension of north-northeast trending, gold-silver bearing quartz veins, present on the adjoining Blackdome property to the south.



Scale 1:7.4 million

BLACKDOME MINING CORPORATION			
MIDAS PROPERTY CLINTON M.D., B.C.			
GENERAL LOCATION MAP			
Date	March 1990	N.T.S. 92 0/7E, 8W	Scale see above
			Figure 1

From G.R. Peatfield, February 1990



NOTE :
approximate claim locations

- ① B. BOB I
- ② B. BOB II
- ③ B. BOB III
- ④ OYSTER 1
- ⑤ OYSTER 2



BLACKDOME MINING CORPORATION		
MIDAS PROPERTY CLINTON M.D., B.C.		
PROPERTY MAP		
Date	NTS	Scale
March 1990	92-0/7E,8W	1: 50 000
		Figure 2

During the period 1980 to 1984, a number of work programmes were completed. These consisted of soil geochemistry, geological mapping, ground geophysics and a minimal amount of trenching. (See Drummond, 1983; Durfeld, 1984 a,b; Drummond et al, 1988)

In 1988, the property was optioned to Blackdome Mining Corporation, who during that year, completed soil geochemistry, and airborne geophysical surveys (see Peatfield, 1989; Peatfield and Vaughan, 1989).

During the 1989 field season, Blackdome completed the programme covered in this report.

1.4 CLAIM STATUS

The Midas property covered in this report, consists of two contiguous MGS mineral claims and one fractional claim totalling 41 units covering about 950 hectares, allowing for overlap (See Fig. 2). These claims are registered in the name of Blackdome Mining Corporation, and held under option from Clifford E. Gunn, David A. Howard, and A. Daryl Drummond, are listed below:

<u>Claim Name</u>	<u>Record Number</u>	<u>No. of Units</u>	<u>Record Date</u>	<u>Expiry Year</u>
Midas	386	20	August 23/79	1997
Kado Fr.	493	1	October 10/79	1997
Midas #4	1098	20	September 9/81	1996

1.5 SUMMARY OF WORK DONE

During the period from August to November, 1989, geological mapping and prospecting were carried out. Work included an evaluation and re-survey of part of the existing grids established in 1983 (Drummond, 1983) and 1988 (Peatfield, 1989). In addition,

0.9 km. of baseline and 5 km. of crosslines were flagged, to establish a grid for ground geophysics and geological mapping, which were carried out at a scale of 1:5000. Several target areas outlined by previous work (See Durfeld, 1984 a,b; Drummond et al, 1988) were assessed for more detailed work.

During September, 1989, for a period of six days, a simultaneous ground VLF and magnetic survey was carried out by Delta Geosciences Ltd. of Delta, B.C. A total of 29.58 km. of grid was surveyed with 23.37 km. located on the Midas property.

As a result of the geological mapping, geophysics, and assessment of previous work, a trenching programme was proposed to test five localities on the property (see Fig. 11). A total of 4.7 km. of access road construction was completed using a D8 bulldozer. Of this amount, 490 metres of outcrop was exposed as road cuts.

A 235 backhoe excavator was used to complete 755m of trenching.

A small supplementary soil sampling programme was carried out to close off anomalies described by Durfeld (1984 a,b) and Drummond (1983). A total of 14 samples was analyzed for their gold, silver, arsenic, and mercury content. Thirty-six rock samples were taken and analyzed for their gold and silver content.

2.0 GEOLOGY

2.1 REGIONAL

The regional geological sequence, as seen on the Midas property, the Blackdome Mine and surrounding areas, lies within the region mapped by Tipper (1978). The area is underlain by Eocene felsic to intermediate flows and pyroclastics overlain by Miocene sediments and olivine basalt flows. Units of the Upper Cretaceous Kingsvale Group lavas and clastic sedimentary rocks, as well as Cretaceous intrusive rocks and some older strata, are exposed locally.

Structurally, the region is dominated by west-northwest and northeast trending faults. These lie between the block defined by the west-northwest trending Chilcotin and Yalakam-Taseko faults, and west of the northerly trending Fraser faults. There has been considerable dextral strike-slip movement on these faults resulting in block faulting in the region, probably since at least the Cretaceous.

On the Blackdome property, steep to moderately dipping tensional faults are the focus for epithermal mineralization. Gold-silver deposition has occurred within quartz vein-shears, usually close to intersections of these structures. Wall rock alteration varies from an intensely silicified and bleached envelope, up to 1 metre thick, to a weakly altered chlorite to clay-chlorite zone.

2.2 CLAIM GROUP GEOLOGY

The geology of the Midas property and especially the adjacent Blackdome Mine area has been detailed in numerous published and unpublished reports and maps including Church (1980, 1982, 1987), Faulkner (1986) and Schroeter (1987) and more recently Read (1989). For the Churn Creek area to the west and north of the Midas, see McAllister and McPherson (1987). Reports on the geology of the Midas property

can be found in Drummond (1983), Kerr (1983), Durfeld (1984 a,b), Drummond et al (1988), and Peatfield (1989).

The geological sequence within the **Midas** property is one of volcanically derived rocks ranging from rhyolites to basalts. On the adjacent Blackdome property to the south, Read (1989) has recognized five major rock units which form a sequence of alternating mafic to intermediate and felsic volcanics of Eocene age, overlain by Lower Miocene olivine basalt flows, and associated volcanoclastics. In the extreme northerly part of the Blackdome property, a basaltic unit with an overlying andesite unit appears to continue on to the **Midas** property.

The rock types found on the property and described below are correlatable with the sequence recognized on the Blackdome Mine property. To enable direct correlation between the two properties, the unit and sub-unit classification adopted by Read (1989) has been used (see Fig. 10).

a) **Upper Basalt (M5b)**

This unit is found at three localities within the **Midas** claims and probably represents eroded outliers. In hand specimen, the rock is a black aphanitic basalt flow, which typically is relatively fresh in appearance. This is in contrast to the underlying basalt units, which generally are weathered brown, with a very weak chloritic weathering/alteration of the groundmass.

These rocks are similar to the lower Miocene basalts forming the peak of Blackdome mountain. The major difference is the lack of identifiable olivine phenocrysts, in the **Midas** basalts.

This unit forms conspicuous bluffs at the top of ridges. Blocky jointing is occasionally seen.

b) **Rhyolite (3r)**

This unit is white-pink massive to banded, flow rhyolite. It outcrops exclusively in the northern portion of the claims and overlies directly the Lower Andesite (2Ea). The attitude of the banding within the flow rhyolite is locally very irregular. The dips are generally steep with the strike varied. This possibly indicates autobrecciation of the unit during its eruptive phase. At the base of the rhyolite is a distinctive layer of black obsidian, with crude flow banding and occasional phenocrysts of biotite and feldspar. The obsidian has a minimum thickness of 5m and a maximum thickness of 20m.

c) **Lower Andesite**

Andesite (2Ea)

Andesite outcrops on a ridge close to the southern claim boundary and is continuous with a similar unit mapped to the south within the Blackdome property. The andesite is dark blue-grey, weakly porphyritic and sometimes flow banded. Phenocrysts are up to 2mm in size and are mainly white tabular feldspars representing less than 5% of the total rock mass.

Field relationships indicate that the andesite overlies the basalt unit described below.

Basalt (2Eb)

This unit comprises brown, weathered, dense, basaltic flows, intercalated with rare vesicular basalts. Fresh basalt is blue-black and aphanitic. Amygdaloidal basalt is occasionally encountered, with chalcedony and chlorite as the major filling minerals.

This unit covers a large part of the property, especially to the east and to the south, and forms the steeper slopes in the western half of the claims.

d) **Fairless Volcanics**

Rhyodacite Flows and Breccias (Frd)

This unit occurs in two distinct localities on the property; one to the north, the second to the west. In the first locality outcrops occur along the access road in the north western section of the claims, and can be traced uphill for approximately sixty metres.

The rhyodacites are typically very glassy and range from a flow banded unit to a volcanic glass. The best exposure was obtained by trenching west from outcrop in Jasper Creek. A red-pink flow banded, and occasionally flow brecciated rhyodacite with rare feldspar and quartz phenocrysts, was encountered. Immediately adjacent to this, the rhyodacite becomes more glassy in appearance. When fresh, the glass is typically black to dark green, weakly siliceous with perlitic fractures. With various degrees of weathering, green and red iron staining occurs. In extreme cases, hematitic staining gives the glass the appearance of being jasperoidal.

The western occurrence of this unit was uncovered by trenching. Here it is a dark glassy banded to more commonly massive rhyodacite flow with intimately associated flow breccias and agglomerates.

The rhyodacites either overlie or are contemporaneous with the felsic tuff unit described below. To the north, the relationship suggests that the rhyodacite overlies the tuff. However, trenching on the western section of the property (See Fig.10) uncovered a steeply dipping contact. The nature of the contact is uncertain, although faulting is inferred.

Felsic Lapilli - Ash Tuff (Fur)

This is a greenish-red fragmental volcanic rock containing clasts up to lapilli size. The clasts are commonly clay weathered to green and reds, with primary textures obscured by the clays. Fragments are angular and contain occasional unweathered primary quartz phenocrysts suggesting a felsic composition. The matrix is generally fine grained, composed primarily of quartz and feldspar. In places, the lapilli tuff is interbedded with a fine laminated and unaltered grey felsic ash tuff.

2.3 MINERALIZATION AND STRUCTURE

The **Midas** claims straddle the northward projection of the north-northeast trending shear/vein system on the Blackdome property. Quartz veining within the **Midas** claims has been reported previously by Drummond (1983a&b) and Durfeld (1984), although no significant gold assays have been reported from rock sampling.

Two vein types have been recognized; the first is fine opaline quartz veinlets infilling hairlike fractures and is especially common in the more felsic lithologies. The second type reported is milky to glassy coarse crystalline veins with drusy cavities and vugs that sometimes contain wallrock fragments. Both styles of veining are indicative of low temperature, late stage hydrothermal fluids. Wall rock alteration is very weak ranging from a clay-chlorite alteration, associated with shearing, to a very weak chlorite replacement of mafic minerals. More commonly, there is no significant alteration of the country rock.

The most intense zones of hydrothermal activity are associated with shearing exposed in the recently excavated southern trenches of target areas 3 and 5. (See Fig. 11). There are a number of north-south trending shear zones, which are tectonically brecciated and cemented with a silica clay matrix. Sampling has revealed that these zones are only weakly anomalous in gold.

Chalcedonic veining found in float and outcrop in the Jasper Creek area (Teck grid, 5+00W, 12+00N) is milky white in appearance, in-filling fine fractures, and in places appears to be a replacement feature. It occurs within a rhyodacite unit where primary quartz has undergone partial to complete remobilization. This style of veining, along with coarsely crystalline drusy quartz, is indicative of low temperature hydrothermal fluids (generally <180 degrees C). This may represent the cooling of late stage fluids, or indicates that the Midas ground was peripheral to the main hydrothermal system, centered at the Blackdome Mine.

Epithermal quartz vein float has a sparse distribution over the property. Fragments are usually rounded to sub-rounded and are obviously transported. The Blackdome Mine area is the likely source for the float. Other occurrences of quartz float are mostly metamorphic in origin and have been glacially transported over a number of kilometres.

3.0 GROUND GEOPHYSICS SURVEY

3.1 SURVEY OPERATIONS

During the period, September 12-17, 1989, Delta Geoscience of Delta, BC, undertook a ground VLF-EM and magnetic survey. Field work was carried out by a two-man crew, using an EDA Omni-Plus system. Control for the magnetometer survey was provided by an Omni-Plus base station magnetometer. Results were processed and plotted in the field by means of a Toshiba laptop computer and a Fujitsu plotter.

The VLF-EM survey used both Hawaii (NPM 23.4 KHz) and Seattle (NLK 24.8 KHz) as transmitter stations, the latter while the Hawaii station became unavailable during part of the survey.

3.2 SURVEY SPECIFICATIONS

The grid established in 1988 is an extension of the Blackdome property grid (See Peatfield 1989) and was used for ground control over the eastern part of the Midas claims. A 2.6-km. baseline is oriented at a bearing of 040 degrees parallel to the mineralised structures found on the Blackdome mine property, with flagged crosslines at 100 metre intervals. Along the crosslines, stations are marked every 20 metres by white teflon tags.

A separate mini grid (900 m base line tied to the Peatfield grid) provided control for Target #6 in the western part of the property. The grid bearing and station spacing is the same as that employed for the eastern area.

Line distance surveyed (VLF/Mag) on both grids totalled 23.37 kms.

VLF and magnetic readings were taken every five metres and tied into the grid coordinates. Readings stored by the instruments were processed at the end of each day by portable computer. Results were printed out in graphical form representing each crossline traversed (see Appendix III). VLF profiles show field strength and tilt angle. Magnetic profiles, plotted separately, show total field and magnetic gradient.

3.3 RESULTS AND INTERPRETATION

a) Magnetics

Total field readings were plotted against field gradient. Several sharp magnetic highs and dipoles were outlined against a background of relatively subdued magnetism. In the eastern area, the relatively low, featureless magnetics probably reflect the depth of overburden, known to be thick here, and only selected crosslines east of the base line were tested.

