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GEOLOGICAL MAPPING

AND GEOCHEMICAL SURVEYS

ON THE DM PROPERTY

Located Claims:

Fill A	( 1 unit )	355556
Fill 2 to 9	( 8 units)	349441 to 349448
Fill 10 and 11	( 2 units)	355557 + 355559
Fill 12 to 19	( 8 units)	355575 to 355582
Fill 20	( 1 unit )	361322
Hy	( 9 units)	349933
Lo	( 9 units)	352496
East	(10 units)	358921
Mid	(12 units)	358928

Owners:

**Bernard H. Fitch**  
304-420 7<sup>th</sup>. Street  
New Westminster, B.C.  
V3M 3L1

**Christopher I. Dyakowski**  
3750 West 49<sup>th</sup>. Avenue  
Vancouver, B.C.  
V6N 3T8

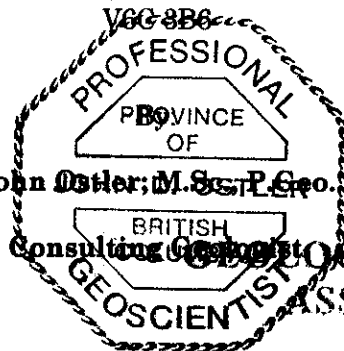
Location:

**Vancouver Mining Division**  
N.T.S.: 92 K/6, 92 K/11  
U.T.M.: 5595200 N., 331250 E.

Optionee:

**THURLOW RESOURCES LTD.**  
430-580 Hornby Street  
Vancouver, British Columbia  
V6C 3B6

**John Oster, M.Sc., P. Geo.**  
Consulting Geologist



**GEOLOGICAL SURVEY BRANCH**  
**ASSESSMENT REPORT**

September 28, 1998

25,673

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## **GEOLOGICAL MAPPING AND GEOCHEMICAL SURVEYS ON THE DM PROPERTY**

### **SUMMARY**

The writer was retained by Bernard H. Fitch and Christopher I. Dyakowski through Cassiar East Yukon Expediting Ltd. to conduct a program of mapping and sampling, and report on other work conducted on the DM property during 1998.

Field work on the DM property was conducted from August 5 to 13, 1998. Data compilation continued intermittently until September 28, 1998. The 1998 exploration program was conducted under work approval number NAN98-0801100-17 and reclamation permit number MX-8-166 by Bernard H. Fitch, one of the owners of the claims.

The DM property is located on the moderate to steep northern slopes of the Pembroke Range west of Fanny Bay on Phillips Arm in the Coast Mountains of south-western British Columbia. The property comprises twenty-four located claims which are owned 100% by Christopher Dyakowski and Bernard Fitch. These claims cover 60 claim-units; about 1375 ha (3396 A) after deducting areas of overlapping claims.

The property is about 63 km (39.1 mi) north-northwest of Campbell River and is accessible by boat and float plane. Access to the south-central part of the property is by a series of logging roads that terminate at tide water at Picton Point, on Cordero Channel. Access to the northern part of the property is by another series of logging roads that radiate out from a camp on Fanny Bay, located on the western side of Phillips Arm.

There are several small creeks on the DM property. Adequate fresh water for mining purposes could be obtained from a tributary of Gray Creek located on the Mid claim or from the chain of lakes situated along the southwestern boundary of the Fill claims. Elevations on the property range from about 152 m (500 ft) to about 1141 m (3743 ft).

A 600 m (1968 ft) wide buffer strip across the northern part of the Fill claims is forested by yellow cedar with lesser amounts of fir. The rest of the property has been clear-cut recently

and there is not sufficient available timber on the DM property to support a mining operation.

The DM property comprises the following claims located in the Vancouver Mining Division of British Columbia (Figure 2):

Claim Name	Record Number	No. of Units	Record Date	Expiry Date	Owner
Fill A	355556	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 2	349441	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 3	349442	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 4	349443	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 5	349444	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 6	349445	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 7	349446	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 8	349447	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 9	349448	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 10	355557	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 11	355559	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 12	355575	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 13	355576	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 14	355577	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 15	355578	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 16	355579	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 17	355580	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 18	355581	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 19	355582	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 20	361322	1	Jan. 23, 1998	Jan. 23, 2000	B.H. Fitch
Hy	349933	9	Aug. 12, 1996	Aug. 12, 1999	C.I. Dyakowski
Lo	352496	9	Nov. 10, 1996	Nov. 10, 1999	C.I. Dyakowski
East	358921	10	Aug. 22, 1997	Aug. 22, 1999	B.H. Fitch
Mid	358928	12	Aug. 22, 1997	Aug. 22, 1999	B.H. Fitch
		60			

**Note:** The expiry dates of the Fill 2 to 9 and Hy claims reflect assessment credit filed from some of the work reported upon herein. Additional assessment credit from work reported upon herein will be applied to the whole claim group.

The DM property hosts two separate economic targets: part of the Doratha Morton gold trend and an extensive belt of molybdenum mineralization located throughout the central and western parts of the property. Advances in understanding of both mineral targets has been achieved from the results of the 1998 exploration program.

The distribution of gold in soils in the 1985-1986 Commonwealth-Champion survey area

indicates that trends of high soil-gold concentrations are offset about 20° north of the general trend of the Doratha Morton gold trend (the main shear). This would support the thesis that the main Doratha Morton gold trend is a right-lateral shear and the areas of gold concentration are dilatent zones spaced at somewhat regular intervals along the shear-zone in the plane of least compressive stress. The dilatent zones seem to be best-developed in the area between the Commonwealth crown-grant and the northwestern boundary of the Doratha Morton mine property in the southeastern part of the Hy claim.

The gold-bearing intersections encountered in 1986 drilling on the southwestern Hy claim revealed that dilatent zones there are of good grade but smaller than those hosting the Commonwealth and Champion adits. This further supports the interpretation of the soil results that the best-developed gold-bearing dilatencies could be found between the Commonwealth crown-grant and the Doratha Morton mine property boundary on the southeastern part of the Hy claim.

The 1998 Hy claim soil survey area is located on the southwestern Hy claim up-slope from the 1986 drilling. Gold concentrations in the 1998 survey-area range up to 55 ppb which is quite moderate for the Doratha Morton trend. Probably this is due to two factors. The 1998 survey is located on a part of the Doratha Morton trend where gold anomalies are comparatively small and weak and very rapid transport down the steep slopes in the survey area efficiently disperses gold. However, despite these conditions, gold concentrations in the survey-area are sufficient to produce significant anomalies.

The northern boundary of the 1998 grid is a steep canyon that drains the slope westward from the Champion-Commonwealth workings-area. Near the canyon, down-slope transport reorients all soil anomalies to the northeast. The secondary creek that crosses the central part of the grid-area seems to be at the southern boundary of the Doratha Morton gold trend. Soils to the south of that creek contain far less gold and molybdenum than do those north of the creek. Between the two creeks, gold in soils is concentrated in north-northwesterly trending anomalies. This confirms the theory derived from earlier work that along the Doratha

Morton gold trend, gold is concentrated in a series of northwesterly trending dilatent zones produced by shearing of the Doratha Morton trend. Molybdenum anomalies in the northern part of the current survey-area tend to have similar orientations.

The soil anomalies in the 1998 survey-area are probably produced by a series of en echelon gash veins, some of which could have sufficient extent and gold grades to justify underground production. However, the most profitable veins probably are located in the southeastern part of the Hy claim where no work has been done yet by the current operators.

Keels of metavolcanics and metasedimentary rocks of the Mesozoic-age Karmutsen Formation comprise more than 25% of the outcrops in the central part of the DM property-area. They tend to form keels, plastically deformed around small intrusive lobes. Igneous rocks are derived both from in-place melting of Karmutsen Formation sedimentary and volcanic rocks and from intrusion of stocks.

West of the rocks that host the Doratha Morton gold trend is a zone containing several molybdenum showings. This zone occupies an area of gentle topographic relief that is bounded to the southwest and northeast by long ridges. The southwestern part of the DM property covers part of that zone.

The most intense molybdenum development yet discovered on the DM property is located around a knob in the southeastern part of the Lo claim. Two molybdenum showings have been found to date.

The northerly showing is the less dramatic of the two. Minute amounts of molybdenite occur with extensive yellow ferrimolybdate stain in the matrix of a polymictic breccia at its contact with a younger, highly pyritic diorite.

The main showing is exposed at the eastern end of a pit on the road on the southern slope of the knob. There, massive molybdenite occurs with subhedral pyrite in a siliceous breccia matrix. The highest concentrations of molybdenite, containing about 0.55% molybdenum, occur where both clasts and matrix have been pervasively silicified.

Breccia containing angular clasts up to the size of pick-up trucks is exposed all around

the knob that hosts the molybdenite showings. Clast lithologies include Karmutsen Formation metasediments and metavolcanics, and intrusive rocks ranging from granodiorite to diorite. Clasts form an unsorted polymict mass that has obviously been transported some distance from source areas through the conduit. The lack of plastic deformation, metasomatism and extensive cooling rinds in the clasts indicates that the breccia developed at moderate temperatures during a single explosive event. The general lack of milling of clasts implies that they were lubricated during transport by a significant amount of fluid.

This breccia has been named the Margurete Breccia by the writer because it is exposed in the northeastern part of an elliptical topographic feature that extends southwestward from the molybdenum showings to Margurete Lake, located 1 km southwest of the showings.

Highly pyritic diorite is exposed at several locations along the eastern margin of the Margurete Breccia. Contact relations in road outcrops and the lack of clasts of pyritic diorite in the breccia indicates that this rock-unit intruded along the northeastern margin of the breccia. Fluids expelled during the intrusion of the pyritic diorite may be the source of silicification and molybdenum mineralization in this area.

A program of prospecting, geological mapping and soil sampling is recommended.



# **GEOLOGICAL MAPPING AND GEOCHEMICAL SURVEYS ON THE DM PROPERTY**

## **1.0 INTRODUCTION**

### **1.1 Terms of Reference**

The writer was retained by Bernard H. Fitch and Christopher I. Dyakowski through Cassiar East Yukon Expediting Ltd. to conduct a program of mapping and sampling, and report on other work conducted on the DM property during 1998.

Field work on the DM property was conducted from August 5 to 13, 1998. Data compilation continued intermittently until September 28, 1998. The 1998 exploration program was conducted under work approval number NAN98-0801100-17 and reclamation permit number MX-8-166 by Bernard H. Fitch, one of the owners of the claims.

Costs comprising the itemized cost statement of this work (section 6.0, this report) have been divided between those incurred before and on August 11, 1998 and those incurred after that date due to the expiry dates of the Fill 2 to 9 and Hy claims.

### **1.2 Location and Access**

The DM property is located on the moderate to steep northern slopes of the Pembroke Range west of Fanny Bay on Phillips Arm. The Phillips Arm area is at the western boundary of the Pacific Ranges of the Coast Mountains of south-western British Columbia (Figure 1). The property comprises twenty-four located claims which are owned 100% by Christopher Dyakowski and Bernard Fitch. These claims cover 60 claim-units; about 1375 ha (3396 A) after deducting areas of overlapping claims. This property adjoins the northern and western boundaries of the Doratha Morton gold mine property and surrounds three crown-granted mineral leases: Champion (L276), Commonwealth (L277) and Shoo Fly (L243); all of which host old prospect workings.