If the magnetic highs are plotted against geology, they correspond with the outcrop to subcrop of the basalts. The strong dipole and highs that occur on lines 16700N, 16800N, and 16900N on the grid correspond to a geological contact between the felsic tuffs and overlying basalts.

No areas of significant mineralization were outlined by the ground magnetic survey. As noted above, the overall subdued magnetism is probably a reflection of the overburden cover.

b) VLF

Tilt angle was plotted against field strength, with cross-over points indicating VLF electromagnetic anomalies. Numerous strong to weak crossovers were

defined. In a number of cases they are due to topographic effects or areas of 'geological noise'. However, two of the anomalies, when cut by trenching, (Trench No's 89-1, 89-2 and 89-5) revealed faulting.

4.0 TRENCHING

4.1 TARGET AREAS

After evaluation of results from the work covered in this report and from previous programmes (Drummond, 1983; Durfeld 1984, a,b; and Peatfield, 1989), a number of target areas were outlined for more detailed work (See Fig. 11).

Target 1

This area was based on a 1350 ppb gold soil anomaly located at 8+00N, 21+00W on the Teck grid, discussed in Drummond (1983). Further prospecting of the area revealed a number of old trenches excavated in swampy ground. These trenches had exposed gravel and it is concluded that the elevated gold concentration in soils from this site is likely to be due to a localized placer type concentration. Further work in this area was not considered necessary.

Target 2

Previous workers have noted an area of abundant quartz vein float and silicified felsic material in a small creek known as Jasper Creek (between lines 3W, 13N, and 5W, 11+50N on the Teck grid). A trench was excavated for approximately 50m along a bearing of 307 degrees, starting from a point in the vicinity of 5W, 12+00N. The purpose was to define the existence and/or extent of veining and to gain a greater understanding of the lithology in the area.

Target 3

This target was defined by a 330 ppb gold soil anomaly, on line 7+00W, 4+00S (See Drummond, 1988). A major north-east striking airphoto lineament extends from the airstrip on the Blackdome property, north onto the Midas ground, and can be traced to within a 100 metres of the above mentioned soil anomaly. A trench was planned to intersect the anomaly and to locate the any parallel north-east trending structures.

Target 4

A number of coincident silver, zinc, and antimony soil anomalies exist in the area of 13+50E, 6+00S on the Teck grid. This locality is on strike from known veining on the Blackdome property. A trench trending SE across strike of the known structural extension from Blackdome, was excavated to determine the source of the soil anomalies.

Target 5

The ground based geophysical survey described earlier in this report, recorded a VLF anomaly coincident with a previous VLF anomaly, reported by Durfeld (1984a). Two trenches were designed to investigate the anomaly.

A third trench was excavated in the area to locate a possible extension of the airstrip lineament mentioned above.

Target 6

In the western part of the Midas property centered at 17000N; 14800E, several VLF and magnetic anomalous zones were detected by the recent geophysics programme, in

an area of uncertain geology. Three trenches were planned to intersect lithologic contacts and structural zones.

4.2 RESULTS AND INTERPRETATION

Geological mapping of trenches and selected road cuts was undertaken at a scale of 1:500. The maps have been appended to this report (see Appendix I, Figs. 3-9). Trenching failed to locate any major mineralized structures. In target areas three and five, tectonic breccia with some degree of hydrothermal cementing was exposed; samples were weakly anomalous in gold.

Trenching in Target area 4 failed to locate bedrock. The maximum depth of the pits excavated was four metres and permafrost was encountered at two metres. It is concluded that the soil anomalies in the target area occur in the glacially derived overburden.

5.0 GEOCHEMISTRY

5.1 SOIL SAMPLES

Fourteen soil samples were collected at various localities (see Fig.11) on the Midas property in order to close off anomalous zones located in previous surveys (see Drummond, 1983; Durfeld, 1984 a,b; and Peatfield 1989).

Material sampled was generally reddish-brown B-horizon soil from depths of 10-30 centimetres. Samples were placed in numbered paper-sample bags. Soil samples were shipped to Acme Analytical Laboratories Limited in Vancouver, for preparation and analysis. Gold, silver, arsenic, and mercury were analyzed by atomic absorption techniques.

Results from the soil sampling were not anomalous, and therefore close off the anomalies in the previous soil sample programmes.

5.2 ROCK SAMPLES

A total of 36 rock samples was taken on the Midas claim group. Most of these were samples taken during the recent trenching on the property.

Rock samples were assayed for gold and silver only. Gold analyses were by fire assay methods and silver by atomic absorption techniques. Results are listed in Appendix II.

Results show that the samples taken were only weakly anomalous in gold. Generally, values were less than 0.5 ppm gold. However, two samples detailed below contained gold greater than 1 ppm.

<u>Location</u>	<u>Sample No.</u>	<u>Gold ppm</u>	<u>Silver ppm</u>	<u>Width</u>
89-1	46255	1.13	0.62	1.0m
89-2	46256	3.43	5.66	1.0m

These samples were taken from the same structure outcropping in both trenches 89-1 and 89-2. More detailed sampling of the same zones failed to repeat the first values with the range being 0.14 ppm Au to 0.24 ppm Au from four samples.

6.0 CONCLUSIONS

- 1) Trenching has revealed a tectonic/hydrothermal breccia weakly anomalous in gold in the southern part of the Midas property (Targets 3 and 5).
- 2) Geological mapping failed to locate any major mineralized quartz veins.
- 3) Overall alteration of country rock on the property is very weak to non-existent.
- 4) Geological units mapped are correlatable with mapping on the Blackdome Mine property to the south.
- 5) Trenching suggests that several of the soil anomalies outlined by previous work programmes originate in transported glacial overburden.
- 6) Extensions of the gold-silver mineralized quartz veins on the Blackdome property have not been located on the Midas claims.
- 7) At this stage further work is not warranted on the property.

7.0 CERTIFICATE OF QUALIFICATIONS

I, **Ivor Moir Watson**, of 584 East Braemar Road, North Vancouver, British Columbia, hereby certify that:

1. I am a consulting geologist with offices at 816 - 675 West Hastings Street, Vancouver, B.C.
2. I am a graduate of the University of St. Andrews, Scotland (B.Sc. Geology 1955).
3. I have practised my profession continuously since graduation.
4. I am a member in good standing of the Association of Professional Engineers of B.C., and a Fellow of the Geological Association of Canada.
5. Work done on the **Midas** property described in this report was done under my supervision.

June 13, 1990
Vancouver, B.C.


I.M. Watson, B.Sc., P.Eng.



CERTIFICATE OF QUALIFICATIONS

I, **Dean Wadsworth**, residing at 1/3248 Rutledge Street in the city of Victoria, province of British Columbia, do hereby certify that:

1. I am a geologist.
2. I graduated from the University of Auckland in 1982 with a B.Sc. in Geology.
3. I have practised my profession as an exploration geologist for the past four years.
4. I am familiar with the MIDAS property and have been involved with the work programmes carried out for this report.
5. I was personally responsible for the interpretation of the geological data presented in this report.

June 13, 1990
Vancouver, B.C.


D. Wadsworth, B.Sc., Geologist

8.0 BIBLIOGRAPHY

- CHURCH, B.N., 1980. Exploration for Gold in the Black Dome Mountain Area (920/7E, 8W); Ministry of Energy, Mines and Petroleum Resources, Geological Division; Geological Fieldwork, 1979, Paper 1980-1, pp. 52-54.
- CHURCH, B.N., 1981. The Black Dome Mountain Gold-Silver Prospect (920-7E, 8W); Geological Fieldwork, 1980, pp. 106-108.
- CHURCH, B.N., 1987. Blackdome. BCMEMPR. Exploration in British Columbia 1986, pp. B40-B49.
- DRUMMOND, A.D., 1983. Geological and Geochemical Report on the Midas Claim Group, Clinton Mining Division, British Columbia for Bankit Resource Corporation.
- DRUMMOND, A.D., D.A. HOWARD and C.E. GUNN, 1988. Report on the Midas, Midas No. 4 and Kado Fractional Mineral Claims, Blackdome (sic) Mountain Area, Clinton Mining Division. Unpublished report.
- DURFELD, R.M., 1984 a) August. "Geochemical, Geophysical and Geological Report on the MIDAS Claim Group", Report for Bankit Resources Corporation.
1984 b) December. "Report on the Trenching and Soil Sampling Follow-up Programme on the MIDAS Claim Group", Report for Bankit Resources Corporation.
- FAULKNER, E.L., 1986. Blackdome Deposit (920/7E, 8W). BCMEMPR. Geological Fieldwork 1985. Paper 1986-1, pp. 106-109.
- KERR, J.R., 1983. Report on the Midas Property, Clinton Mining Division, B.C.; consultant's report for Navarone Power Corporation, dated April 16, 1983.
- McALLISTER, S.G. and M.D. McPHERSON, 1987. Geological and Geochemical Report on the ACE I&2, BORIN I, CHURN I-III, KING 3-4, KING VI, MINK I-II, MINT 1-4, QUEEN 4-5, QUEEN VI, REBORIN and SWAMP 2 Claims, Clinton Mining Division, B.C. Prepared by Chevron Canada Resources Limited as an Assessment Report, submitted to the BCMEMPR.
- PEATFIELD, G.R., 1989. Soil Geochemistry on the MIDAS Property, Clinton Mining Division. Prepared as an Assessment Report, submitted to the BCMEMPR.
- PEATFIELD, G.R. and VAUGHAN, C.J., 1989. Airborne Geophysical Survey on the MIDAS Property, Clinton Mining Division. Prepared as an Assessment Report, submitted to the BCMEMPR.
- READ, PETER B., 1989. Petrography of Ten Samples from the Midas Property, Southwestern British Columbia (920/8W).
- SCHROETER, T.G., 1987. Brief studies of selected gold deposits in Southern British Columbia. BCMEMPR. Geological Fieldwork 1986. Paper 1987-1, pp. 15-22. (Blackdome Deposit - pp. 17-18.)
- TIPPER, H.W., 1978. Taseko Lakes (920) Map-Area; Geol. Surv. Can., Open File map No. 534.

9.0 STATEMENT OF COSTS - MIDAS CLAIMS

September 1, 1989 - May 1990

A. TRENCHING

Salaries:

D. Wadsworth (Geologist) - Oct. 21, 29-31, Nov. 1 4.5 days @ \$170/day	\$765.00	
I. Saunders (Prospector) - Oct. 1, 11-13, 21 5 days @ \$185/day	925.00	
R. Gibbs (Prospector) - Oct. 29-31, Nov. 1 4 days @ \$175/day	700.00	
Accommodation/Board - 13.5 mandays @ \$35/manday	472.50	
Vehicle Rental (4 x 4) - 9 days @ \$50/day	450.00	
Fuel	108.00	
D-8 Caterpillar & Operator (road work) 34 hrs. @ \$150/hr. (Oct. 1 - 11)	5,100.00	
Fuel for D-8	217.00	
235 Caterpillar Excavator & Operator (trenching) 45.5 hrs. @ \$125/hr. (Oct. 13 - 31)	5,687.50	
Fuel for Excavator	<u>290.00</u>	\$14,715.00

B. GEOLOGICAL MAPPING / SAMPLING

a) Salaries - Fieldwork:

D. Wadsworth (Geologist) - Sept. 1-4, 9-14, 29-30, Oct. 21 12.5 days @ \$170/day	2,125.00	
I. Saunders (Prospector) - Sept. 1-4, 13, 26, Oct. 7 7 days @ \$185/day	1,295.00	
E. Birkett (Assistant/Labourer) - Sept. 3-4 2 days @ \$130/day	260.00	

b) Salaries - Report Preparation:

I.M. Watson (Consulting Geologist) - Sept. 10, 13, 14 3 days @ \$400/day	1,200.00	
D. Wadsworth (Geologist) - Nov. 9, Dec. 1-12 13 days @ \$170/day	2,210.00	

Geological Mapping/Sampling - Salaries (Cont'd.)

L. Westervelt (Geologist) - Sept. 27, 29, Oct. 4 2 days @ \$185/day	370.00	
I. Saunders (Prospector) - Dec. 8-10 3 days @ \$185/day	555.00	
Accommodation/Board - 29.5 mandays @ \$35/day	1,032.50	
Vehicle Rental (4 x 4) - 11 days @ \$50/day	550.00	
Fuel	132.00	
Geochemical Analyses		
36 rock for Au, Ag (Blackdome Lab) 36 @ \$7.00/sample	252.00	
14 soil for Au, Ag, As, Hg (Acme Labs) 14 @ \$8.60/sample	120.40	
Drafting - D. Phillips (Dec '89, Jan.-May '90) 50.8 hrs. @ \$25/hr.	1,270.00	
Photocopying	58.12	
Petrographic Analyses (Geotex Consultants)	529.50	
Typing		
Mob/Demob	<u>145.79</u>	12,104.81

C. PROSPECTING

Salaries:

I. Saunders (Prospector) - Sept. 2, 11-12, 14, 23-25, 27-30 11 days @ \$185/day	2,035.00	
Accommodation/Board - 11 mandays @ \$35/day	385.00	
Vehicle Rental (4 x 4) - 10 days @ \$50/day	500.00	
Fuel	<u>120.00</u>	3,040.00

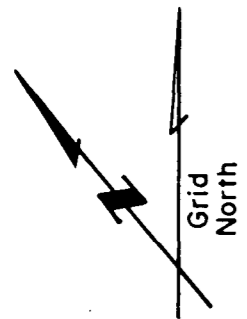
D. GEOPHYSICS

Magnetometer/VLF Survey (Delta Geoscience) (Sept. 12 - 17, 1989)	7,100.00	
Accommodation/Board - 12 mandays @ \$35/manday	<u>420.00</u>	<u>7,520.00</u>
TOTAL COSTS		<u>\$37,379.81</u>

SUMMARY

A. TRENCHING	\$14,715.00
B. GEOLOGICAL MAPPING / SAMPLING	12,104.81
C. PROSPECTING	3,040.00
D. GEOPHYSICS	<u>7,520.00</u>
TOTAL	<u>\$37,379.81</u>

APPENDIX I
TRENCH MAPS



ROCK GEOCHEMISTRY

Sample No	Au(ppm)	Ag(ppm)
46251	0.24	7.37
52	0.17	Tr
53	0.27	1.99
54	0.24	1.44
55	1.13	0.62
46267	0.14	2.49
68	0.27	1.73
69	0.24	7.03
70	0.07	1.73
46756	3.43	5.66
57	0.10	Tr
58	0.07	Tr

- Age date/petrology sample
- └ Chip sample
- * Grab sample



BLACKDOME MINING CORPORATION
 MIDAS CLAIMS
 Trenches 89-1 & 89-2

Scale 1:500

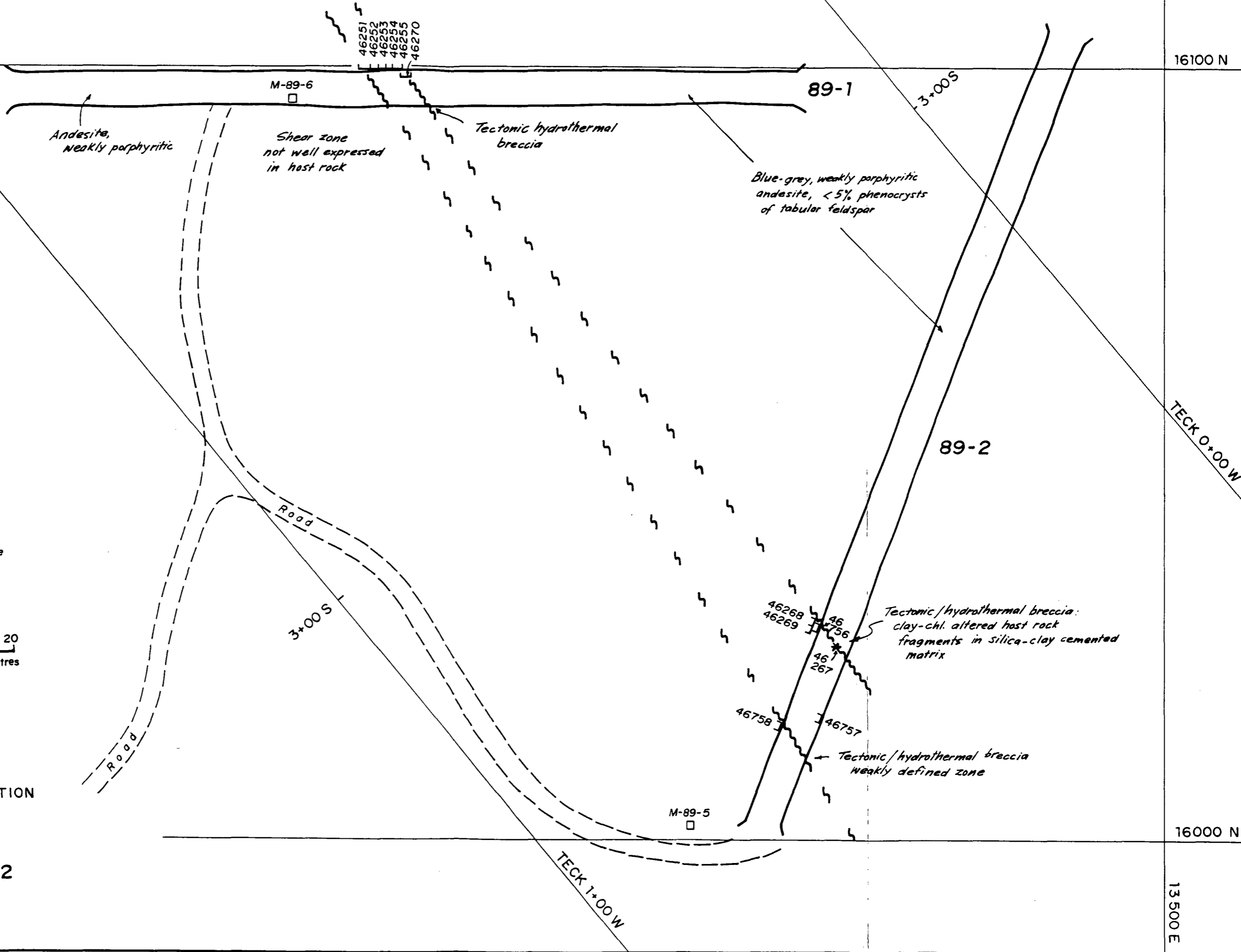
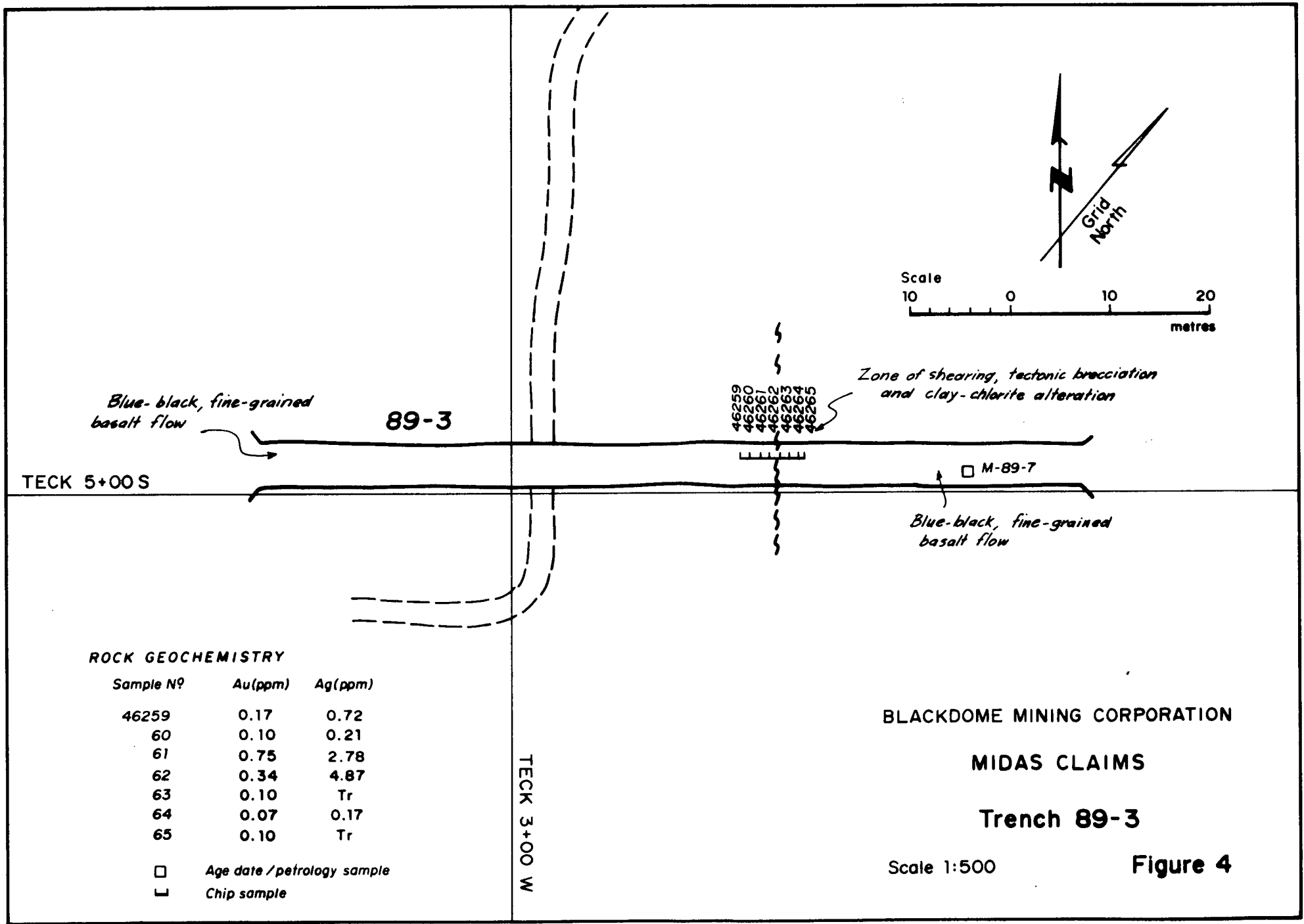
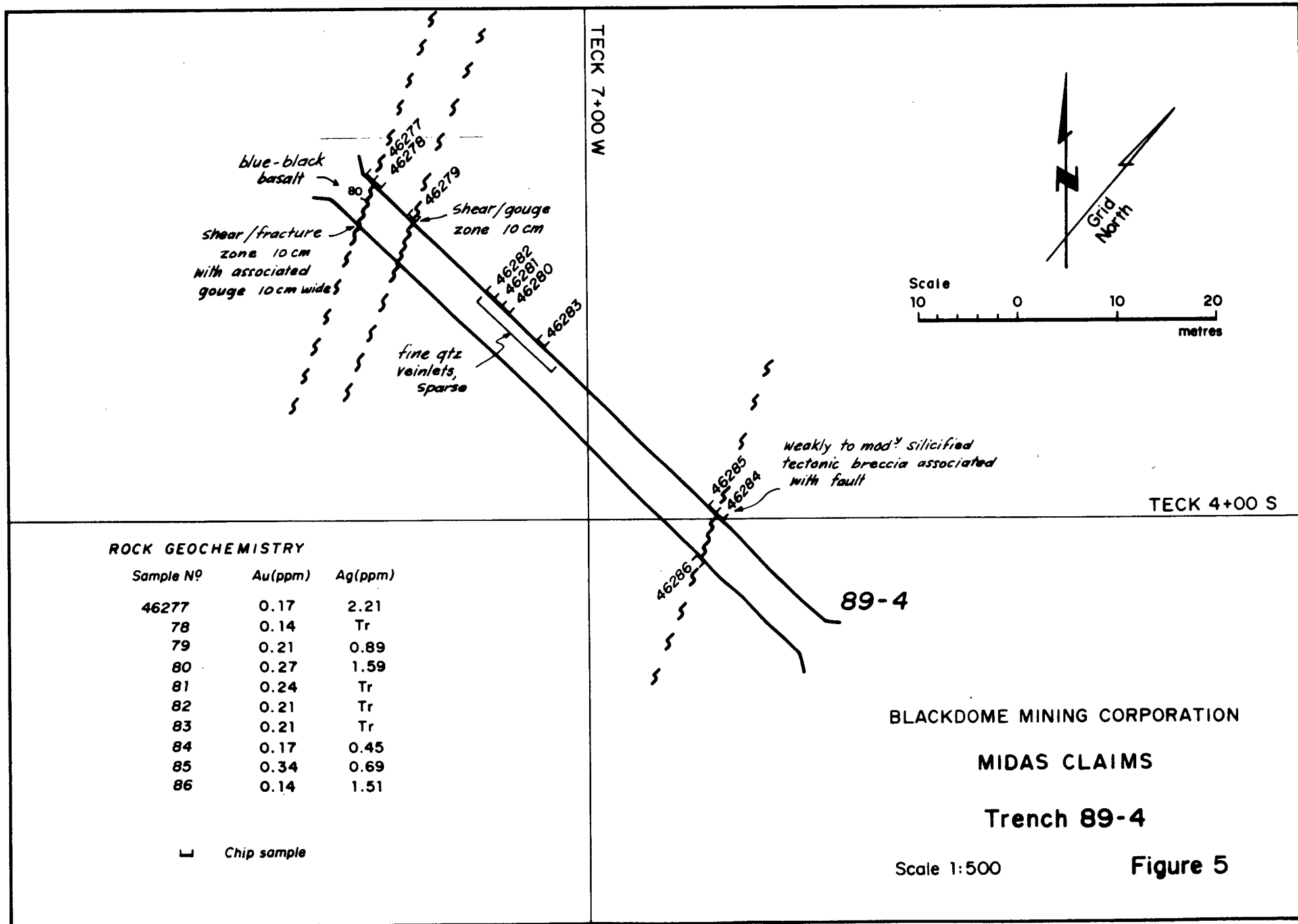
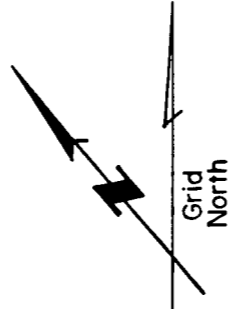