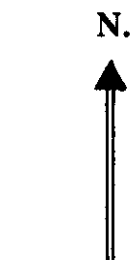
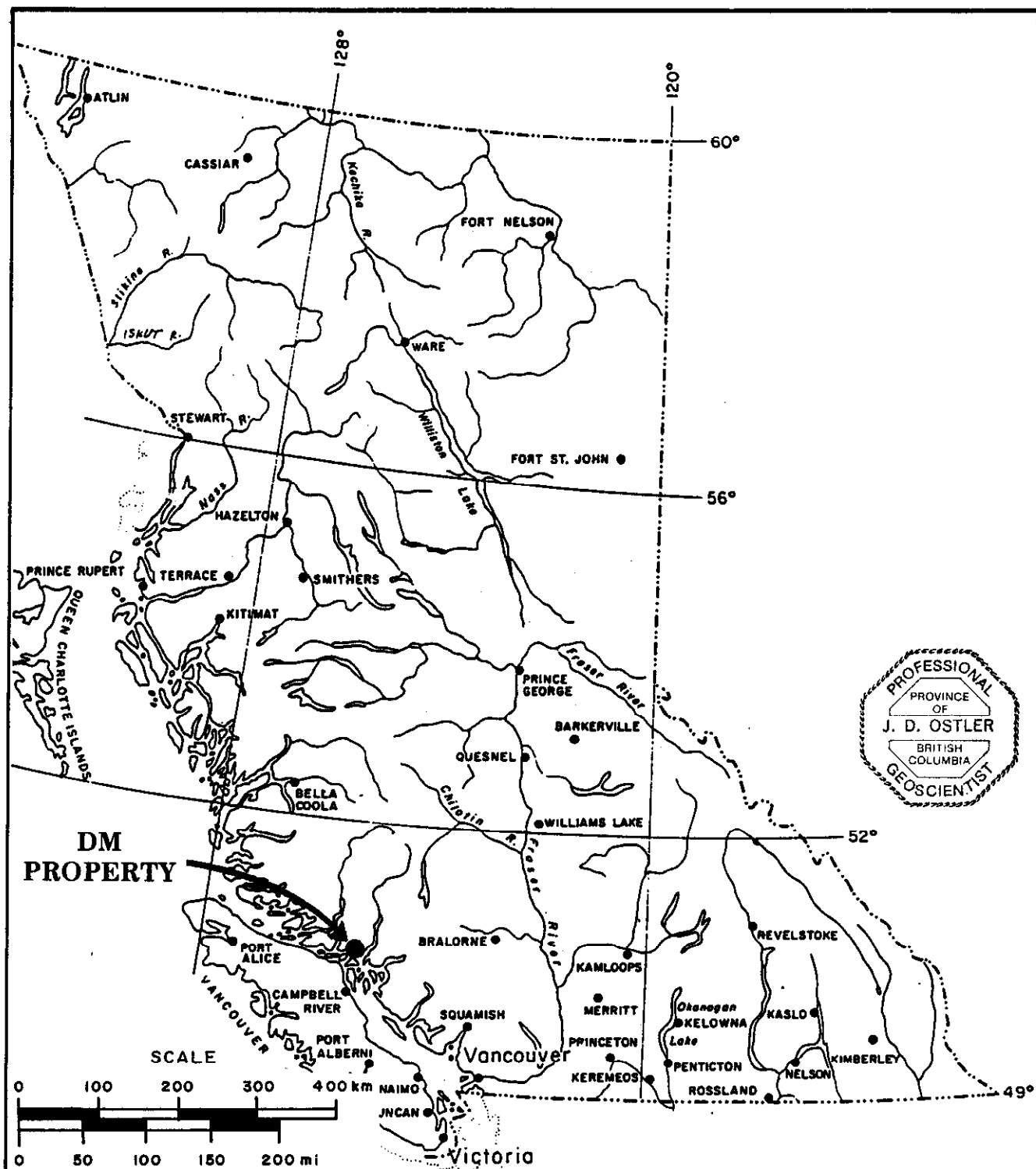
The town of Campbell River is the closest major supply and service centre to the Phillips Arm area. Campbell River is on the northeastern coast of Vancouver Island near the northern

end of Strait of Georgia. It services local fishing and logging industries and most services required for property exploration and development can be found there. It is about 200 km (122 mi) from Vancouver to Campbell River via the Nanaimo ferry and B.C. Highway 19.

The DM property is about 63 km (39.1 mi) north-northwest of Campbell River and is accessible by boat and float plane. The closest accommodation to the property-area is Cordero Lodge, located in the bay near Lorte Island in Cordero Channel about 10 km (6.1 mi) southwest of the property-area. The lodge is open from early spring until late autumn.

Access to the south-central part of the property is by a series of logging roads that terminate at tide water at Picton Point, on Cordero Channel. Access to the northern part of the property is by another series of logging roads that radiate out from a camp on Fanny Bay, located on the western side of Phillips Arm. Only about 0.8 km (0.5 mi) of road building across gentle terrain would be required to connect the two logging road systems.

During the 1998 exploration program, work was conducted from the camp site at the Doratha Morton mine. Supplies were brought in by road from Picton Point (Figure 2).



**Figure 1**

THURLOW RESOURCES LTD.

## GENERAL LOCATION

### DM PROPERTY

50° 31' 05" N., 125° 25' 38" W.

U.T.M.: 5,599,000 N., 326,760 E.

N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.  
JOHN OSTLER; M.Sc., P.Geo. SEPTEMBER, 1998



### 1.3 Terrain and Vegetation

The DM property is located at the western boundary of the Pacific Ranges of the Coast Mountains of south-western British Columbia (Figure 2) (Holland, 1976).

Holland's description of the terrain of the Pacific Ranges containing the area around the DM property is as follows:

The Pacific Ranges... comprise essentially granitic mountains extending southeastward from Burke Channel and Bella Coola River for about 300 miles to the Fraser River. The ranges have a width of 80 to 100 miles between their western boundary along the Coastal Trough and their eastern boundary with the Interior System. On the western side the summit levels diminish to the west with the downward slope of the late Tertiary erosion surface...

The Pacific Ranges contain the highest peaks in the Coast Mountains... There are a number of 10,000- to 11,000-foot peaks... Drainage in the Pacific Ranges is to the coast by way of the Bella Coola, Kingcome, Homathko, Southgate, Toba, Squamish and Lillooet Rivers and their tributaries. These have cut major lower-level valleys through the mountains, dividing them into blocks...

The high peaks are sculpted by cirque glaciers. Many projected as nuantaks above the Pleistocene ice-cap, whose upper surface over the Pacific Ranges was from 5,000 to 8,000 feet above sea-level. Lower summits were covered by the ice-sheet at its maximum, and many of these are rounded and domed even though they are scalloped by cirques on their northeastern sides. Evidence of tremendous ice erosion is everywhere to be seen...

There is a noticeable difference between the heavy vegetation in the western ranges, where rainfall is high and the eastern ranges, where the rainfall is lighter...

Holland, S.S.; 1976: pp. 42-43.

There are several small creeks on the DM property. Adequate fresh water for mining purposes could be obtained from a tributary of Gray Creek located on the Mid claim or from the chain of lakes situated along the southwestern boundary of the Fill claims (Figure 2).

Elevations on the property range from about 152 m (500 ft) near the eastern and western boundaries of the property to about 1141 m (3743 ft) at the summit southeast of the Commonwealth crown-grant near the southeastern corner of the Hy claim (Figure 2).

A 600 m (1968 ft) wide buffer strip across the northern part of the Fill claims is forested by yellow cedar with lesser amounts of fir. The rest of the property has been clear-cut recently and there is not sufficient available timber on the DM property to support a mining operation.

Soil development on the DM property is extremely variable due to great variation in slope. However, in most areas on the claims where soil development is significant, soil profiles are sufficiently mature to have distinct undisturbed horizons amenable to meaningful survey results. Even in poorly developed soils on very steep slopes, dispersion trains of gold particles can be used to locate gold-bearing lodes.

The closest weather station to the property-area is at Powell River, British Columbia. Climatic statistics for the Powell River station are quoted from Environment Canada as follow:

Average temperature: January, High 4.6°C. July, High 22.7°C  
Low -1.1°C. Low 10.8°C.

Average annual precipitation: 1258 mm  
of which 68 cm (68 mm of rain equivalent) falls as snow

Month-end snow pack in cm:

This data is not available because snow pack does not accumulate at sea-level in this area.

The climate around the property-area is more extreme than at Powell River because it is 50 km (30.5 mi) north of open water of the Strait of Georgia. Near sea-level in the property-area, very little snow accumulates. However, in the ridge-top areas in the southern and western parts of the claims, snow can accumulate from November until April during a cold year.

# 1.4 Property

The DM property comprises the following claims located in the Vancouver Mining Division of British Columbia (Figure 2):

Claim Name	Record Number	No. of Units	Record Date	Expiry Date	Owner
Fill A	355556	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 2	349441	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 3	349442	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 4	349443	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 5	349444	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 6	349445	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 7	349446	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 8	349447	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 9	349448	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 10	355557	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 11	355559	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 12	355575	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 13	355576	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 14	355577	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 15	355578	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 16	355579	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 17	355580	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 18	355581	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 19	355582	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 20	361322	1	Jan. 23, 1998	Jan. 23, 2000	B.H. Fitch
Hy	349933	9	Aug. 12, 1996	Aug. 12, 1999	C.I. Dyakowski
Lo	352496	9	Nov. 10, 1996	Nov. 10, 1999	C.I. Dyakowski
East	358921	10	Aug. 22, 1997	Aug. 22, 1999	B.H. Fitch
Mid	358928	12	Aug. 22, 1997	Aug. 22, 1999	B.H. Fitch
		60			

**Note:** The expiry dates of the Fill 2 to 9 and Hy claims reflect assessment credit filed from some of the work reported upon herein. Additional assessment credit from work reported upon herein will be applied to the whole claim group.

C.I. Dyakowski and Thurlow Resources Ltd. entered into an option agreement on December 26, 1996 whereby Thurlow could gain 100% interest subject to a 2% net smelter royalty in the Hy and Low claims of the DM property (Figure 2), upon completing the following payments to Dyakowski:

1. \$15,000 on or before April 1, 1997
2. 50,000 common shares of Thurlow Resources Ltd. (The Company) upon its listing and being called for trading on the Vancouver Stock Exchange (the V.S.E.)
3. \$20,000 within 15 days after the Company has been listed and called for trading on the V.S.E.
4. \$20,000 one year after the Company has been listed and called for trading on the V.S.E.
5. 50,000 common shares of the Company one year after its having been listed and called for trading on the V.S.E. and upon approval of the V.S.E. of a report by a qualified geologist or engineer recommending further work
6. \$20,000 two years after the Company has been listed and called for trading on the V.S.E.
7. 50,000 common shares of the Company two years after its having been listed and called for trading on the V.S.E. and upon approval of the V.S.E. of a report by a qualified geologist or engineer recommending further work
8. \$20,000 three years after the Company has been listed and called for trading on the V.S.E.
9. 50,000 common shares of the Company three years after its having been listed and called for trading on the V.S.E. and upon approval of the V.S.E. of a report by a qualified geologist or engineer recommending further work

The 2% net smelter royalty can be purchased by the Company for \$1,500,000.

The other claims comprising the DM property were staked by B.H. Fitch, a director of Thurlow Resources Ltd. Reportedly, Fitch is holding these claims for the benefit of Thurlow.

The writer personally inspected some of the posts and lines of the claims comprising the DM property on August 7 to 12, 1998. In his opinion, they have been staked in accordance with the laws and regulations of the Province of British Columbia.

The property boundaries have not been surveyed.



### 1.5 Summary of Present Work

Field work on the DM property was conducted from August 5 to 13, 1998.

Data compilation continued intermittently until September 28, 1998. The work was conducted under work approval number NAN98-0801100-17 and reclamation permit number MX-8-166 by:

Bernard H. Fitch, B.A. New Westminster, B.C.	Exploration Manager
John Ostler; M.Sc., P.Geo. West Vancouver, B.C.	Consulting Geologist
Thomas Jones Bold Point, B.C.	Geological Technician
Patrick Poissant Bold Point, B.C.	Geological Technician
Milton Grace Bold Point, B.C.	Geological Technician
Arne Juvik North Vancouver, B.C.	Geological Technician

The 1998 work program on the DM property included the following:

	Work on or before Aug.11,1998	Work after Aug. 11, 1998
A. Grid construction and soil survey on the Hy claim comprising a total of 2825 m of grid line, 475 m of base line and 138 soil samples (Figures 6, 13 and 14)	15 man-days	3 man-days
B. Geological mapping on the Fill, Hy and Lo claims, 1.85 km <sup>2</sup> of mapping at a scale of 1:10000 (Figures 6 and 15 ).	4 man-days	
C. Renovation of 0.32 km of ATV access trail on the Lo and Hy claims (Figure 6)	11 man-days	
D. Transportation, expediting, camp set-up, data compilation and report time	6.25 man-days	<u>18.75 man-days</u>
Total time spent during the current work program	36.25 man-days	21.75 man-days

**Note:** Costs itemized in section 6.0 of this report have been divided between those incurred on or before August 11, 1998 and those incurred after August 11, 1998 because of the expiry dates of the Hy and Fill 2 to 9 claims

## 1.6 Claims Worked On

During the 1998 program, work was done on the following claims:

Claim Name	Record Number	No. of Units	Record Date	Expiry Date	Owner
Fill 2	349441	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 3	349442	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 4	349443	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
Fill 5	349444	1	Aug. 11, 1996	Aug. 11, 1999	B.H. Fitch
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Fill 14	355577	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 15	355578	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 16	355579	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 17	355580	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 18	355581	1	Apr. 28, 1997	Apr. 28, 2000	B.H. Fitch
Fill 20	361322	1	Jan. 23, 1998	Jan. 23, 2000	B.H. Fitch
Hy	349933	9	Aug. 12, 1996	Aug. 12, 1999	C.I. Dyakowski
Lo	352496	9	Nov. 10, 1996	Nov. 10, 1999	C.I. Dyakowski

## 2.0 GEOLOGY AND GEOPHYSICS

### 2.1 Regional Geology and Mineralization

The regional geology of the area around the DM property and the Phillips Arm gold camp was compiled by Roddick and Woodsworth of the Geological Survey of Canada (Roddick, 1977). Their general description of the rocks of the Phillips Arm gold camp are as follow:

... most of the area is underlain by plutonic rocks, ranging from gabbro to quartz monzonite. Granodiorite and quartz diorite predominate and unlike most areas in the Coast Mountains, granodiorite is slightly more abundant. The granodiorite forms a broad central belt about 50 km wide, extending from Big Julie pluton in the southeast to Knight Inlet, with a core area of quartz monzonite between Toba and Knight Inlets. The flanking belts are underlain mainly by quartz diorite but granodiorite and diorite are also well represented. Most of the plutons, excepting the quartz monzonite, exhibit a pronounced northwesterly elongation. This pattern is accentuated by long narrow belts of metasedimentary and metavolcanic rocks...