Figure 3

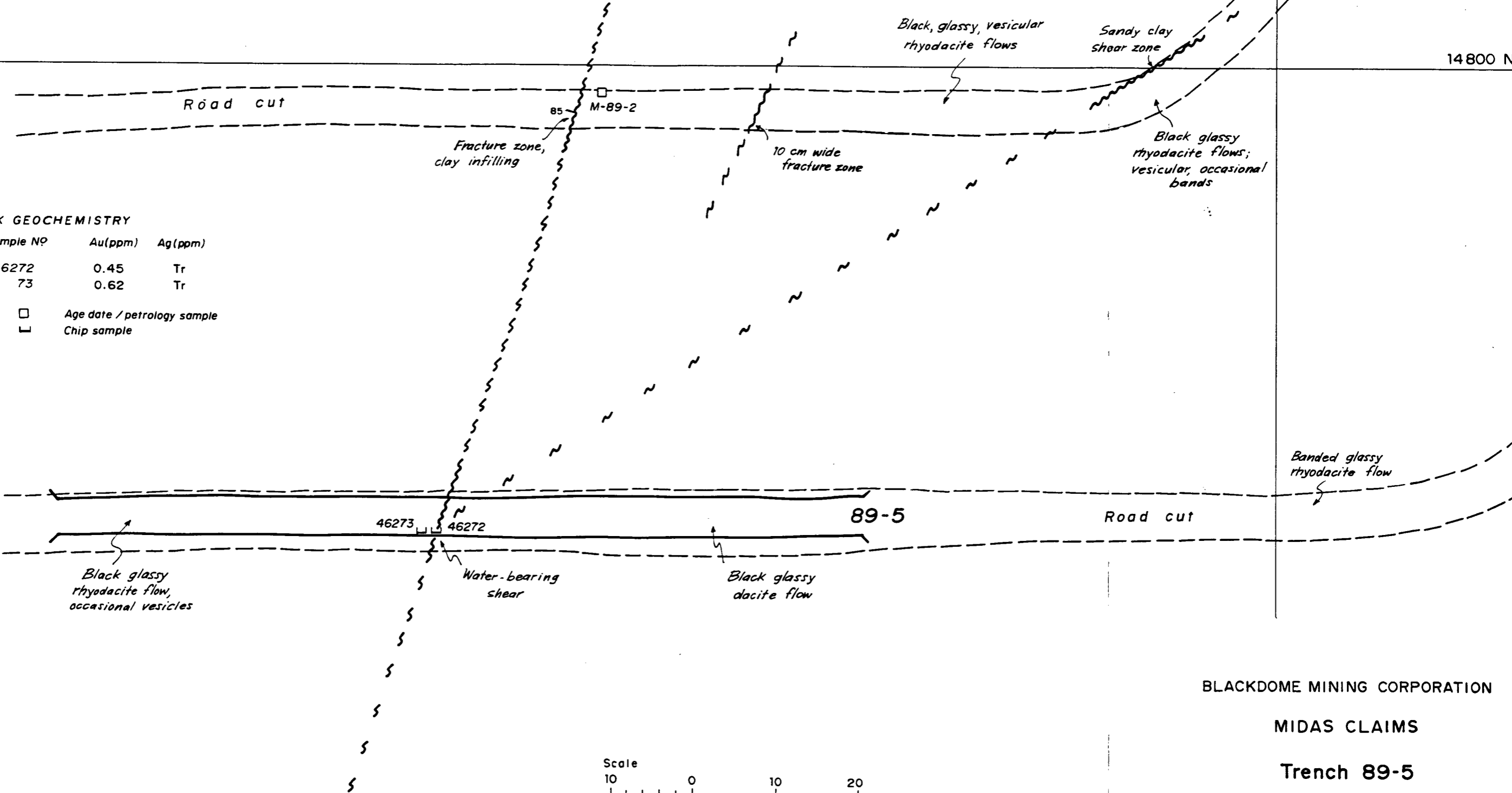






11700E

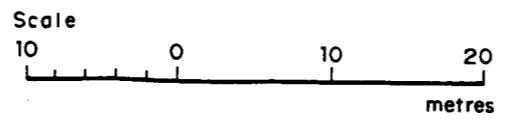
14800 N



ROCK GEOCHEMISTRY

Sample No	Au(ppm)	Ag(ppm)
46272	0.45	Tr
73	0.62	Tr

- Age date / petrology sample
- └ Chip sample

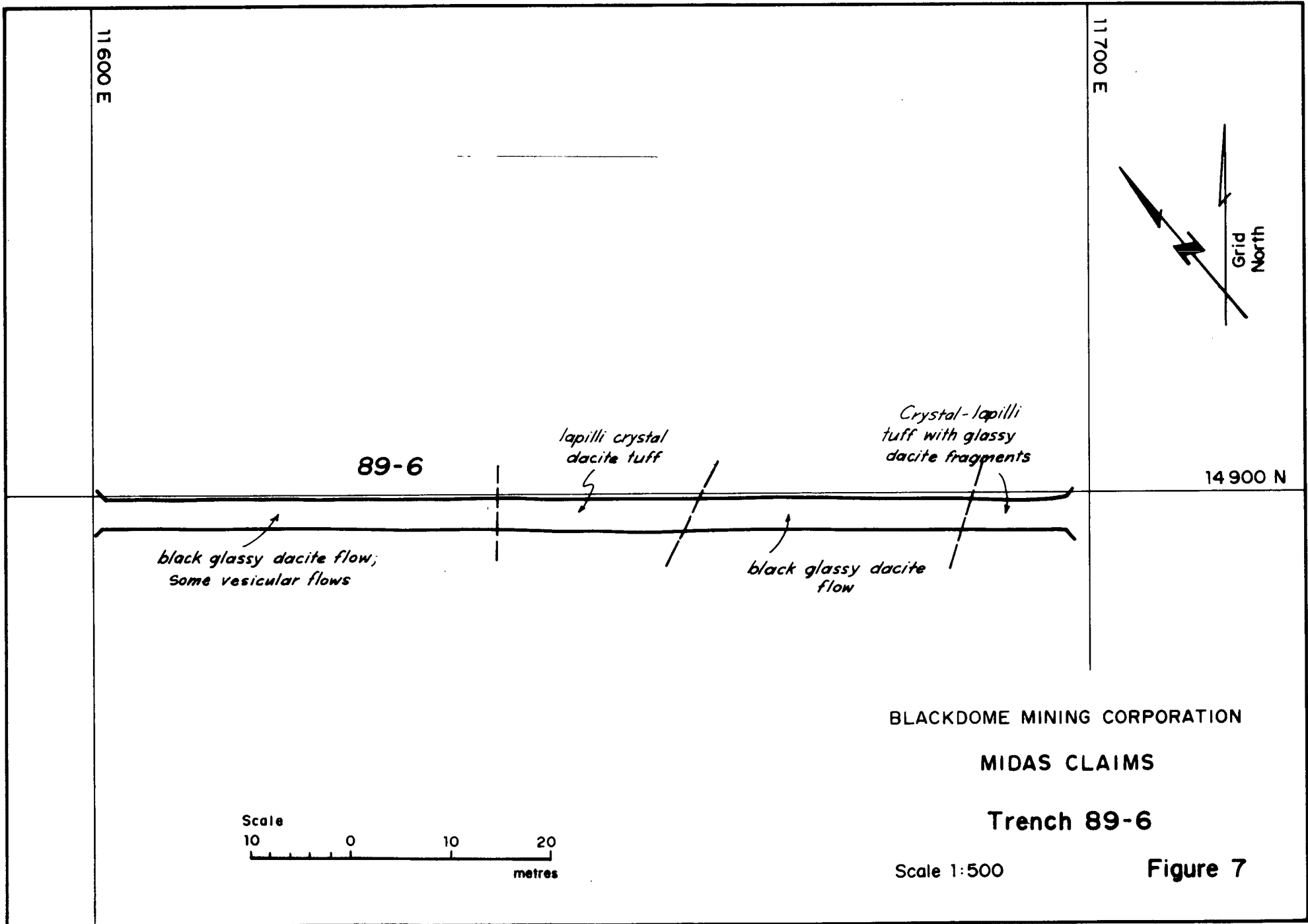


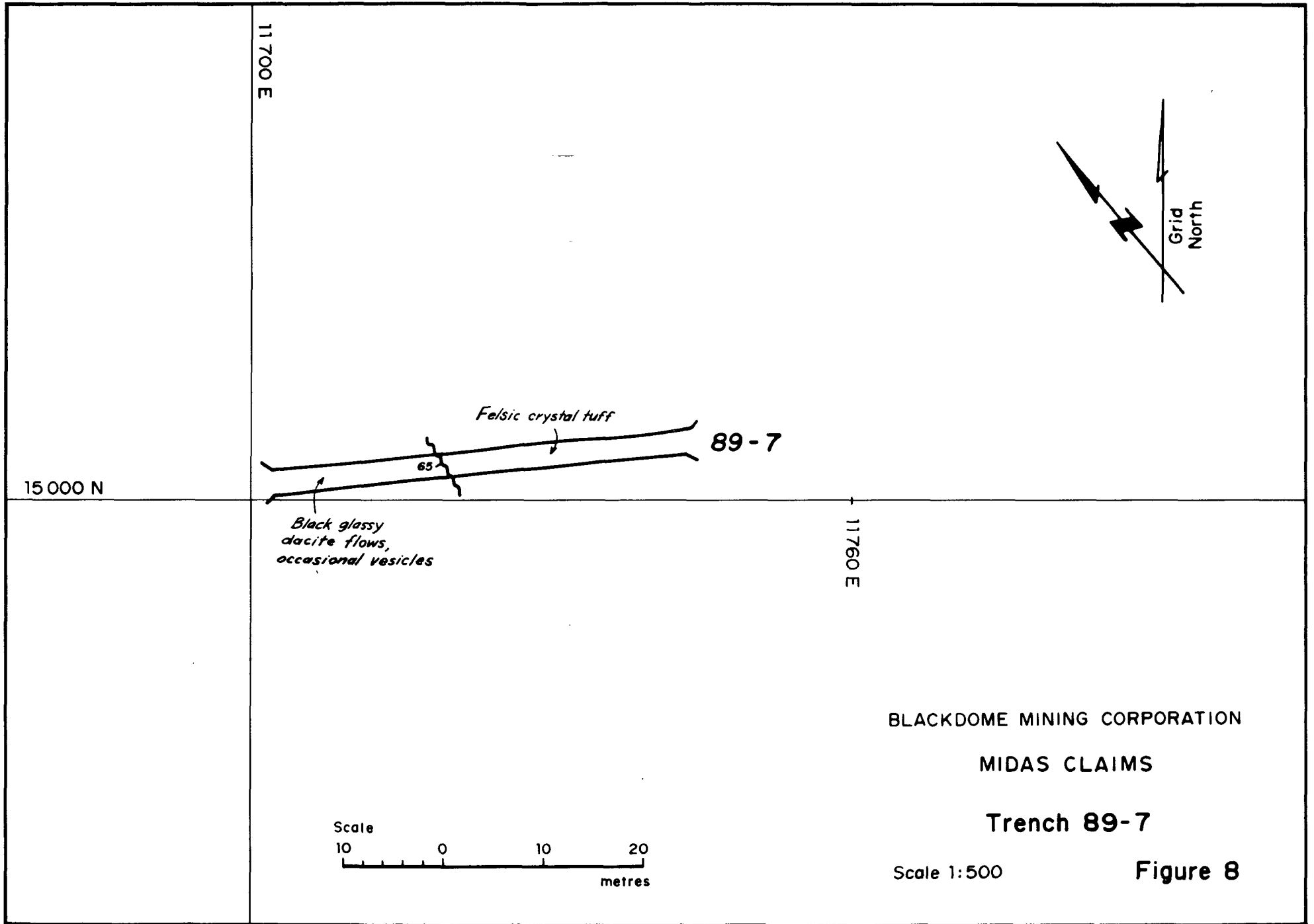
BLACKDOME MINING CORPORATION
MIDAS CLAIMS

Trench 89-5

Scale 1:500

Figure 6





BLACKDOME MINING CORPORATION

MIDAS CLAIMS

Trench 89-7

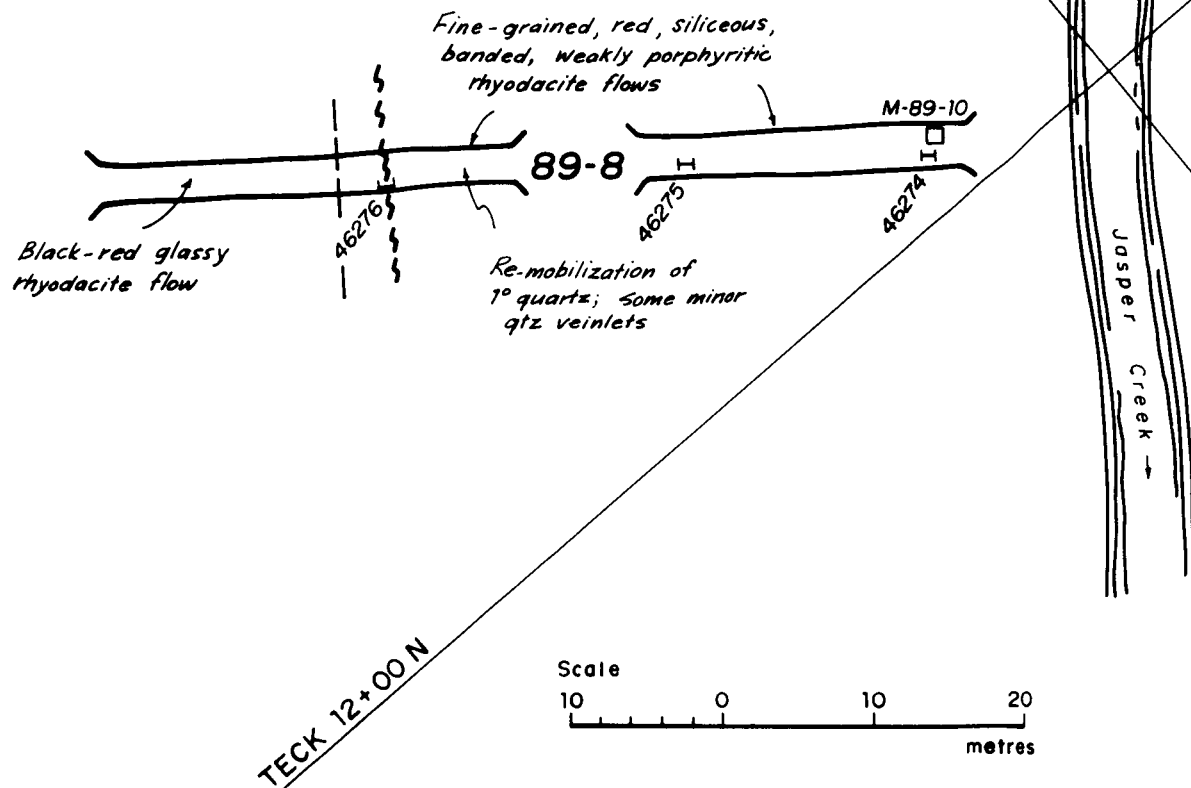
Scale 1:500

Figure 8

ROCK GEOCHEMISTRY

Sample N ^o	Au(ppm)	Ag(ppm)
46274	0.24	5.50
75	0.21	1.70
76	0.17	2.04

- Age date / petrology sample
- └ Chip sample



BLACKDOME MINING CORPORATION
 MIDAS CLAIMS
 Trench 89-8

Scale 1:500

Figure 9

APPENDIX II
ANALYTICAL DATA

ACME ANALYTICAL LABORATORIES LTD.

DATE RECEIVED: SEP 19 1989

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED:

Sept. 22/89

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: Soil -80 Mesh AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. HG ANALYSIS BY FLAMELESS AA.

SIGNED BY *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

I.M. Watson Assoc. Ltd. FILE # 89-3741 Page 3

SAMPLE#	Ag PPM	As PPM	Au* PPB	Hg PPB
1000W 15+32N	.1	2	5	80
1000W 15+15N	.1	2	4	60
1000W 15+00N	.1	2	18	60
900S 1320E	.1	3	2	80
900S 1340E	.1	6	6	100
900S 1360E	.1	2	5	120
900S 1380E	.1	6	7	140
9+45S 13+15E	.1	3	4	60
9+70S 1300E	.1	2	7	70
9+70S 1320E	.1	3	6	100
9+70S 1340E	.1	5	3	100
9+70S 1360E	.1	3	14	70
9+70S 1380E	.1	2	5	140
9+70S 1400E	.1	4	7	150
STD C/AU-S	7.1	39	52	1300

BLACKDOME MINING CORPORATION
SAMPLE REPORT

DATE: Oct. 30, 1989

ASSAYER: C. Dillman

EXPLORATION SAMPLES

EXPLORATION SAMPLES

SAMPLE #	Au-gm/tonne	Ag-gm/tonne	SAMPLE #	Au-gm/tonne	Ag-gm/tonne
46251 ✓	.24	7.57			
46252 ✓	.17	TR			
46253 ✓	.27	1.99			
46254 ✓	.24	1.44			
46255 ✓	1.13	.62			
46256 ✓	3.43	5.66			
46257 ✓	.10	TR			
46258 ✓	.07	TR			
46259 ✓	.17	.72			
46260 ✓	.10	.21			
46261 ✓	.75	2.78			
46262 ✓	.34	4.87			
46263 ✓	.10	TR			
46264 ✓	.07	.17			
46265 ✓	.10	TR			
46267 ✓	.14	2.49			
46268 ✓	.27	1.73			
46270 ✓	.07	1.73			
46271 ✓	.24	.14			
46272	.45	TR			
46273	.62	TR			
46274	0.24	5.50			
46275	0.21	1.70			
46276	0.17	2.04			
46277	0.17	2.21			
46278	0.14	TR			
46279	0.21	0.89			
46280	0.27	1.59			
46281	0.24	TR			
46282	0.21	TR			
46283	0.21	TR			
46284	0.17	0.45			
46285	0.34	0.69			
46286	0.14	1.51			

APPENDIX III

PETROGRAPHIC REPORT BY PETER B. READ

PETROGRAPHY OF TEN SAMPLES FROM THE MIDAS PROPERTY,

SOUTHWESTERN BRITISH COLUMBIA (920/8W)

Peter B. Read
December 20, 1989

GEOTEX
CONSULTANTS Limited consulting geologists

**PETROGRAPHY OF TEN SAMPLES FROM THE MIDAS PROPERTY,
SOUTHWESTERN BRITISH COLUMBIA (920/8W)**

1. INTRODUCTION:

D. Wadsworth of I.M. Watson & Associates, 815-675 West Hastings St., Vancouver, B.C. submitted 10 samples from the Midas Property for thin section petrography and assessment of their suitability for K-Ar dating. The Midas Property lies immediately north of Blackdome Mine centered at 51°21' and 122°28' and includes the headwaters of Porcupine and Borin creeks.

**TABLE 1:
PETROGRAPHY OF SAMPLES**

Sample	Quartz	Plagioclase	Sanidine	Olivine	Augite	Hypersthene	Biotite	Rock Type
M89-1	-	10p 55m	15m	-	-	½p	-	*dacite
M89-2	-	25p 30m	-	-	3p	7p	-	dacite/andesite
M89-3	25	30p 35m	-	-	3p	2p	-	dacite/andesite
M89-4	-	8p 50m	-	1p	15m	¼p	-	basalt
M89-5	1m	5p 50m	-	-	¼p	-	¼m	*dacite
M89-6	-	5p 30m	-	-	-	-	-	dacite
M89-7	-	3p 84m	-	-	-	-	-	dacite/andesite
M89-8	-	5p 87m	-	-	2p	-	-	dacite/andesite
M89-9	-	- 64m 20m	-	-	10m	-	-	*dacite/andesite
M89-10	2p 89m	4p	4p	-	-	-	-	*rhyolite

p = phenocrysts m = matrix * indicates that rock is suitable for K-Ar dating.
Because glass, opaque minerals and amphibole are not shown, percentages shown may not total 100%.

Most of the rocks are so sparsely and finely porphyritic that a rock type is difficult to estimate from the mode. However, a majority of the rocks probably are of andesite/dacite composition even though the plagioclase compositions are usually in the range of An₅₅ to An₆₅ and pyroxenes are the only mafic minerals. Two exceptions are M89-4 which is an olivine-bearing basalt and M89-10 which is a rhyolite or rhyodacite.

2. DESCRIPTION OF SAMPLES:

All plagioclase composition determinations assume high temperature optics.

(a) Sample M89-1:

Medium grey, very sparsely and finely porphyritic (plagioclase) dacite or andesite flow.

Location: From slip at north end of property at 1885 m and 11625E by 14600N.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (10½%):

1. Plagioclase (10%):

Most of the subhedral laths are 0.8 mm long, and show zoning and trachytic texture. Flat-stage plagioclase composition determinations using the Carlsbad-albite twin method yield An₆₈ for an unzoned grain, and for a zoned grain a core of An₇₀ and a rim of An₅₇.

2. Hypersthene (½%):

Pale greenish brown, subhedral prismatic grains 0.8 mm long showing parallel extinction, a birefringence of about 0.010, and $2V_x = 50^\circ$.

B. Matrix (89½%):

1. Plagioclase (55%):

Fine, subhedral laths 0.1 mm long which are strongly flow-oriented.

2. Augite (20%):

Fine prisms less than 0.1 mm in diameter which are partly altered to iddingsite. Inclined extinction yields a z against C of about 40° .

3. Sanidine? (15%):

A poorly crystallized mineral with a birefringence similar to plagioclase but with a marked negative relief against it.

Remarks: Because the rock is essentially unaltered and has a crystalline matrix, it is suitable for K-Ar dating.

(b) Sample M89-2:

Medium grey, porphyritic (plagioclase, hypersthene, augite) dacite or andesite flow.

Location: In trench on west side of property at 1780 m and 11625E by 14600N.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (35%):

1. Plagioclase (25%):

Subhedral laths which are normally or complexly zoned and yield flat-stage plagioclase composition determinations by the carlsbad-albite twin method of An₅₂ and An₅₄ and for a zoned grain a core of An₈₂ and rim of An₆₅.

2. Hypersthene (7%):

Subhedral prisms about 0.3 mm long but rarely up to 2.5 mm in length which have a $2V_x = 50^\circ$ and first order pale yellow interference tints. The prisms have parallel extinction.

3. Augite (3%):

Pale green, subhedral prisms less than 0.3 mm long which are usually simply twinned. The extinction is highly inclined and $2V_z = 50^\circ$.

B. Matrix (65%):

The matrix consists of fine plagioclase microlaths less than 0.03 mm long showing flow orientation and surrounded by glass.

Remarks: Although the rock is unaltered, it consists of 30 to 40% glass and is unsuited for K-Ar dating.

(c) Sample M89-3:

Medium grey, porphyritic (plagioclase, hypersthene, augite) andesite or dacite flow.

Location: Trench on Teck baseline at 1810 m elevation and Teck B-L by 20 + 50W.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts:

1. Plagioclase (30%):

Slightly rounded, subhedral laths averaging 1 mm in length which are complexly zoned and tend to form glomeroporphyritic clots up to 2 mm in diameter. Flat-stage plagioclase composition determinations yield An_{61} by the Carlsbad-albite twin method and An_{56} by the X' against (010) perpendicular to a method.

2. Hypersthene (2%):

Pale green-brown to pinkish brown pleochroic grains with first order cream interference tints. Some grains show two cleavages at right angles, and many grains are spatially associated with glomeroporphyritic plagioclase clots.

3. Augite (3%):

A few pale green-brown prisms 0.3 mm in diameter which are marginally to mainly completely altered. A few of the marginally altered grains are simply twinned.

B. Matrix (65%):

1. Feldspar (35%):

Microlaths 0.05 mm or less in length which rarely show simple twinning. Although I suspect these are mainly plagioclase, I cannot rule out the presence of potash feldspar.

2. Quartz (25%):

Shapeless grains 0.3 mm in diameter which have the texture of the matrix preserved within the grains but which yield an uniaxial positive interference figure. The texture is similar to quartz developed through silicification.

C. Alteration:

1. Fibrous alteration of pyroxenes
2. Local silicification of the matrix.

Remarks: The significant alteration of the pyroxenes and apparent silicification of the matrix suggest that the rock is only marginally suitable for K-Ar dating. The main concern is that the date may reflect the timing of alteration of the rock or some intermediate date between the times of crystallization and alteration.

(d) Sample M89-4:

Dark grey, sparsely (9%) and finely (1 mm) porphyritic (plagioclase, olivine, hypersthene) basalt flow.

Location: From ridge above trenching on the west at 1810 m and 11920E by 14900N

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (9%):

1. Olivine (1%):

Colourless subhedral to anhedral grains 0.2 mm in diameter rimmed by a medium green shell to complete replacement by bowlingite or iddingsite. Some of the altered phenocrysts show a subophitic texture with unaltered plagioclase laths projecting from a subhedral mass of olivine replaced by iddingsite or bowlingite.

2. Plagioclase (8%):

Subhedral laths 0.5 mm long, but a few longer laths are rounded and resorbed with a glassy sponge texture. Flat-stage plagioclase composition determinations yield An_{63} by the Carlsbad-albite twin method.

3. Hypersthene (%%):

Rare, small (0.2 mm long) prismatic phenocrysts are green-brown and unaltered compared to the highly altered olivine phenocrysts. The mineral has 2 cleavages at right angles, first order cream interference tints and a moderate $2V_x$.

4. Augite (1 grain):

A single, simply twinned phenocryst 0.2 mm long and pale green-brown in colour.

B. Matrix (91%):

1. Plagioclase (50%):

Fine, less than 0.15 mm long, flow-oriented plagioclase microlaths.

2. Augite (15%):

Slender prisms less than 0.1 mm in length.

3. Glass (26%):

Devitrified cloudy matrix.

Remarks: Unaltered, but the presence of a glassy matrix renders the sample unsuited for K-Ar dating. If a K-Ar date is necessary from basalts, this is unfortunately the only sample.

(e) Sample M89-5:

Medium to dark grey, sparsely (5%) porphyritic (plagioclase) dacite flow.

Location: Trench 69-2 at 1995 m and 13480E by 16100N.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (5%):

1. Plagioclase (5%):

Composed of large, rounded subhedral phenocrysts up to 2 mm in length and finer 0.5 mm long subhedral laths. Flat-stage plagioclase composition determinations by the Carlsbad-albite method yield An_{60} and An_{61} .