Steeply dipping metasedimentary and metavolcanic rocks form narrow bands engulfed in the main mass of the Coast Plutonic Complex. Although interrupted here and there by large plutons they are remarkably persistent along strike and are thought to represent fault slices or grabens along which 'horsts' of plutonic rock were thrust upward. The bounding shear zones in places still exist but synplutonic recrystallization has commonly reduced them to mere foliations or obliterated them entirely. In many places these 'screens' are flanked on one side by diorite and on the other by quartz diorite or, less commonly, by granodiorite. The dioritic rocks may represent remnants

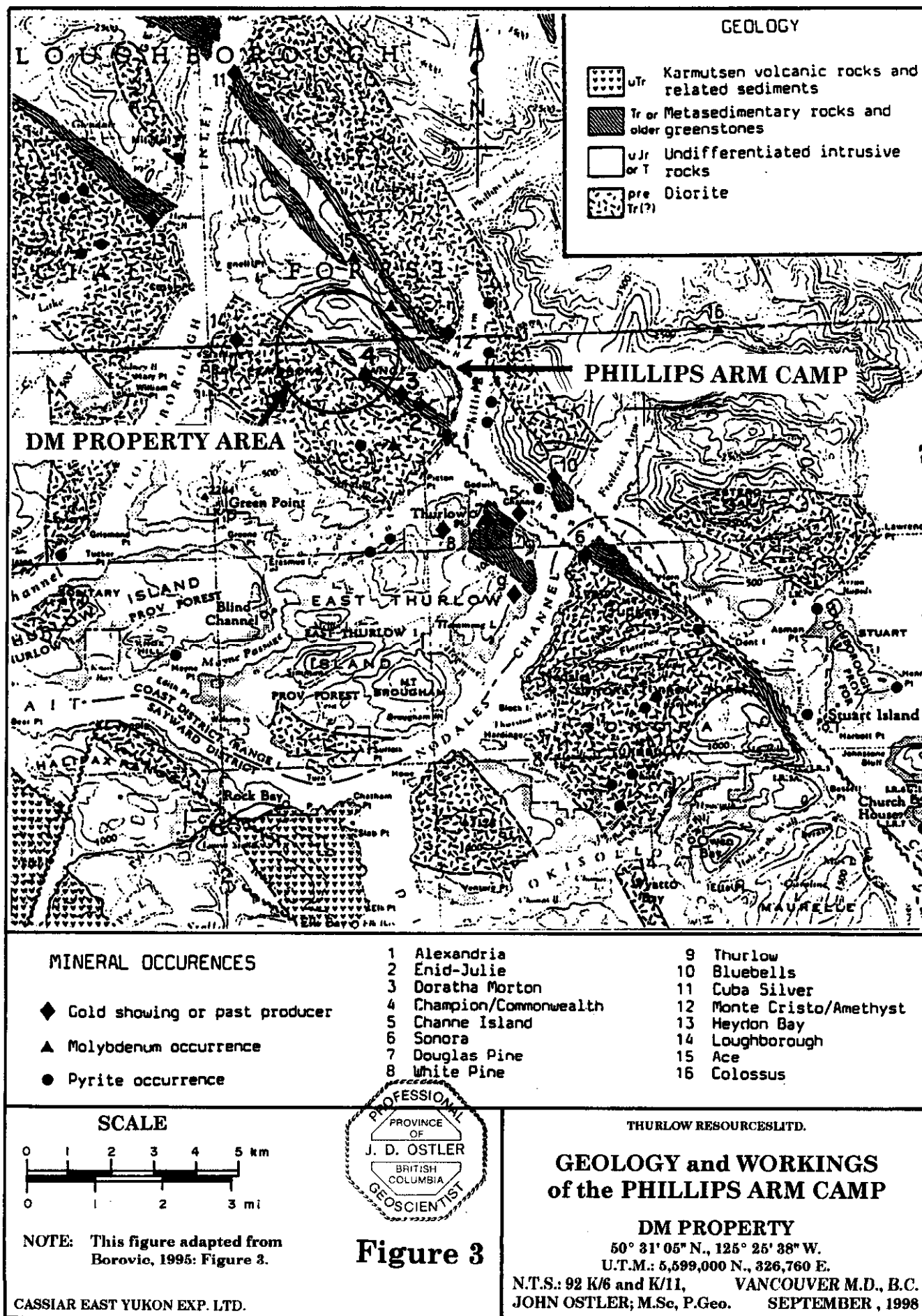


Figure 3

NOTE: This figure adapted from Borovic, 1995: Figure 3.

of a primitive granitoid basement upon which Karmutsen and later rocks were deposited. Deep burial and subsequent deformation of the eugeosynclinal pile along with the underlying basement was probably in response to compressive forces transmitted through the North America Plate against oceanic crust. Relief came eventually with the onset of subduction, and plutonic masses, formed before and during the compressive stage, began their movement upwards bounded by synplutonic faults. The open structure of the Karmutsen volcanics on Vancouver Island is in marked contrast with the strongly deformed remnants of these rocks within the Coast Plutonic Complex...

Minimum final cooling dates from potassium-argon work on ... granitic rocks show a range from Jurassic (153 m.y.) ... to Eocene (55 m.y.) ... The general decrease in age from west to east is characteristic of the Coast Plutonic Complex between latitudes 50° and 55° N.

Roddick, J.A.; 1977: pp. 2-3.

Borovic (1995) combined Roddick's (1977) regional geology with Cathro and Carne's (1983) locations of the major prospects of the Phillips Arm gold camp resulting in a comprehensive picture of the extent of the camp and its relation to local geology (Figure 3).

Stevenson (1947) summarized the geology and mineralization of the Phillips Arm gold belt as follows:

This part of the coast is well within the western margin of the Coast Range batholith. Several isolated areas of older rocks are shown in a belt, about 5 miles wide, which extends north-westerly from Sonora Island to Loughborough Inlet a distance of 18 miles. These areas of older rocks probably represent the roots of roof pendants now largely destroyed by erosion.

The older rocks include argillaceous sediments and volcanics that have been minutely folded, and in many places the argillites have been changed to schistose rocks. Limestone pods, found at several points, have been changed by contact metamorphism to rocks consisting mostly of sulphides and high-temperature silicates. The foliation of the rocks strikes north-westerly to westerly with the trend of the belt...

In this part of the coast there is a concentration of gold-bearing lode deposits, which coincides with the belt of older rocks and was no doubt localized by them. The deposits are veins in fractures and shear-zones along which there has been more or less replacement of wall-rock. Not all the deposits are in roof-pendant rocks, but those in the granitic rocks are not far from them...

Gold is found in quartz veins, usually associated with small quantities of sulphides, and is rarely found if sulphides are not present. Pyrite is the commonest and usually the most abundant sulphide; small amounts of chalcopyrite, sphalerite and galena are sometimes found. Samples of relatively pure pyrite have assayed as much as 5.5 oz. gold per ton.

Most of the deposits are bedded quartz veins striking west-north-westerly with the formations. The vein minerals occur in lenticular masses, one of which may die out along the strike and another may shortly come in.

Stevenson, J.S.; 1947: pp. 12-13.

Intense prospecting was conducted in the area around Phillips Arm in the late 1880s and early 1890s. By 1893, most of the showings along the shorelines had been discovered and staked. Showings farther up the steep hill sides were discovered by 1895 and by 1900, the Phillips Arm gold camp was well-defined. It extended from the northern part of Sonora Island northwestward to Loughborough Inlet (Figure 3).

The central and most intensely mineralized part of the camp extended for 6 km (3.7 mi) from the northern shore of the entrance to Phillips Arm, up the mountain toward Loughborough Inlet. That area contained, the Alexandria, Enid-Julie, Empress and All Up; all of which are presently within the Alexandria property located southeast of the DM property (Figures 2 and 3). Northwest of the Enid-Julie was the Doratha Morton mine and the Champion-Commonwealth property. The Doratha Morton group crown-grants adjoin the Fill claims to the east and the Champion and Commonwealth crown-grants are within the Hy claim area of the DM property.

In 1898, the Doratha Morton gold mine was in production. Ore from the mine was transported to the mill located on the southwest shore of Fanny Bay on a 2 km (1.2 mi) long areal tram. The mill included a 5-stamp mill and 6 cyanide leach vats (B.C. Min. Mines, Ann. Rept.; 1898: pp. 1138-1143).

Production from the Doratha Morton mine from 1898 to 1899 was 4,434.08 ounces of gold and 10,222 ounces silver from 9,707 tons of ore (B.C. Min. Mines, Ann. Rept.; 1925: p. A276).

The Alexandria mine was the second largest gold producer in the camp. About 773.66 ounces of gold and 1,340.5 ounces of silver were recovered from 1,915 tons of ore at the Alexandria mine from 1898 until 1940.

Stevenson (1947) summarized production from the Phillips Arm gold belt as follows:

... Total production from seven properties has amounted to 5,821 oz. of gold from 13,702 tons of ore; that is, ore with an average grade of 0.42 oz. of gold per ton. Shipments from individual properties ranged from 2 to 10,000 tons...

Stevenson, J.S.; 1947: p. 12.

A detailed account of the history of the development of the Doratha Morton mine property is contained within the summary reports by Borovic (1990 and 1995). See Ostler (1997 or 1998) for a detailed account of the development of the Alexandria property.

The gold prospects of the Phillips Arm camp are sheeted veins containing pyrite and a white telluride, probably sylvanite ( $\text{AuAgTe}_2$ ), in white quartz occupying shear-induced dilatencies in a panel of volcanic and intermediate intrusive rocks. These veins resemble alkalic intrusion-associated gold-and silver-bearing veins as described by Lefebure and Höy (1996). Generally, these veins have a spacial association with low fluorine porphyry molybdenum deposits (Lefebure and Ray, 1995).

Upon investigating the gold-silver telluride vein-molybdenum porphyry association in the Phillips Arm camp, Dyakowski and Fitch discovered a belt of rocks enriched in molybdenum located adjacent to the southwest margin of the belt hosting the Alexandria and Doratha Morton gold occurrences. The western part of the DM property covers one of the molybdenum-enriched areas of that belt. The eastern part covers showings of gold-silver veins near the Champion and Commonwealth crown grants and gold, silver and copper showings north of the Shoo Fly (L243) crown grant located on the East claim (Figure 2)

A general table of geological events and lithological units in the Phillips Arm area is as follows:

FIGURE 4

TABLE OF GEOLOGICAL EVENTS AND LITHOLOGICAL UNITS  
IN THE PHILLIPS ARM AREA

Time	Formation or Event
<b>Recent</b> 0.01-0 m.y.	<b>valley rejuvenation</b> , down cutting of stream gullies through grey clay-boulder till, development of brown soil
<b>Pleistocene</b> 1.6-0.01 m.y.	<b>glacial erosion and deposition</b> , deepening of major fjords, removal of Tertiary-age regolith, deposition of grey clay-boulder till at lower elevations
<b>Eocene to Pliocene</b> 57-1.6 m.y.	<b>erosion and unroofing of Coast Plutonic Complex: tensional tectonics</b> , development of northeasterly trending normal faults and mafic to intermediate dykes
<b>Cretaceous to Eocene</b> 144-57 m.y.	<b>deposition of gold-bearing quartz-pyrite veins in roof pendants among igneous plutons during shearing and dilation</b> <b>development of the Coast Plutonic Complex:</b> intense deformation of older stratigraphy in roof pendants among rising igneous lobes, development of a deeply rooted mountain chain <b>local brecciation of and molybdenite deposition in intrusive rocks along the flanks of roof pendants</b>
<b>Triassic to Jurassic</b> 245-144 m.y.	<b>deposition of the Karmutsen Group:</b> mafic volcanics associated sediments, and possibly dioritic sub-volcanic intrusions
<b>Pre-Triassic</b> pre-245 m.y.	<b>evolution of pre-Karmutsen basement, now granitoid gneiss</b>
	m.y. = million years ago

## 2.2 Regional Geophysics

Regional geophysical surveys conducted over the DM property-area are of little use in predicting mineralized quartz veins because any response by such local features is totally masked by large regional trends.

The Bouger Gravity map for this area shows the boundary of the coast mountains but little else ( E.M.R. Map 10 GR(BA)).



Aeromagnetic coverage includes N.T.S. map sheet 92 K/6, which contains only the southern boundary area of the property (E.M.R. Map 9764G). There is none for the northern and central parts of the claims.

Airborne magnetic and electromagnetic surveys were flown over the area southwest of Phillips Arm by Aerodat Limited (Hogg and Podolsky, 1985). The most significant features on maps from these surveys were northeasterly trending linear features that the writer assumes were related to late Tertiary-age mafic dykes that significantly post-date mineralization in this area.

Airborne geophysical surveys have been of little use in finding either gold-bearing quartz veins or porphyry molybdenum showings in this part of the Phillips Arm camp.

### **3.0 EXPLORATION AND DEVELOPMENT OF THE DM PROPERTY-AREA**

#### **3.1 Early Exploration and Development: 1897 to 1983**

Development of the DM property-area commenced with prospecting and staking during the 1890s subsequent to the discovery of gold in the Phillips Arm area. Probably, work of various kinds was conducted over the whole of the property-area at that time and most of the records have been lost. Three crown-granted mineral claims are surrounded by the DM claims, The Shoo Fly (L243), Champion (L276) and Commonwealth (L277). The crown-granted mineral claims comprising the Doratha Morton gold mine property adjoin the eastern boundary of the DM claim group (Figure 2).

The Shoo Fly claim was located on a steep ridge at the boundary between the Mid and East claims in the northeastern part of the DM property (Figure 2). It encompassed 12.9 ha (31.9 A) and by its irregular shape seems to have been part of a much larger claim group. It was granted to A.J. Smith and D. Leahy on June 8, 1897 (B.C. Min. Mines, Ann. Rept., 1897, p. 575). The Nelly C. claim adjoined the Shoo Fly claim to the northwest. The Nelly C. covered about 15 ha (37 A) and was granted as lease No. 436. Later, it was abandoned and reverted to the crown.

Subsequent development of the Shoo Fly and Nelly C. claims were reported upon as follows:

**Shoal Bay**      **The Shoo Fly and Nellie C. mineral claims, at Shoal bay, have been bonded. The former is being worked for its iron ore and the latter is a copper and gold proposition. Both have developed excellent showings.**

B.C. Min. Mines, Ann. Rept.; 1901, p. 1103.

The Doratha Morton mine was shut down during 1899 and soon after, the whole camp became dormant. In 1917, a provincial geologist lamented the lack of development in the Phillips Arm camp at that time as follows:

#### NANAIMO MINING DIVISION

... Several years ago it appeared as though the mountains bordering Knight and Loughborough inlets and Phillips and Frederick arms, on the mainland would develop into the most productive portion of the Mining Division, but since the closing-down of the Doratha Morton, Blue Bell, Douglas Pine, and other promising properties that section has become practically depopulated so far as prospectors and mining operators are concerned.

B.C. Min. Mines, Ann. Rept.; 1917, p. F 256.

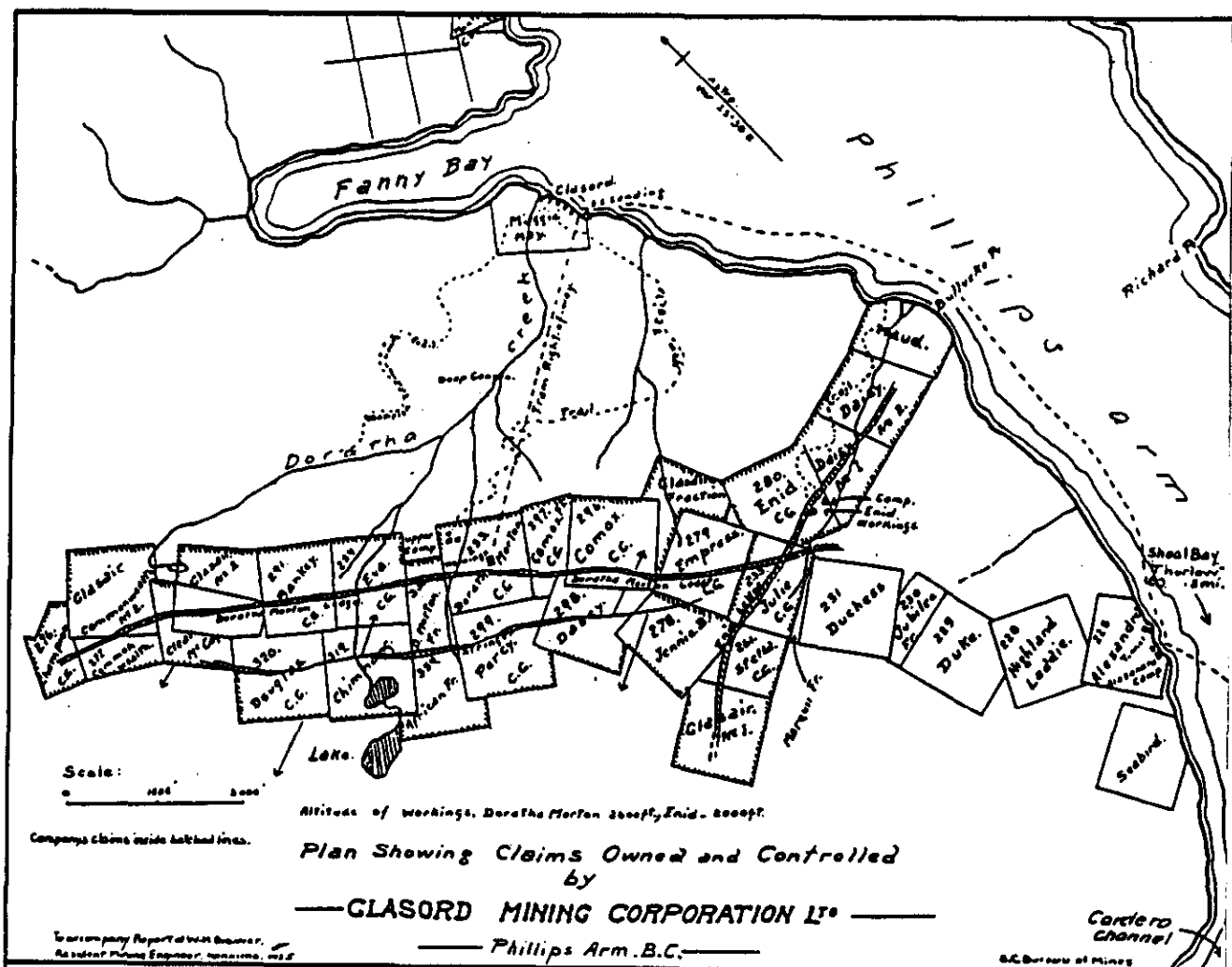
During the 1920s, exploration activity in the Phillips Arm camp was renewed. Further work on the Shoo Fly iron prospect was recorded as follows:

**Shoo Fly**      **This mineral claim, owned by Dan McCallam, of Vancouver, is situated in the mountains at the head of Fanny bay, about a mile westerly from the beach and about 600 feet elevation. The country rock of the claim belongs to the Vancouver volcanics, in which occur deposits of magnetite similar to those already described as on the Tidewater group. The development-work consists of a crosscut adit about 100 feet long, 40 feet of which crosses solid iron ore that outcrops above the adit. The mountain rises very precipitously for about 1,000 feet, and the outcroppings of magnetite can be seen, but whether these continue to depth has not been determined, and the mountain-side is so precipitous that it is almost impossible to climb in order to prospect.**

Two samples were taken from the crosscut adit, which assayed as follows: (1.) Iron, 52 per cent.; silica, 17.3 per cent.; sulphur, 2.2 per cent.; phosphorus, 0.21 per cent. (2.) Iron, 41.8 per cent.; silica, 32.9 per cent.; sulphur 2.7 per cent.; phosphorus, 0.14 per cent.

B.C. Min. Mines, Ann. Rept.; 1923, p. N 242.

The Champion and Commonwealth crown-grants are located on a mineralized trend of meta-volcanic and intermediate intrusive rocks that extends northwestward from the Doratha Morton mine to the central part of the Hy claim-area (Figures 2, and 3).



NOTE: This figure is from B.C. Min. Mines, Ann. Rept.; 1925: p A276.



**Figure 5**

CASSIAR EAST YUKON EXP. LTD.

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**1897 to 1925  
CROWN-GRANTS**

**DM PROPERTY**

50° 31' 05" N., 125° 25' 38" W.

U.T.M.: 5,599,000 N., 326,760 E.

N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.  
JOHN OSTLER; M.Sc, P.Geo. SEPTEMBER, 1998

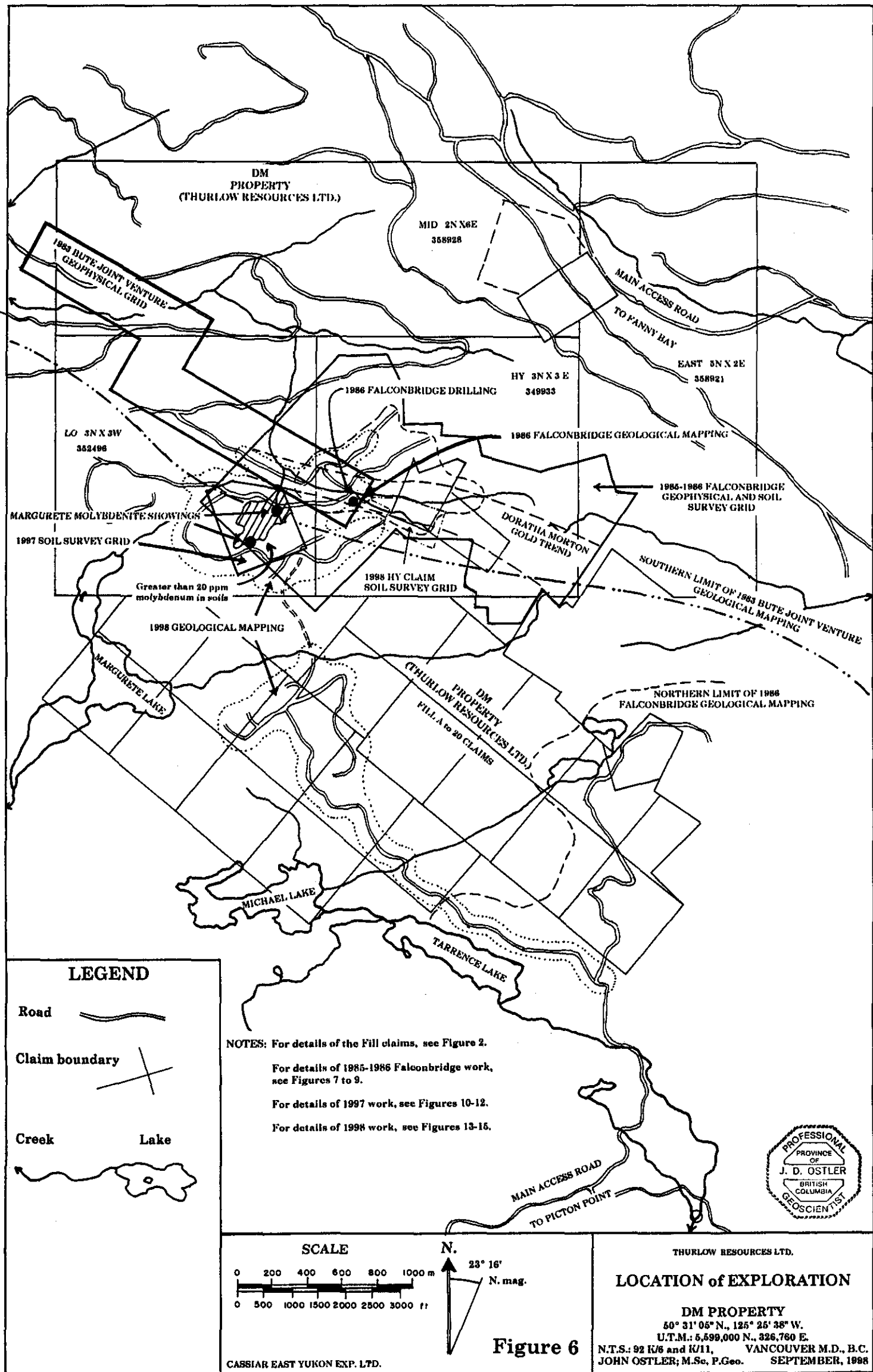


Figure 6

CASSIAR EAST YUKON EXP. LTD.