2. Augite (less than ¼%):

Very pale green rounded grains 0.4 mm in diameter with 2 cleavage at right angles and $2V_z = 55^\circ$.

B. Matrix (87%):

1. Plagioclase (50%):

Fine, subhedral microlaths less than 0.3 mm long which yield a flat-stage plagioclase composition determination of An₆₂ using \underline{X} ' against (010) perpendicular to \underline{a} .

2. Opaque Minerals (10%):

Fine dustings of equant opaque grains less than 0.01 mm on edge and a few grains 0.2 mm on edge.

3. Biotite (4%):

Fine, light to medium red-brown pleochroic flakes.

4. Quartz (1%):

Anhedral grains 0.1 mm in diameter with a uniaxial positive interference figure. It is spatially associated with biotite.

5. Optically irresolvable material (25%):

C. Alteration (0.5%):

1. Calcite (0.5%):

Rare clots of grains 0.1 mm in diameter.

Remarks: A fine-grained essentially unaltered rock which should be suitable for K-Ar dating.

(f) Sample M89-6:

Light grey very sparsely (5%) porphyritic (plagioclase) dacite? flow.

Location: Trench 69-1 at 2005 m and 13400E by 16100N.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (5%):

1. Plagioclase (5%):

0.5 to 1.5 mm long slender, euhedral laths all completely replaced by calcite and minor sericite.

B. Matrix (45%):

1. Hornblende (15%):

Pale olive green prismatic grains 0.1 mm long.

2. Plagioclase (30%):

Fine trachytoid microlaths less than 0.3 mm long partly altered to calcite and sericite.

C. Alteration (49%):

1. Calcite (21%):

Fine granular replacement of plagioclase microlaths and originally glassy? material.

2. Sericite (10%):

Fine flakes partly replacing plagioclase microlaths and originally glassy? material.

3. Opaque Minerals (7%):

Equant grains 0.01 to 0.05 mm in diameter.

4. Chlorite-montmorillonite (10%):

Medium green flakes 0.03 mm long.

D. Veins (1%):

Two thin (0.5 mm) veins composed of calcite with local medial clots of quartz and a dusting of opaque minerals.

Remarks: The carbonate-sericite-chlorite-montmorillonite alteration is so pervasive that it has destroyed most of the original mineral assemblage of the rock. Only the presence of hornblende suggests that the original rock may have been a dacite. Absolutely unsuited for K-Ar dating.

(g) Sample M89-7:

Medium to dark grey fine (0.5 mm) and sparsely (3%) porphyritic (plagioclase) andesite or dacite flow.

Location: Trench in southern section of property at 2010 m and 2 + 60W by 5S.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (3%):

1. Plagioclase (3%):

Rare, rounded subhedral phenocrysts up to 5 mm long, but most are 0.5 mm long. All show preferential flow-orientation and a single flat-stage plagioclase composition determination for X' against (010) perpendicular to \underline{a} yields An_{67} .

2. Augite (a clot composed of 6 grains):

Pale greenish-brown grains 0.3 mm in diameter forming a clot 1 mm in diameter. An interference figure from one grain gives a moderate $2V_z$.

3. Biotite (1 flake):

Pale to medium green-brown flakes 0.3 mm long.

B. Matrix (90%):

1. Opaque Minerals (6%):

Fine 0.01 to 0.1 mm in diameter grains which are sprinkled throughout.

2. Plagioclase (84%):

Subhedral laths 0.05 to 0.3 mm long which yield flat-stage plagioclase composition determinations of An₄₈ and An₅₃ by the Carlsbad-albite twin method.

C. Alteration (7%):

1. Carbonate + sericite (7%):

Finely speckled and filling fractures mainly in plagioclase.

Remarks: The pervasive carbonate-sericite alteration renders this rock unsuited for K-Ar dating.

(h) Sample 89-8:

Medium grey finely (less than 1 mm), sparsely (7%) porphyritic (plagioclase, augite) andesite or dacite flow.

Location: Gully next to ridge road at 1950 m and 13570E by 17500N.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (7%):

1. Augite (2%):

Pale green-brown prismatic grains up to 0.4 mm long which show normal twinning and two cleavages at right angles. $2V_z = 50^\circ$.

2. Plagioclase (5%):

Subhedral, mainly unzoned laths 0.6 mm long. A zoned grain yielded a flat-stage plagioclase composition determination of An₅₀ for the core and An₃₃ for the rim.

B. Matrix (87%):

1. Plagioclase (87%):

Fine, flow-oriented microlaths less than 0.2 mm long.

C. Alteration (6%):

1. Carbonate (6%):

Fine granules less than 0.01 mm in diameter sprinkled throughout and rare thin (0.2 mm) veinlets of carbonate grains.

Remarks: Finely disseminated carbonate renders the rock unsuited for K-Ar dating.

(i) Sample M89-9:

Light to medium grey, fine (less than 0.5 mm) andesite or dacite flow

Location: 100 m north of 6W at 2010 m.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Matrix (100%):

1. Plagioclase (64%):

Subhedral, blocky tablets 0.5 mm long which yield a flat-stage plagioclase composition determination of An₇₅ for the core of a zoned grain and An₅₃ for the rim based on the Carlsbad-albite twin method.

2. Hypersthene (5%):

Pale green-brown prismatic grains up to 0.5 mm long with $2V_x = 50^\circ$ with parallel extinction and a birefringence of about 0.010.

3. Augite (10%):

Pale green-brown prismatic grains with inclined extinction and low second order interference tints.

4. Opaque Minerals (1%):

Equant grains 0.1 mm on edge.

5. Sanidine? (20%):

Crystalline material of low birefringence (0.006) and marked negative relief relative to plagioclase.

Remarks: The rock is unaltered and lacks glassy material so that it is suitable for K-Ar dating.

(j) Sample M89-10:

Pink, flow-layered, porphyritic (plagioclase, sanidine, quartz, hornblende) rhyolite or rhyodacite flow.

Location: Jasper Creek trench at 1830 m and 4W by 12N.

Thin Section:

The following minerals are present in amounts given by a visually estimated mode:

A. Phenocrysts (11%):

1. Sanidine (10% combined sanidine, plagioclase and quartz):

Rounded and resorbed phenocrysts 1 mm in diameter with neutral relief with respect to the chalcedony matrix. Grains show rare carlsbad twinning and have an interference figure of $2V_x = 25^\circ$.

2. Plagioclase (10% combined sanidine, plagioclase and quartz):

Subhedral laths to anhedral grains up to 1.5 mm long showing polysynthetic twinning and a slight positive relief with respect to the chalcedony. A flat-stage plagioclase composition determination yielded An_{18} by the X' against (010) perpendicular to a method.

3. Quartz (10% combined sanidine, plagioclase and quartz):

Anhedral grains with positive relief with respect to the chalcedony matrix.
The grains have a uniaxial positive interference figure.

4. Hornblende (1%):

Pale to dark brown pleochroic prismatic grains up to 1.5 mm long.

B. Matrix (89%):

1. Chalcedony and quartz (89%):

Fibrous, mixed length-fast, length-slow, slightly cloudy material with 0.009 birefringence and refractive indices near 1.525. Local patches and criss-crossing veins of quartz are present.

Remarks: The rock is unaltered and suitable for K-Ar dating.

APPENDIX IV
GEOPHYSICAL DATA

BLACKDOME MINES CORPORATION

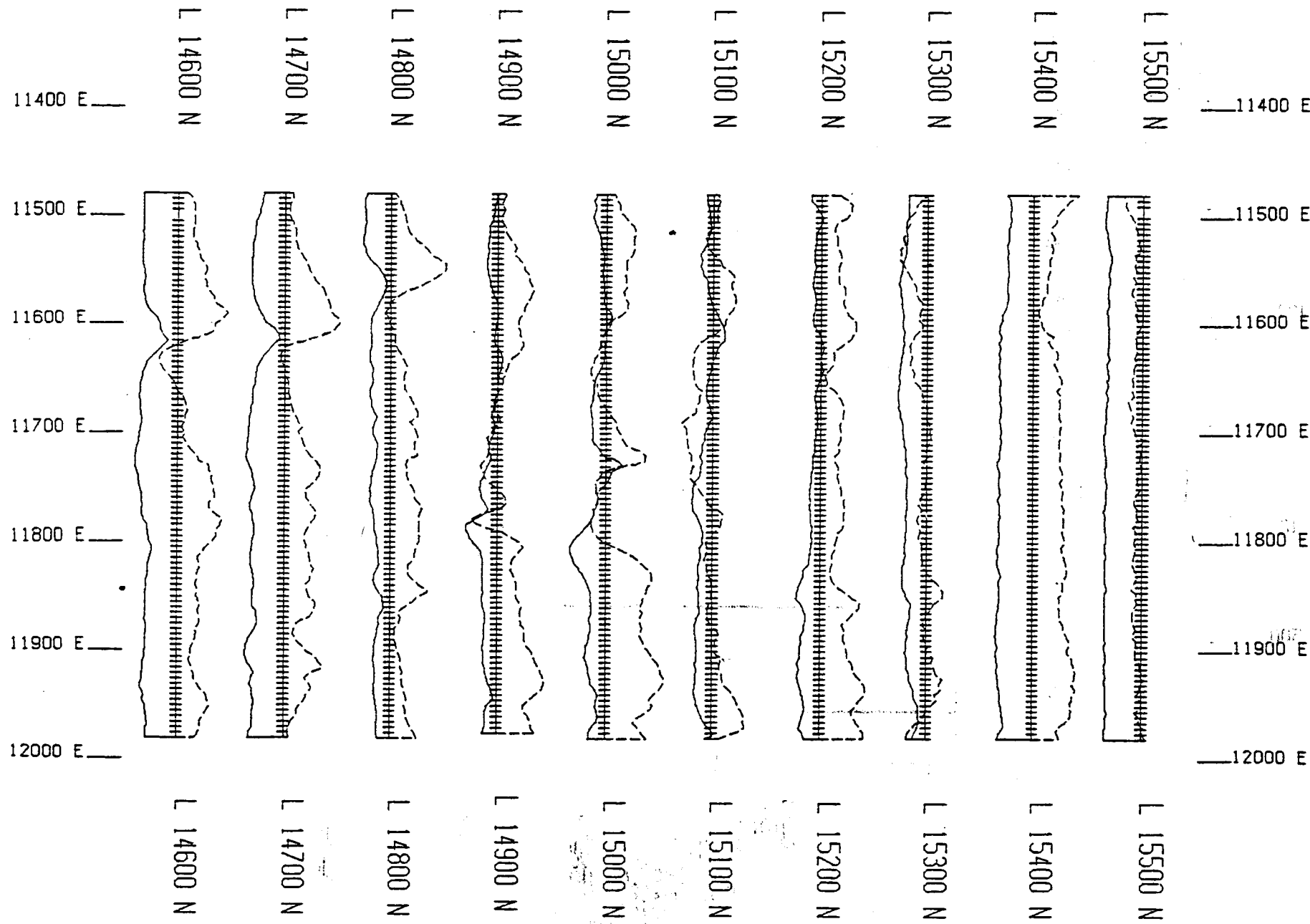
Peatfield co-ord. system; Zone 1 Grid
V.L.F. Profiles
Field Strength: solid line (arbitrary units)
Tilt Angle: dashed line @ 1cm=15 deg, base=0 deg
V.L.F. Sign Convention; x-overs are pos to neg in the east direction