Reportedly, about 90 m of drifting was completed in the two adits on the Commonwealth and Champion in 1899 (Hardy, 1987B). Hardy's description of the workings is in section 3.3 of this report.

In July, 1925 the Glasord Mining Corporation, Limited was formed to develop the mineral properties in the central part of the Phillips Arm camp. The company's holdings included the Doratha Morton, Commonwealth-Champion, Enid-Julie and Empress properties (Figure 5).

That year, an aggressive program of development was conducted on all of Glasord's holdings. The trail, camp and workings at the Doratha Morton mine were cleaned and refurbished, and the areal tram right of way was brushed out. The trail to the Enid and Julie claims was recut and the Enid adit and Julie shaft were excavated. Work by Glasord on the Commonwealth and Champion claims was described as follows:

**On the Commonwealth, about 6,000 feet westerly from the Doratha Morton, about 300 feet of drifting and crosscutting has been done from near the northeast corner of the claim.**

B.C. Min. Mines, Ann. Rept.; 1925, p. A 279.

On September 28, 1925, the Commonwealth claim comprising 8.36 ha (20.65 A) was crown-granted to Daisy Violet Crowe-Swords as Lot 277R1 and the Champion claim comprising 9.11 ha (22.5 A) was crown-granted to Percy Robert Crowe-Swords as Lot 276R1 (B.C. Min. Mines, Ann. Rept.; 1925, p. A 450). These grantees were probably relatives of R. Crowe-Swords the founder and president of Glasord Mining.

### **3.2 Recent Exploration and Development: 1983 to 1997**

The Bute Joint Venture, an arrangement between Bow Valley Industries Ltd. and Caulfield Resources Ltd., commissioned Archer, Cathro and Associates Limited to acquire and explore claims in the Phillips Arm gold camp during 1983. A large block of ground north of the Doratha Morton mine property was staked and explored that year. That property covered the area now within the Hy, Lo, Mid and East claims of the DM property.

Exploration was conducted from a camp located near the mouth of Fanny Bay using the system of logging roads that went north and west from the bay (Figures 2 and 6). The southern boundary-area of the Lo claim and the area now covered by the Fill claims were not explored during the 1983 program due to the lack of road access. It is interesting to note that the logging road around the knob containing the Margurete breccia and main molybdenum showing (Figures 6, 10-12 and 15) had not yet been built. Consequently, the main showing remained undiscovered.

The emphasis of the 1983 program was on geological mapping rock and soil sampling of new road cut outcrops on the logging roads located mostly in the eastern part of the current DM property-area. Particular attention was paid to a 1.5 km long sheared keel of metavolcanic rocks that extended northwestward from the Commonwealth and Champion crown-grants (Cathro and Cairne, 1983). That area is covered by the Hy and Lo claims at present (Figures 6 and 15). It was suspected that the area hosted the northwesterly extension of mineralization at the Doratha Morton mine. Detailed work in that area included geological mapping, VLF electromagnetic and magnetic surveys on a northwesterly trending grid (Figure 6), and soil sampling along the roads.

Mapping along the logging roads revealed that most of the 1983 study-area was underlain by hornblende-biotite granodiorite. Metasedimentary and metavolcanic rocks were exposed in narrow northwesterly trending lenticular belts. Several copper and molybdenum showings were discovered and plotted (Cathro and Cairne, 1983) (Figure 2) but specific descriptions of those showings were absent from their report text.

The geophysical surveys northwest of the Commonwealth and Champion crown-grants were subcontracted to Glen E. White Geophysical Consulting & Services Ltd. who commissioned Keith Jones to do the work. Jones' report was an appendix to Cathro and Cairne's (1983) report. Jones' work defined a 40° electromagnetic anomaly with a coexisting magnetic anomaly in the southeastern part of the survey area now covered by the Hy-Lo claim boundary area on the DM property (Jones, K.; in Cathro and Cairne, 1983). His conclusions were as follow:

The most important feature ... is a moderate conductor trend ... which is possibly coincident with the strike of the shear zone ... This anomaly is present throughout the extent of the surveyed region, appearing strongest in the south-east ... This anomaly is likely caused by an increase in clay mineralization within the shear zone.

The general trends of the VLF-electromagnetometer data is northwest-southeast possibly reflecting the schistosity or lithological contacts ...

The Magnetometer contours reflect the northwest-southeast trends suggesting a general lithological strike direction. A lens-like magnetic response of some 1800 gammas above background was obtained on lines 3+00N and 5+00N (near the southeastern end of the survey). The anomaly would appear to be caused by magnetite rather than pyrrhotite as there is no associated conductive response.

Jones, K.; 1983: p. 3.  
in Cathro and Cairne, 1983.

The logging road on the north slope of the knob of breccia hosting the main Margurete molybdenum showing was mapped and sampled by the 1983 crew. They found the minor molybdenum showing (Figures 2, 6, 10 to 12 and 15), comprising light yellow ferrimolybdate stain and minor molybdenite in breccia at the contact between volcanics and intrusive rock. The breccia was not traced southward and no mention was made of the showing in the 1983 report. The writer assumes that no importance was attached to the relationship of brecciation and molybdenite mineralization by the sampling crew at that time.

During the early 1980s, M.P. Warshawski and J.W. McLeod acquired the reverted crown-grants extending from the Alexandria mine workings to the Doratha Morton mine and commenced exploring the area southeast of the present Fill claims (Figures 2 and 5) (Ostler, 1997 and 1998). While the Bute Joint Venture was conducting its 1983 exploration program

the area north of the Doratha Morton mine property, Warshawski and McLeod optioned their ground to Charlemagne Resources Ltd. The Doratha Morton property crown-grants were sold to Signet Resources Ltd. B.H. Fitch conducted an intensive exploration program in the mine workings-area on the Doratha Morton property (Borovic, 1990).

The Bute Joint Venture's interest in the Phillips Arm gold camp waned and by late 1984 most of its property had been abandoned.

Falconbridge Ltd. optioned Charlemagne's property in 1985 and staked a large land position that extended from north of the Nelly C. and Shoo Fly claim-areas in the north to Picton Point in the south (Figure 2). Falconbridge's options and land holdings covered almost all of the current DM property-area.

Falconbridge explored the Phillips Arm camp during 1985 and 1986. Most of the camp was mapped at a scale of 1:10,000. The area northwest of the Champion crown-grant was mapped at a scale of 1:2,500 (Hicks, 1986) (Figure 6). Soil and geophysical surveys, and a minor amount of drilling were conducted along the Doratha Morton trend from the Doratha Morton mine property to the centre of the current DM property (Hicks, 1986; Hardy, 1987A and 1987B) (Figure 6). Falconbridge conducted no work near the Nelly C. and Shoo Fly claims in the northeastern part of the current DM property-area.

Hardy summarized the results of the 1985-1986 exploration program around the Champion and Commonwealth crown-grants as follows:

... About 90 m of drifting was completed in the two adits on the Commonwealth in 1899. Historic grades range from 0.056 oz/ton gold over 16.5 ft. to 1.11 oz/ton gold over 4 ft. A 1985 channel sample (Hicks, 1986) in the old workings gave 0.307 oz. gold per ton over 3 ft. And past dump samples have provided values to 4.28 oz. gold per ton.

Extending from the immediate vicinity of the Champion adit 6 X 30 m zone of silicified sheared intrusive roughly parallels the diorite/metasediment contact that can be traced for about 900 m in outcrop. Work in 1985 showed that this shear zone is marked by a well-defined VLF high and associated gold anomalies (values up to 1700 ppb near the old workings). The strongest soil anomaly extends for a strike length of 500 m and outlined a top priority target for detailed mapping followed by diamond drilling. At that time, outcrop sampling provided grab samples of up to 0.20 oz gold per ton (with 0.97 oz silver per ton) 1600 ft west along the trend from the adits.

... The (1986) grid tied onto 1985 sampling to the west, and extended eastward



to the border of the Doratha Morton property ... Surface sampling of the showings discovered in 1985 confirmed previous highs and provided 0.84 oz gold per ton ( 0.84 oz silver per ton) from a rusty zone newly exposed in slump material.

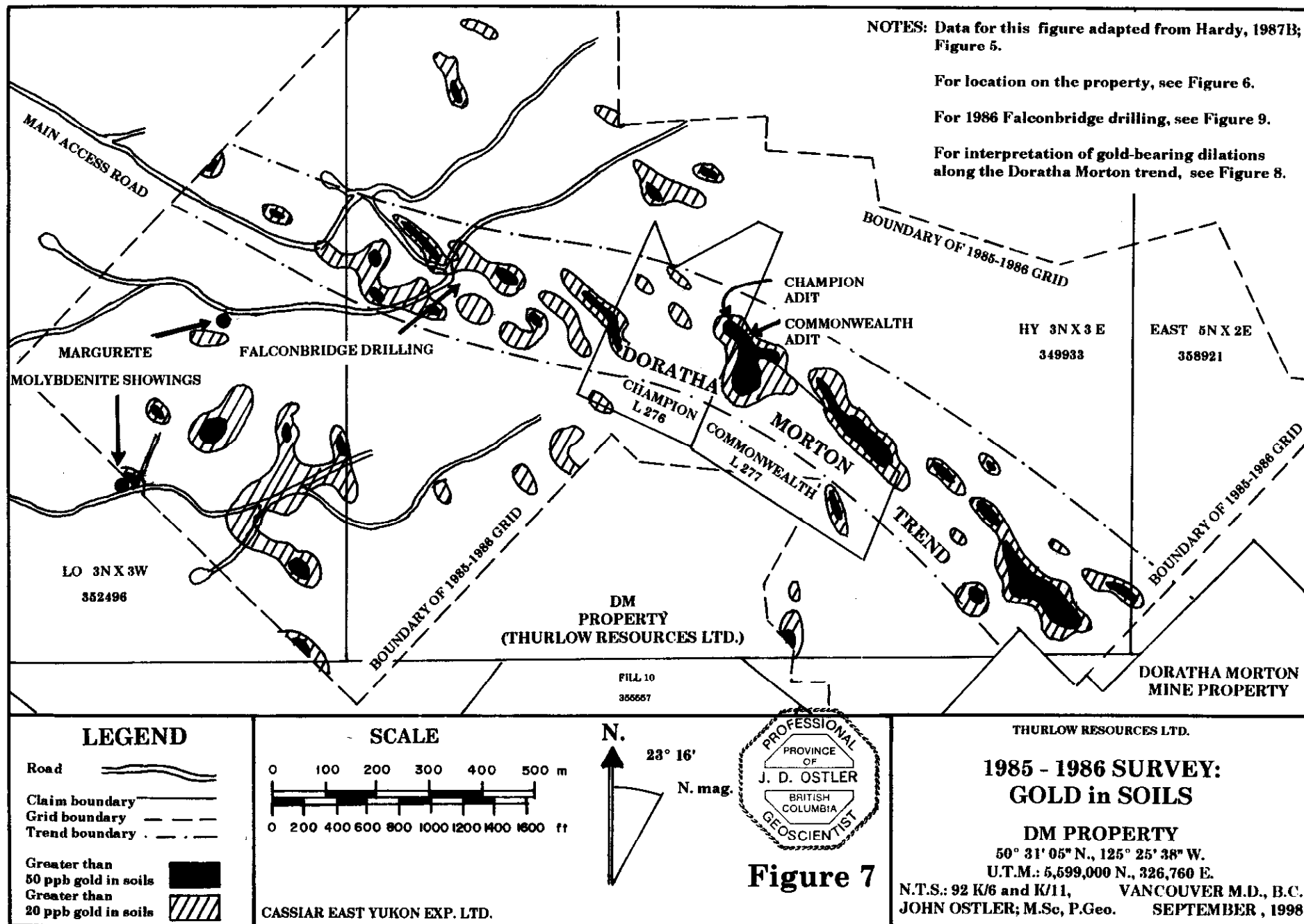
Soil results show a well-defined high trending southeast from the old adits for over 2500 ft towards the Doratha Morton property ... Spot highs on the south end of LO+50N may support the existence of a second trend.

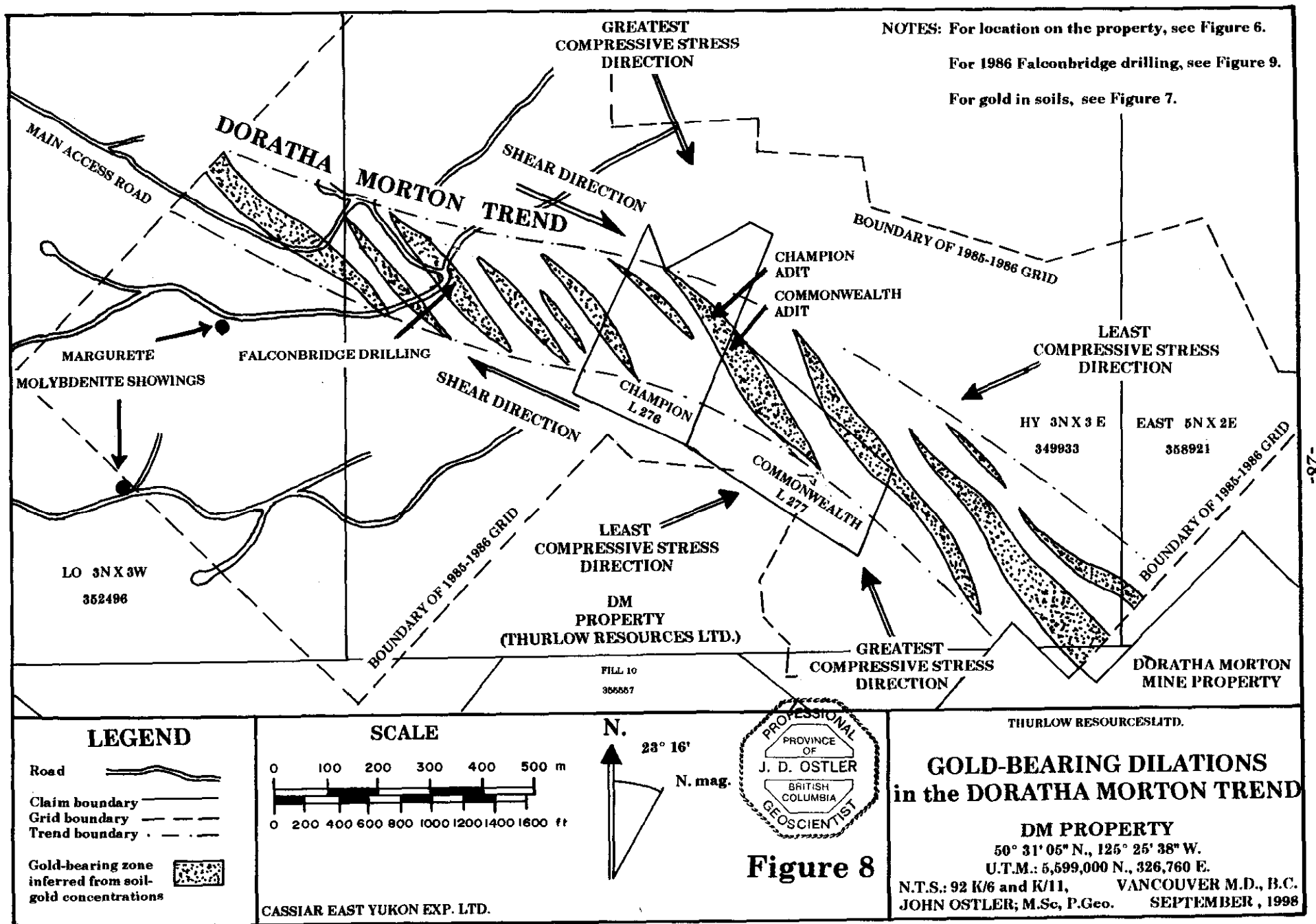
A total of 383 m of diamond drilling was completed in 6 holes from two platforms (Figures 2 and 6) (Hardy, 1987A). Holes tested anomalous soil geochemistry, VLF, known showings, and the strong shear observed in outcrop ...

Hardy, Jenna; 1987B: pp. 18-19.

The distribution of gold in soils in the 1985-1986 Commonwealth-Champion survey area is summarized on Figure 7. The writer does not support Hardy's interpretation that two sub-parallel zones of gold enrichment extend along the length of the Doratha Morton gold trend. Trends of high soil-gold concentrations seemed to the writer to be offset about 20° north of the general trend of the Doratha Morton gold trend (the main shear). This would support the thesis that the main Doratha Morton gold trend is a right-lateral shear and the areas of gold concentration are dilatent zones spaced at somewhat regular intervals along the shear-zone in the plane of least compressive stress (Figure 8). The dilatent zones seem to be best-developed in the area between the Commonwealth crown-grant and the northwestern boundary of the Doratha Morton mine property.

Seven short holes were drilled from two closely spaced platforms during 1986; the holes in that area were numbered 86-1 to 3 and 86-9 to 12. The drill sites were located just southeast of where the logging road crossed the small creek that drained the Commonwealth-Champion adit-area (Figures 2 and 6). Results of the first two drill holes were filed for assessment (Hardy, 1987A); the results of the rest were not. The results of all drilling were summarized on Nimbus Management Diagram No. CC86-4 during March 1987. That diagram has been reproduced as Figure 9 of this report.





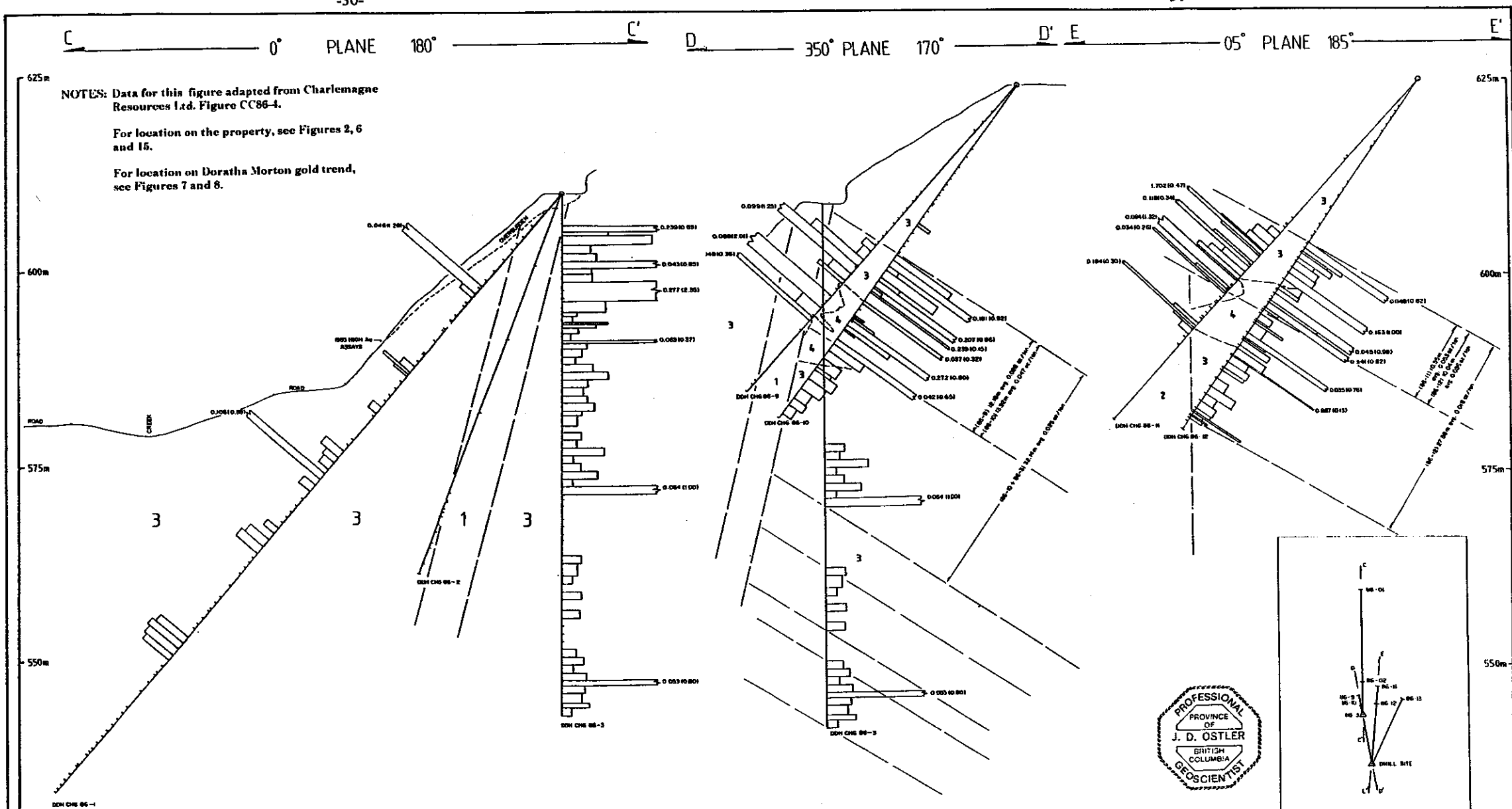
The drill intersections that exceeded 0.1 oz/ton gold were as follow (Figure 9):

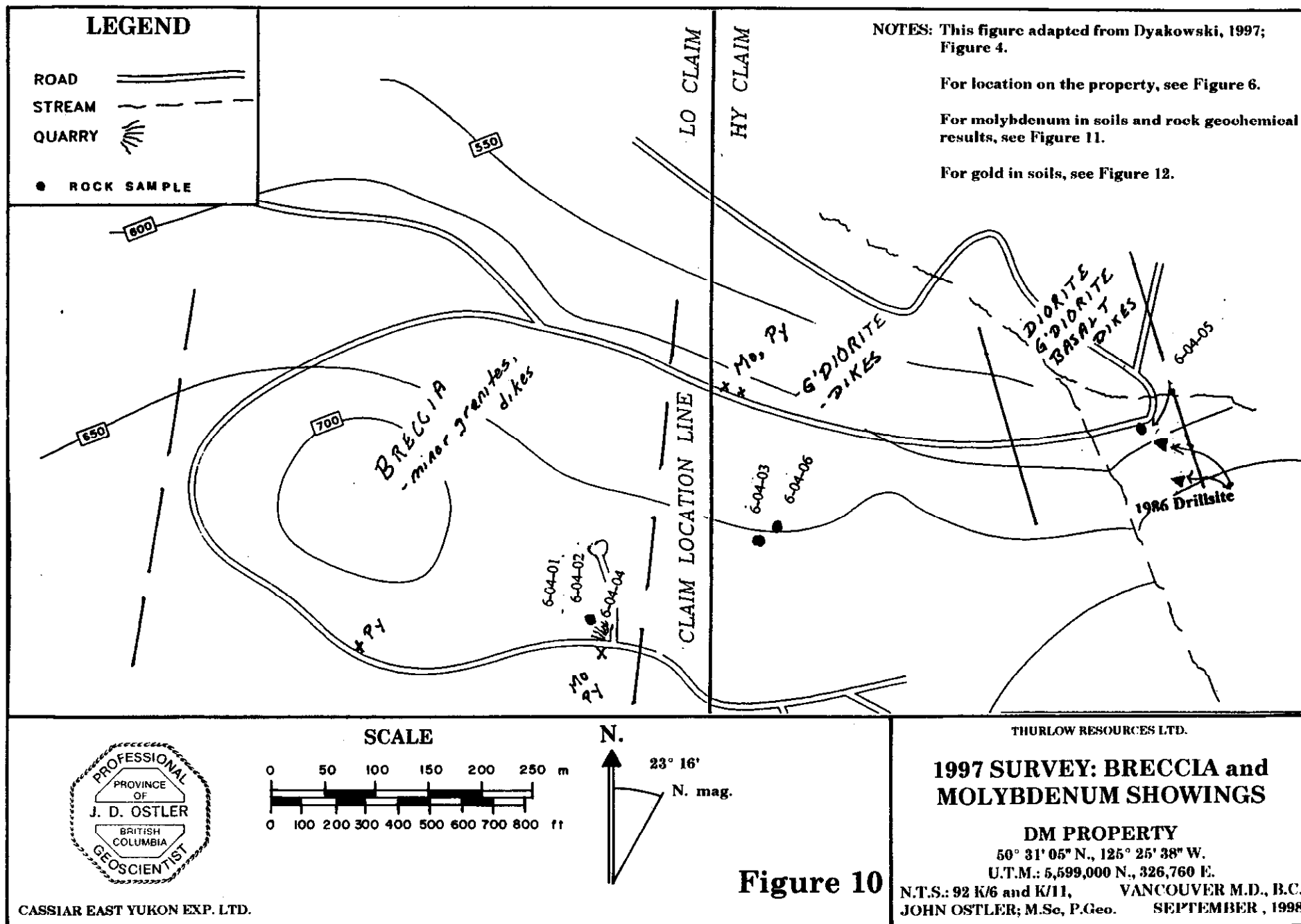
HOLE No.	INTERVAL (m) from CC86-4 (Figure 9)	GOLD oz/ton gm/mt	REPORTED LENGTH (M)
86-1	47.1-48.0	0.106 3.63	0.88
86-3	4.1-5.0	0.239 8.19	0.85
86-3	11.3-13.7	0.277 9.50	2.35
86-10	27.4-28.3	0.181 6.21	0.92
86-10	30.5-31.4	0.207 7.10	0.86
86-10	32.0-32.2	0.239 8.19	0.15
86-10	36.6-37.4	0.272 9.32	0.80
86-11	30.0-30.5	1.702 58.35	0.47
86-11	32.3-32.6	0.118 4.05	0.34
86-11	42.8-43.1	0.184 6.31	0.30
86-12	30.0-31.0	0.163 5.59	1.00
86-12	34.6-35.4	0.341 11.69	0.82
86-12	42.7-42.8	0.887 30.41	0.13