Scale 1:5000

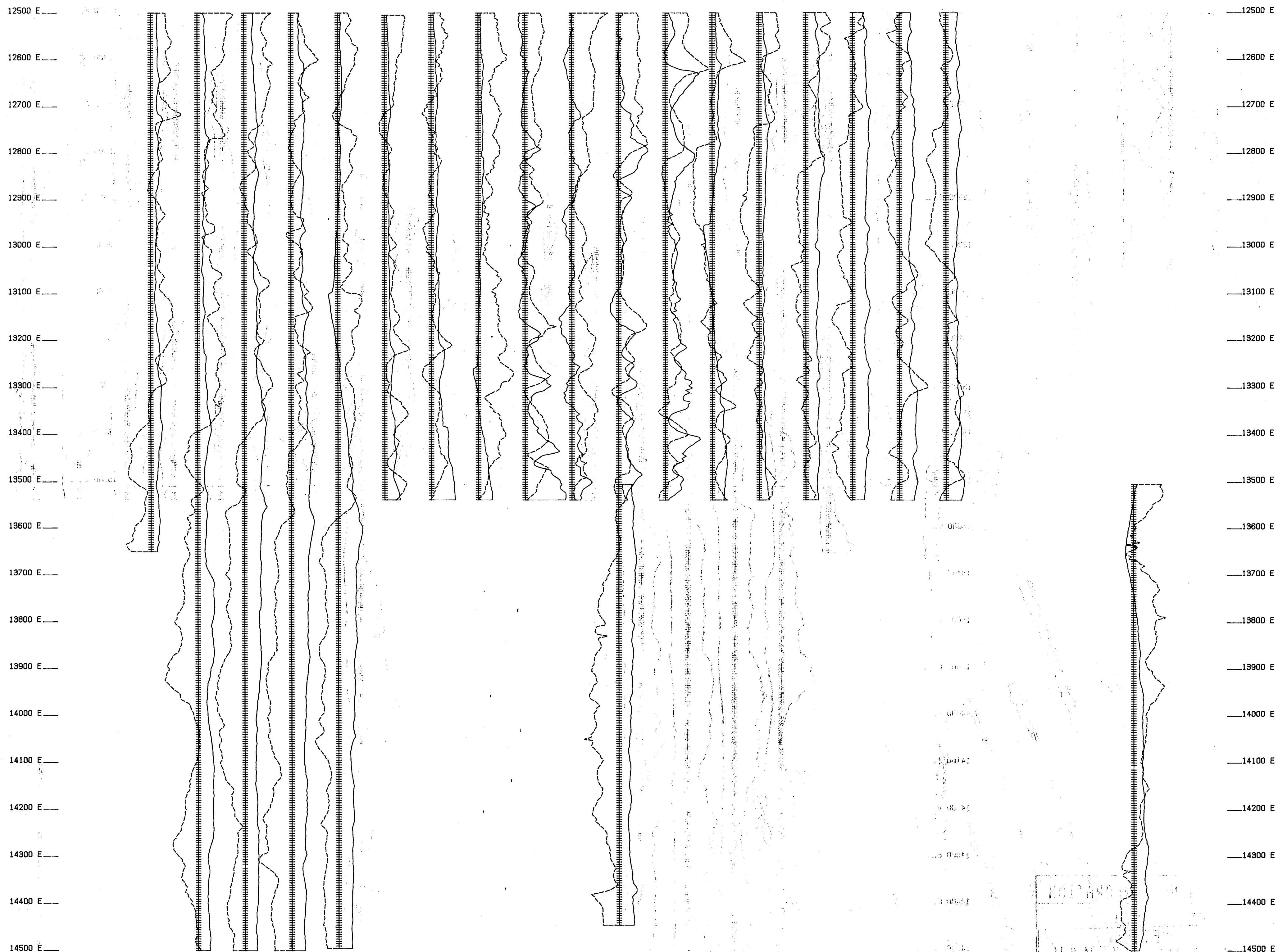
DELTA GEOSCIENCE LTD.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,238



16000 N 16100 N 16200 N 16300 N 16400 N 16500 N 16600 N 16700 N 16800 N 16900 N 17000 N 17100 N 17200 N 17300 N 17400 N 17500 N 17600 N 17700 N 17800 N 17900 N 18000 N 18100 N



GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,238

BLACKDOME MINING CORPORATION

PEATFIELD GRID
VLF-EM PROFILES,
VLF Stations NPM, 23.4 khz, & NLK, 24.8 khz
tilt angle dash line, horiz. field solid line

(23.4 khz) tilt ang. lcn=15%, horiz. fld lcn=10, base 5:
(24.8 khz) tilt ang. lcn=15%, horiz. fld lcn=40, base 140
L. 16800 N. to 17100 N. read with NLK, NPM unavailable
SCALE 1:5000

DELTA GEOSCIENCE LTD

16000 N 16100 N 16200 N 16300 N 16400 N 16500 N 16600 N 16700 N 16800 N 16900 N 17000 N 17100 N 17200 N 17300 N 17400 N 17500 N 17600 N 17700 N 17800 N 17900 N 18000 N 18100 N

BLACKDOME MINES CORPORATION

Peatfield Grid

Magnetic Profiles
Total Field: solid line @ 1cm=2500 nt base=5000 nt
Gradient: dashed line @ 1cm=1000 nt/m, base=0 nt/m
Base Field 57800 nt

Scale 1:5000

DELTA GEOSCIENCE LTD.

20,238

ASSESSMENT REPORT
GEOLOGICAL BRANCH

L 17700 N

L 17600 N

L 17500 N

L 17400 N

L 17300 N

L 17200 N

L 17100 N

L 17000 N

L 16900 N

L 16800 N

L 16700 N

L 16600 N

L 16500 N

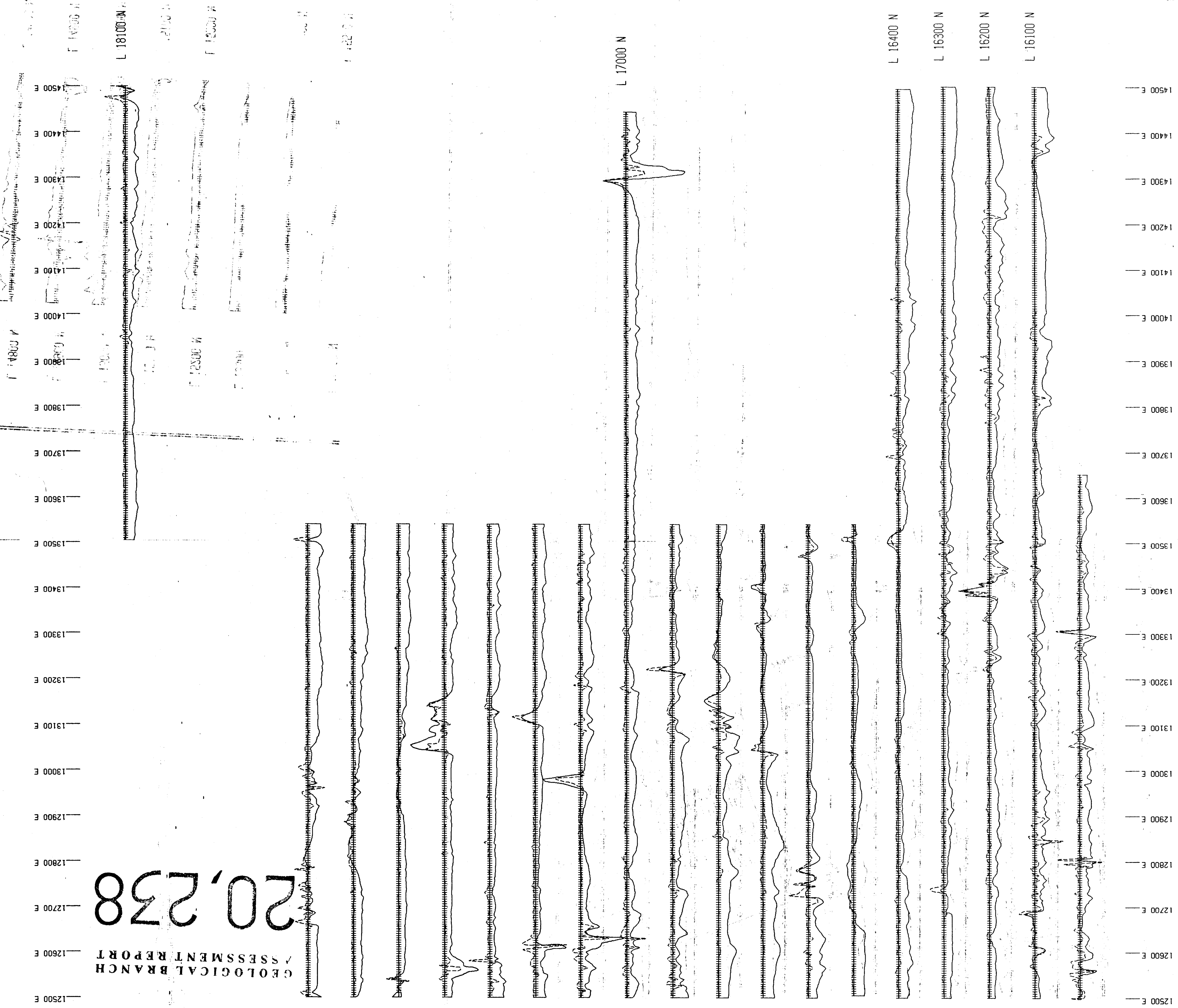
L 16400 N

L 16300 N

L 16200 N

L 16100 N

L 16000 N



BLACKDOME MINES CORPORATION

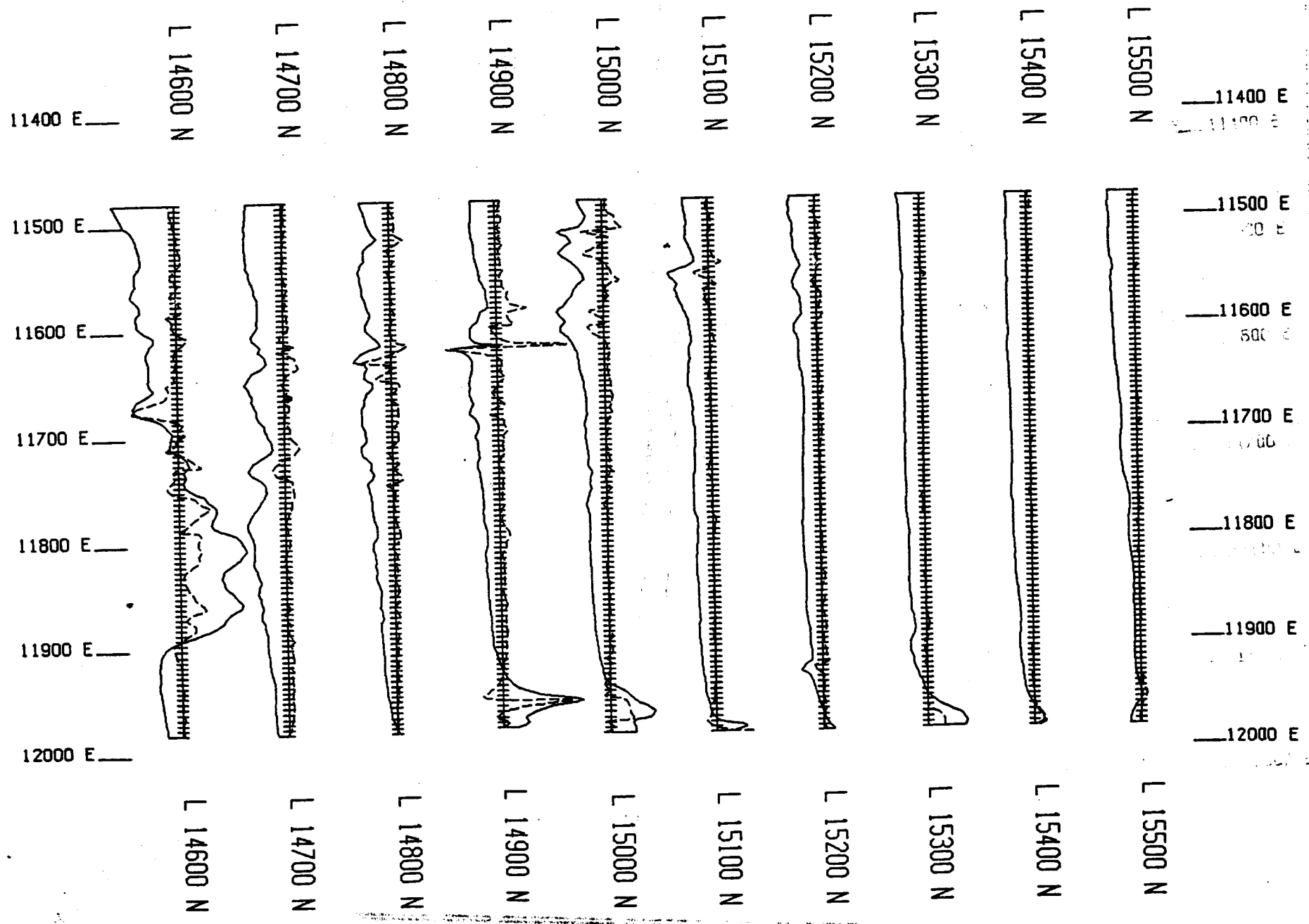
Peatfield co-ord. system; Zone 1 Grid
Magnetic Profiles
Total Field: solid line @ 1cm=2000 nt, base=58000 nt
Gradient: dashed line @ 1cm=800 nt/m, base=0 nt/m
Base Field 57800 nt