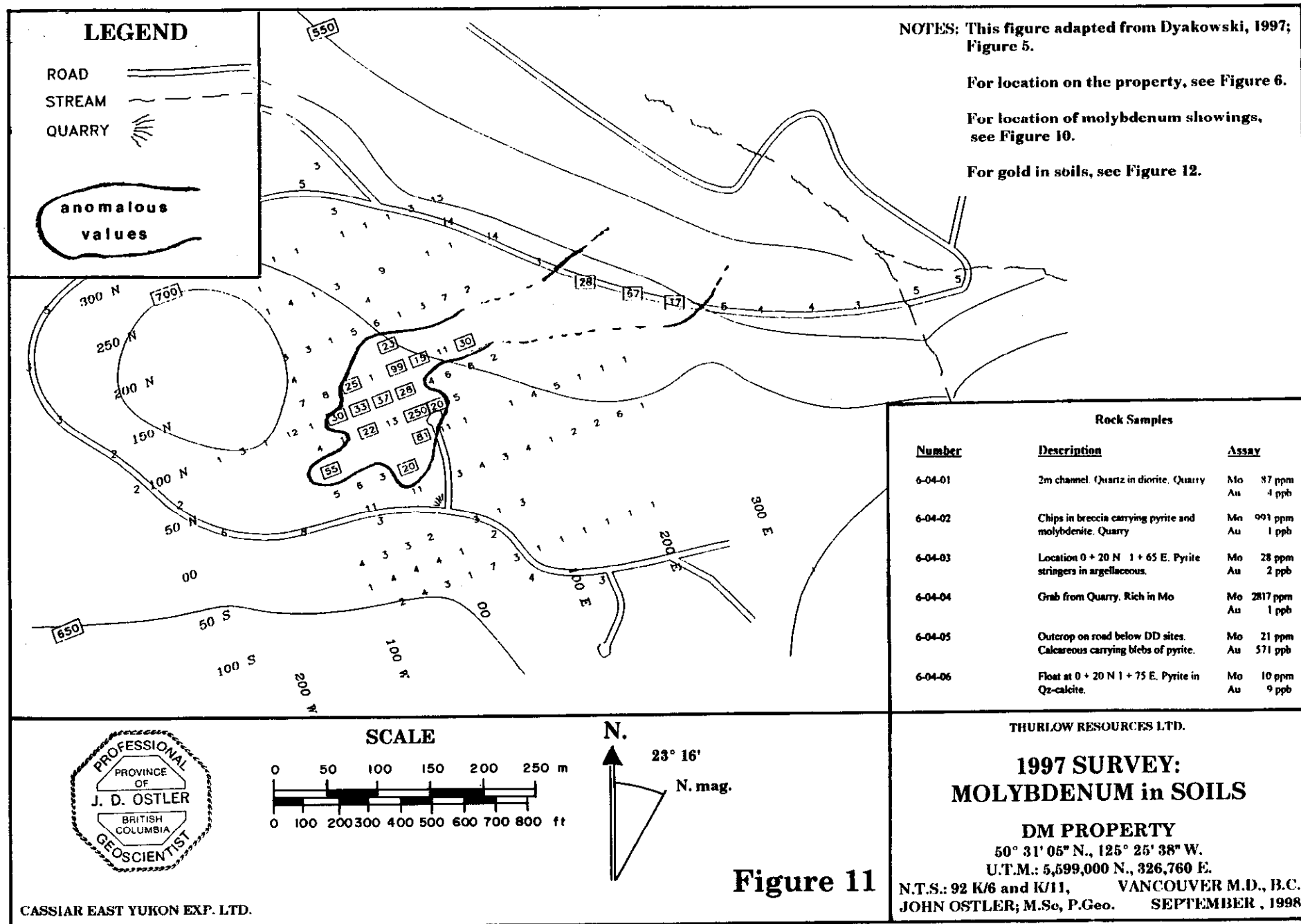
The gold-bearing dilatent zones in the drilled area seem to be of good grade but smaller than those hosting the Commonwealth and Champion adits. This supports the interpretation of the soil results that the best-developed gold-bearing dilatencies are to be found between the Commonwealth crown-grant and the Doratha Morton mine property boundary (Figures 7 and 8).

No work is known to have occurred in the DM property area from 1987 until 1996 when the current owners began exploration there.

The main Margurete molybdenite showing was discovered by Joe Christensen, a professional prospector employed by Dyakowski and Fitch. Christensen found high-grade molybdenite in breccia clasts in the gravel paving the logging roads near the southern boundary of the Hy claim. The source of the mineralized gravel was found to be a pit along the road in







# LEGEND

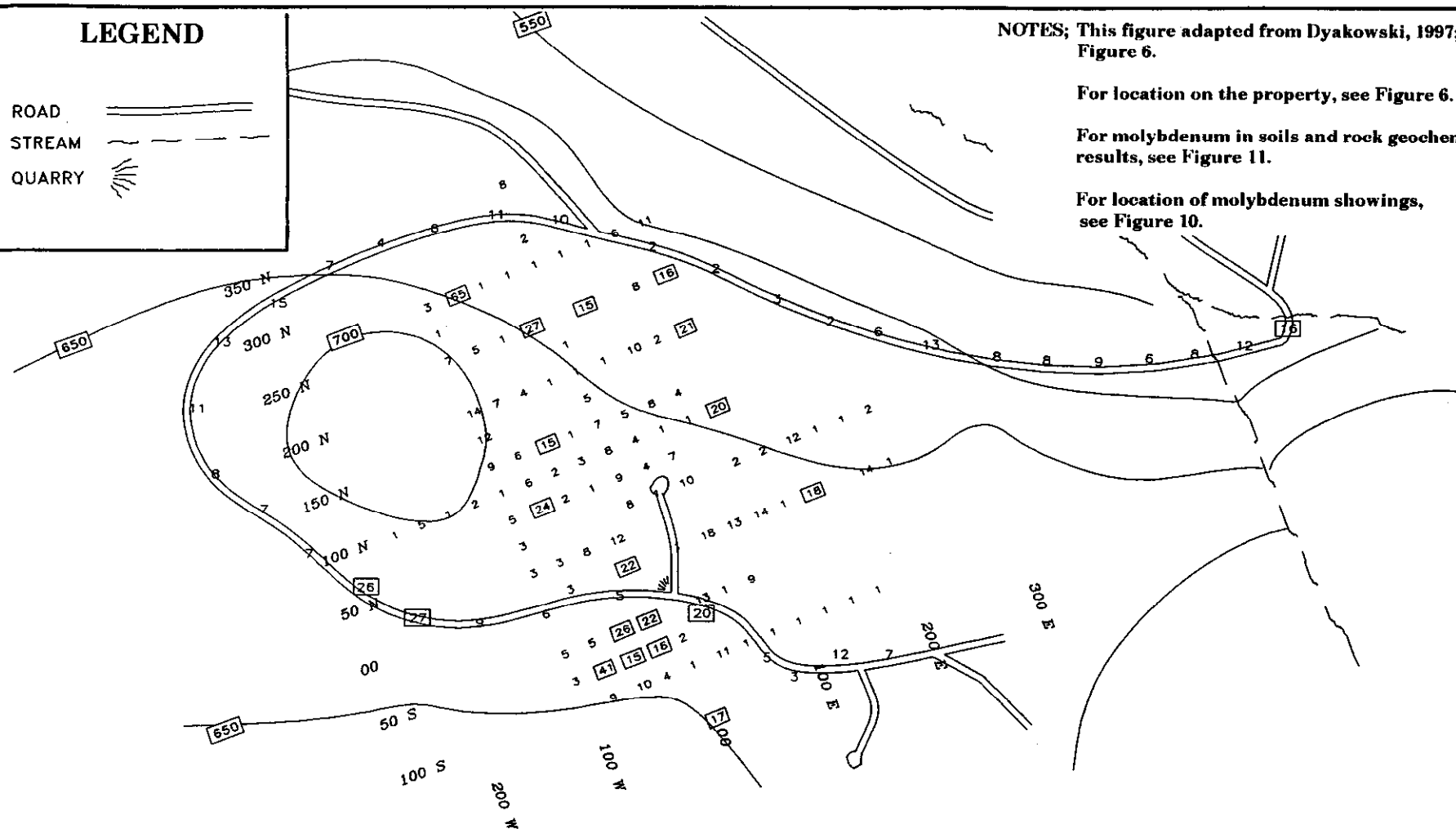
ROAD  
STREAM  
QUARRY

NOTES; This figure adapted from Dyakowski, 1997; Figure 6.

For location on the property, see Figure 6.

For molybdenum in soils and rock geochemical results, see Figure 11.

For location of molybdenum showings, see Figure 10.



-34-



## SCALE

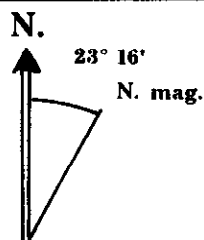
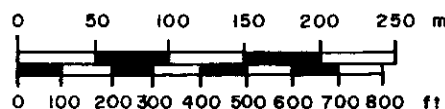


Figure 12

THURLOW RESOURCES LTD.

## 1997 SURVEY: GOLD in SOILS

### DM PROPERTY

50° 31' 05" N., 125° 25' 38" W.

U.T.M.: 5,599,000 N., 326,760 E.

N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.  
JOHN OSTLER; M.Sc, P.Geo. SEPTEMBER, 1998

CASSIAR EAST YUKON EXP. LTD.



the southern part of the Lo claim (Figures 10 to 12).

The writer examined the showing during the current exploration program. Molybdenite occurs with pyrite as massive matrix filling around bleached metavolcanic and igneous clasts near the eastern end of the pit.

Exploration during 1997 comprised a soil survey and rock sampling between the quarry that hosted the main molybdenite showing and the molybdenum showing on the logging road to the northeast, first discovered by the Bute Joint Venture in 1983 (Figures 6 and 10 to 12).

Soil samples were analyzed for 31 elements; both gold and molybdenum anomalies were found (Figures 11 and 12). Dyakowski summarized the results of the 1997 exploration program as follows:

The molybdenum values indicated an area along the base line for a distance of 150 metres where, with one exception, values ranged up to 250 ppm. This area stretches in a northerly direction from the road quarry where the molybdenum outcropping was first discovered ... (Figure 11).

Gold values were generally slightly above the chosen threshold value and showed, with one exception, no areas of strong concentration ... (Figure 12).

Three of the 7 rock samples that were analyzed gave three highly anomalous readings (Figure 10); RS #4 returned 5,032 ppm Mo, sample #6-04-04, a grab sample taken from the quarry yielded 2,817 ppm Mo and sample #6-04-05 taken from an outcrop below the (1986) diamond drill sites on the road returned 556 ppb gold (Figures 10 and 11).

No anomalous copper readings were found from either soil or rock samples.

Dyakowski, C.I.; 1997: p. 6.

No work was conducted in the recent logging scar southwest of the main molybdenite showing during the 1997 exploration program where a circular topographic feature suggests that the main part of the Margurete breccia pipe and more molybdenite may be located (Figure 15). That area remains unexplored.

#### **4.0 1998 EXPLORATION PROGRAM ON THE DM PROPERTY**

##### **4.1 1998 Hy Claim Soil Survey**

The 1998 Hy claim soil survey was conducted over the southwestern part of the claim near the Champion and Commonwealth crown-grants (Figure 6). The soil grid comprised 2825 m of grid line and 475 m of base line (Figures 13 and 14). Lines were laid out using compasses and hip-chains and were flagged with biodegradable flagging tape. Lines were spaced 25 m apart with sample stations generally at 25 m intervals along each line. Samples were taken at 138 stations on the grid.