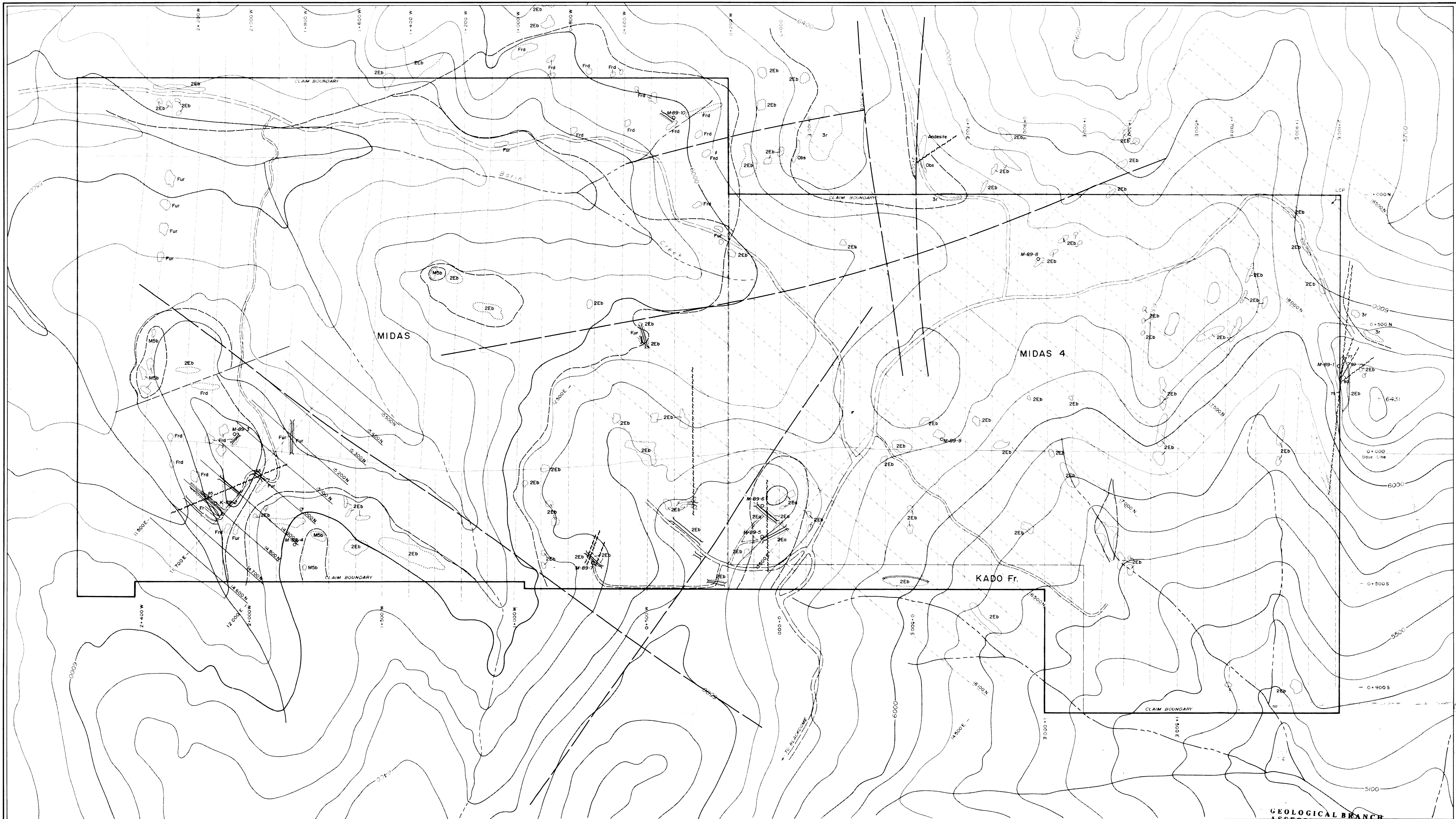
Scale 1:5000

DELTA GEOSCIENCE LTD.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,238

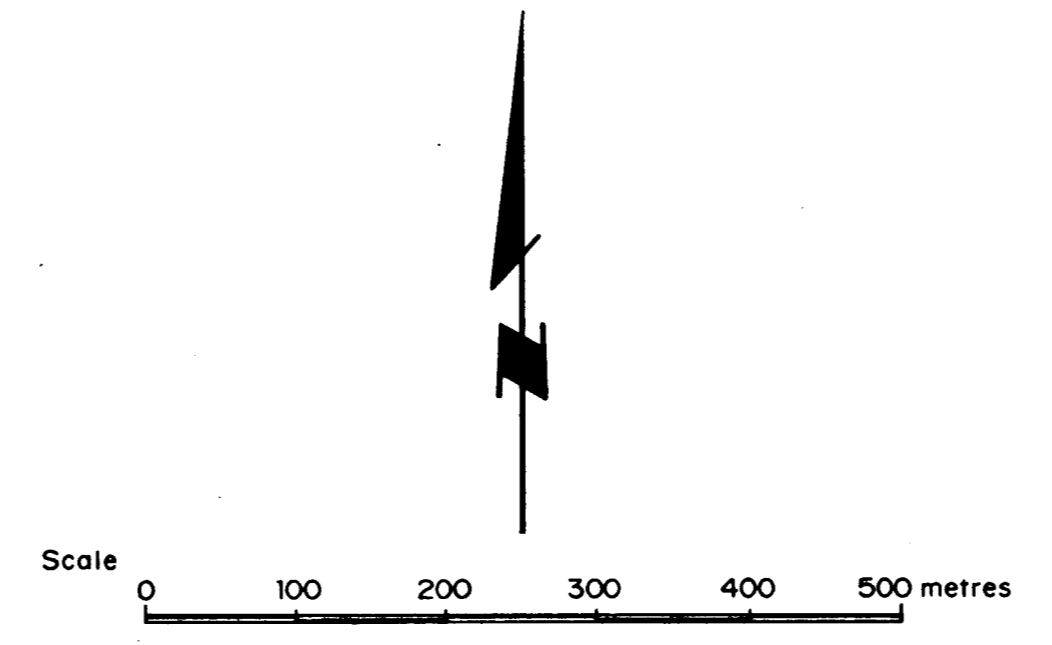




GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,238

- M5b Medium- to dark-grey olivine basalt flows
- RHYOLITE**
- 3r White, massive to flow layered, locally spherulitic rhyolite flows
- LOWER ANDESITE**
- 2Ea Medium-grey to grey-green, sparsely porphyritic (plagioclase < 5%) andesite flows
- 2Eb Medium-grey to black aphanitic basalt flows and rare vesicular-amygdaloidal flows
- FAIRLESS VOLCANICS**
- Frd Red-pink banded rhyodacite to dacite flows and flow breccia
- Fur Felsic lapilli tuff to fine-grained ash; red-green weathered clastics
- Obs Obsidian



- Streams
- Topographic contours, interval 100 feet
- Roads
- Boundary of Midas claims, claim name
- Legal corner post
- Teck grid
- Peafield grid (1988, 1989)
1989 Mag-VLF-EM lines surveyed
- Outcrop
- Geological boundary: known, inferred
- Fault: known, inferred
- Air photo lineament
- Trench
- Slide area
- Age date / petrology sample site

BLACKDOME MINING CORPORATION

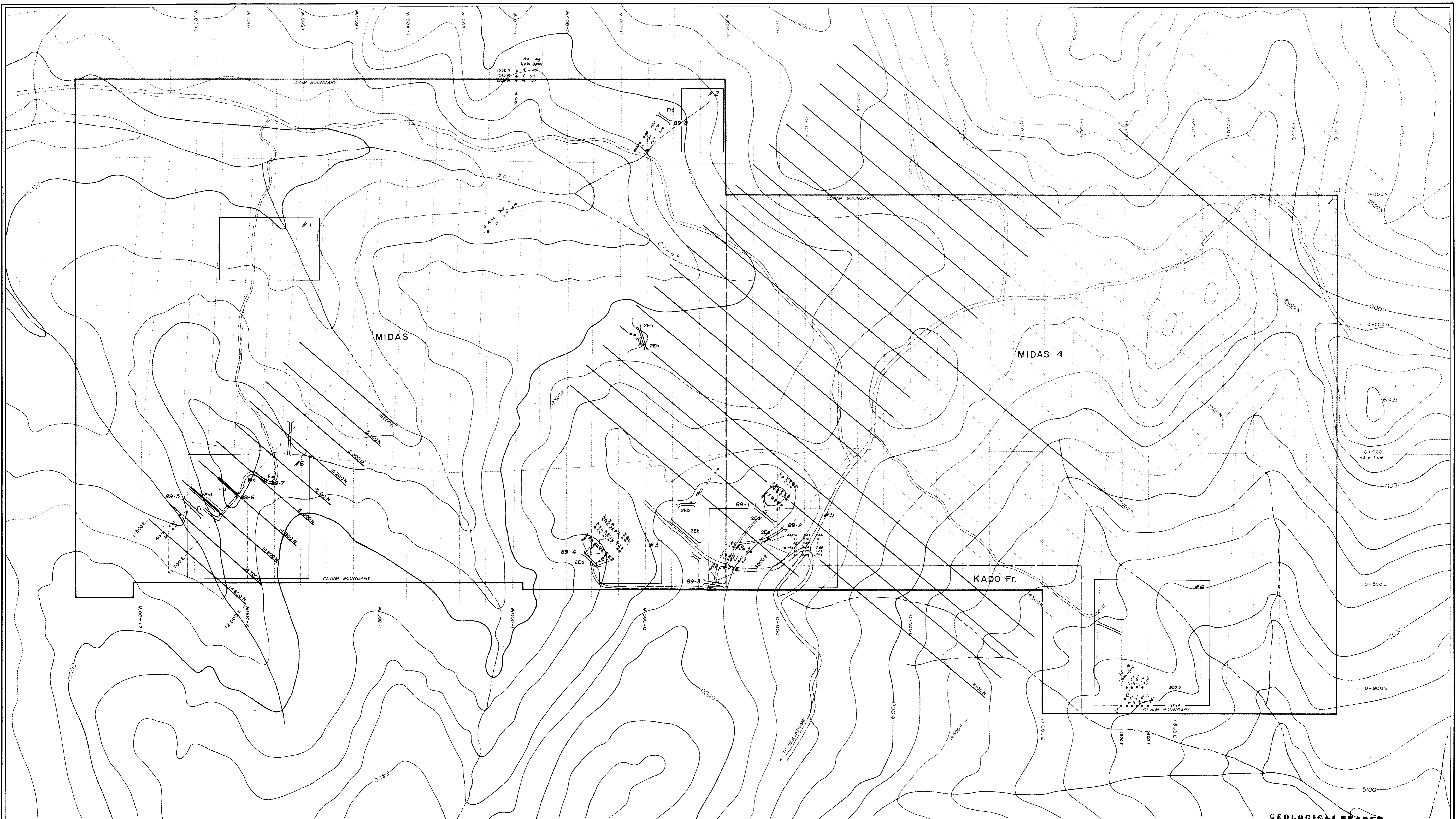
MIDAS CLAIMS

GEOLOGY

I. M. WATSON & ASSOCIATES LTD.

Work by: D. Wadsworth	N.T.S.: 92 D/7.8 Scale 1:5000
Drawn by: D. Phillips	Rev.:
Date: Feb. 1990	

Figure 10



GEOLOGICAL BRANCH
ASSESSMENT REPORT

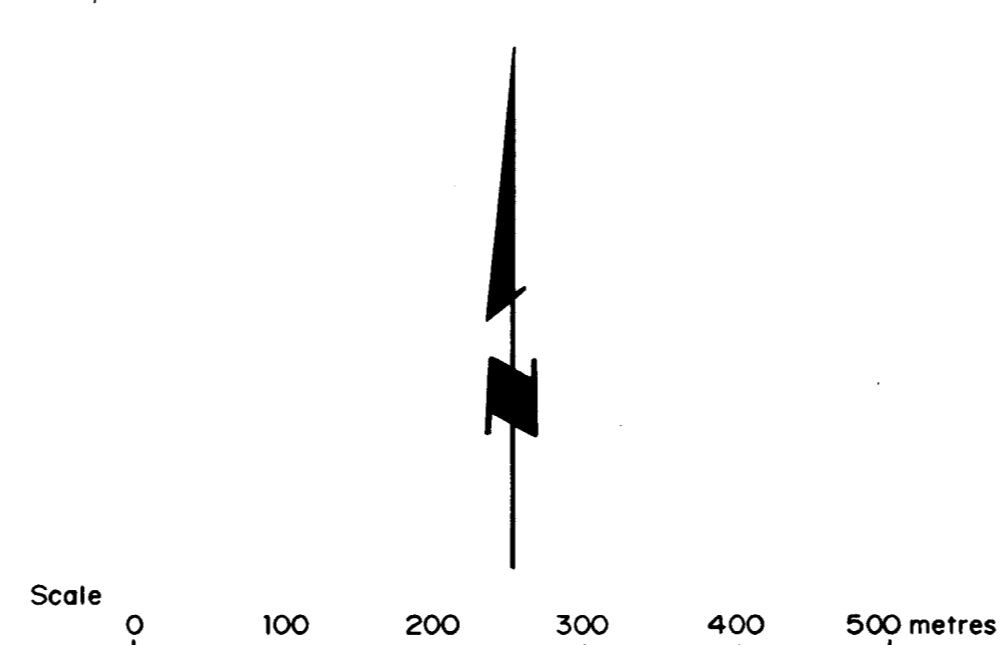
20,238

BLACKDOME MINING CORPORATION

MIDAS CLAIMS
GEOCHEMISTRY
GEOPHYSICS
TARGET AREAS

I. M. WATSON & ASSOCIATES LTD.

Work by: D. Wadsworth	N.T.S.: 920/7.8	Scale: 1:5000
Drawn by: D. Phillips	Rev.:	
Date: Feb. 1990		



- Streams
- Topographic contours, interval 100 feet
- Roads
- Boundary of Midas claims, claim name
- Legal corner post
- Teck grid (1984)
- Peatfield grid (1988, 1989)
- 1989 Mag-VLF-EM: lines surveyed
- Soil sample site: Au (ppb), Ag (ppm)
1300 E Grid location, line 1000 W
- Grab sample site: Au (ppm), Ag (ppm)
- All other samples are chip samples: Au (ppm), Ag (ppm)
See 1:500 sheets for detail
- Trench
- Trench geology: see GEOLOGY sheet for legend
- Target area of interest

VLF Station NPM Hawaii 23.4 kHz, except for lines 16800N to 17100N, NLK Seattle 24.8 kHz

Figure 11