Soil samples were collected in undyed kraft paper envelopes from illuviated 'B' soil horizons as much as possible. Upon drying, the samples were sent to Acme Analytical Laboratories Ltd. of Vancouver, British Columbia. Samples were analyzed for 31 elements including gold and silver and copper. Results of the soil analyses of gold and molybdenum concentrations were displayed in Figures 13 and 14. Silver concentrations were near the detection limit of the lab procedure and generally mirrored the distribution of gold in these soils. Methods and complete results of analysis comprise Appendix 'A' of this report.

Gold in soils was contoured (Figure 13) to aid interpretation of the data. In the property-area, gold occurs as a constituent in fine-grained telluride minerals, probably mostly sylvanite. Gold's association with silver and tellurium would tend to make it act more like silver or copper in soils than it would if it occurred as free gold that travelled through soils as mechanical particles. Consequently interpretation problems due to the nugget effect were minimized and gold contours could be interpreted.

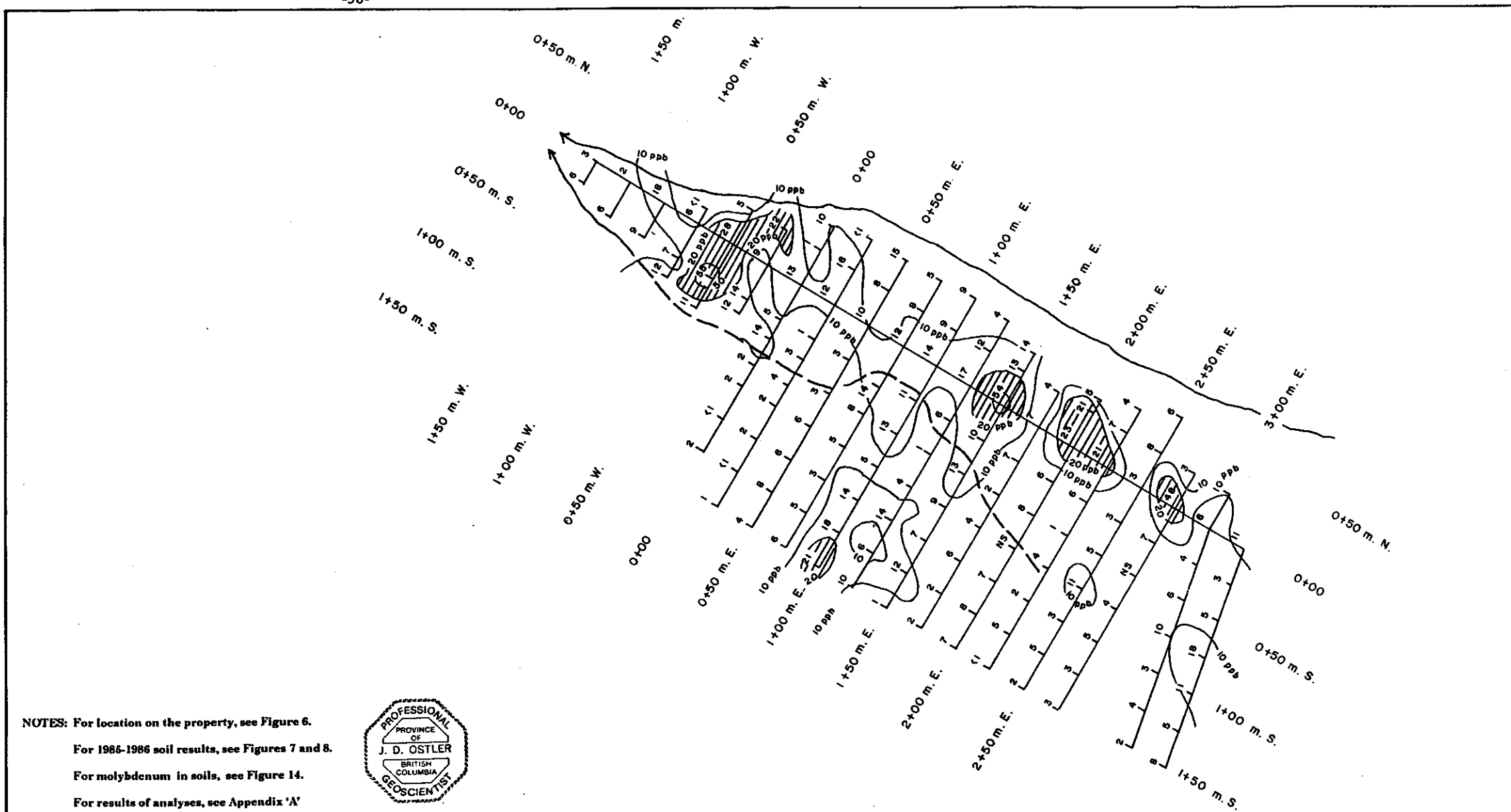
The Hy claim soil grid-area covered part of the area surveyed by Falconbridge in 1985 and 1986 (Figures 6 to 8). The 1998 soil survey was designed to test the orientations of soil anomalies discovered during the 1985-1986 program along the Doratha Morton gold trend (Figure 8) and to discern increased detail of the distribution of gold in soils up slope from the location of the 1986 drilling.

Gold concentrations in the 1998 survey-area range up to 55 ppb which is quite moderate

for gold concentrations along the Doratha Morton trend. Probably this is due to two factors. The 1998 survey is located on a part of the Doratha Morton trend where gold anomalies are comparatively small and weak (Figures 7, 8 and 13) and very rapid transport down the steep slopes in the survey area efficiently disperses gold. However, despite these conditions, gold concentrations in the survey-area are sufficient to produce significant anomalies.

The northern boundary of the 1998 grid is a steep canyon that drains the slope westward from the Champion-Commonwealth workings-area. Near the canyon, down-slope transport reorients all soil anomalies to the northeast. This seems particularly evident in the distribution of molybdenum, where north-northwesterly trending anomalies are distorted (Figure 14). The secondary creek that crosses the central part of the grid-area seems to be at the southern boundary of the Doratha Morton gold trend. Soils to the south of that creek contain far less gold and molybdenum than do those north of the creek. Between the two creeks, gold in soils is concentrated in north-northwesterly trending anomalies (Figure 13). This confirms the theory derived from earlier work that along the Doratha Morton gold trend, gold is concentrated in a series of northwesterly trending dilatant zones produced by shearing of the Doratha Morton trend (section 3.2 this report). Molybdenum anomalies in the northern part of the current survey-area tend to have similar orientations. However, the orientations of molybdenum concentrations in soils are less evident than those of gold concentrations.

These soil anomalies are probably produced by a series of en echelon gash veins, some of which could have sufficient extent and gold grades to justify underground production.



NOTES: For location on the property, see Figure 6.  
For 1986-1986 soil results, see Figures 7 and 8.  
For molybdenum in soils, see Figure 14.  
For results of analyses, see Appendix 'A'



Soil grid line  
No sample  
Gold concentration in soil (ppb)  
10 ppb  
Soil-gold contour  
CASSIAR EAST YUKON EXP. LTD.

# LEGEND



# SCALE

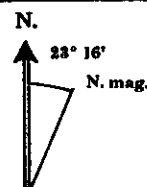
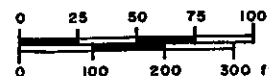
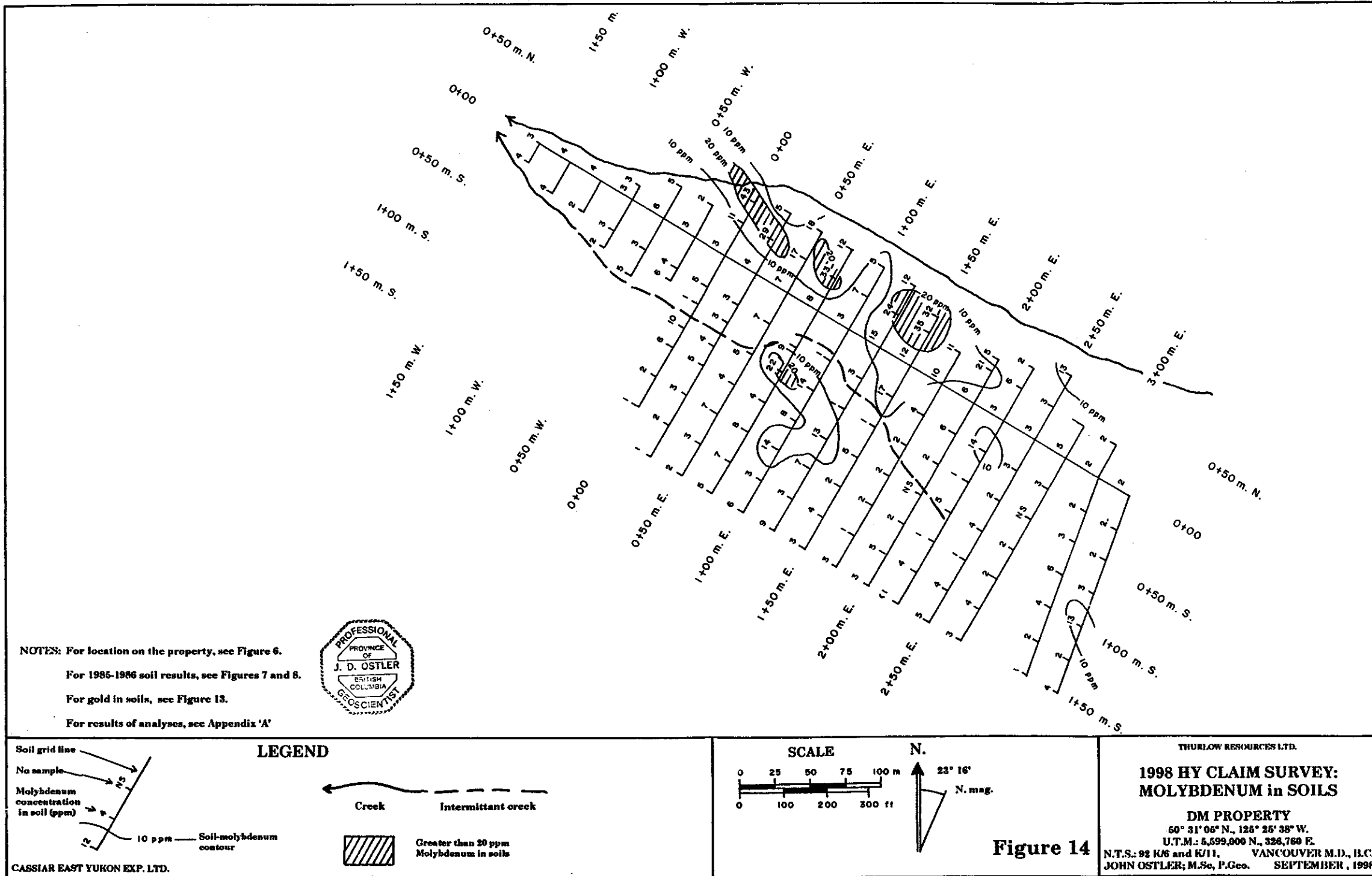


Figure 13

THURLLOW RESOURCES LTD.

# 1998 HY CLAIM SURVEY: GOLD in SOILS

DM PROPERTY  
50° 31' 06" N., 125° 25' 38" W.  
U.T.M.: 5,599,000 N., 326,760 E.  
N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.  
JOHN OSTLER; M.Sc., P.Geo. SEPTEMBER, 1998



## 4.2 Preliminary Geological Mapping

Geological mapping was conducted by the writer along logging roads on the Fill, Hy and Lo claims during August, 1998, comprising 1.85 km<sup>2</sup> of mapping at a scale of 1:10000. The final map was reduced to 1:20,000 for ease of binding (Figures 6 and 15).

Previous mapping was conducted by Falconbridge along the southern boundary of the Fill claims (Hicks, 1986) and by the Bute Joint Venture in the northern part of the property-area (Cathro and Cairne, 1983). Those surveys covered about 50% of the property-area and were sufficiently detailed for regional studies. Both groups conducted detailed work in a small area immediately west of the Champion crown-grant during the mid-1980s (Figure 6). Consequently, it was felt by the current property owners that the DM property-area was insufficiently mapped. The 1998 mapping was a preliminary survey across the Fill claims to the southern parts of the Hy and Lo claims to investigate the geological complexity of that area and to investigate the geologic significance of the molybdenum showings located there.

### 4.2.1 Stratigraphy

The impression conveyed by the regional studies of Roddick (1977) is that the Phillips Arm area is one where panels of fault-bounded volcanic rocks are isolated by large amounts of granodiorite and diorite. As is generally the case, regional scale impressions tend to be modified by the detail discovered in property-scale mapping. In the central part of the DM property-area, the writer found that metavolcanics and metasedimentary rocks comprised more than 25% of the outcrops and that they tended to form keels, plastically deformed around small intrusive lobes (Figure 15).

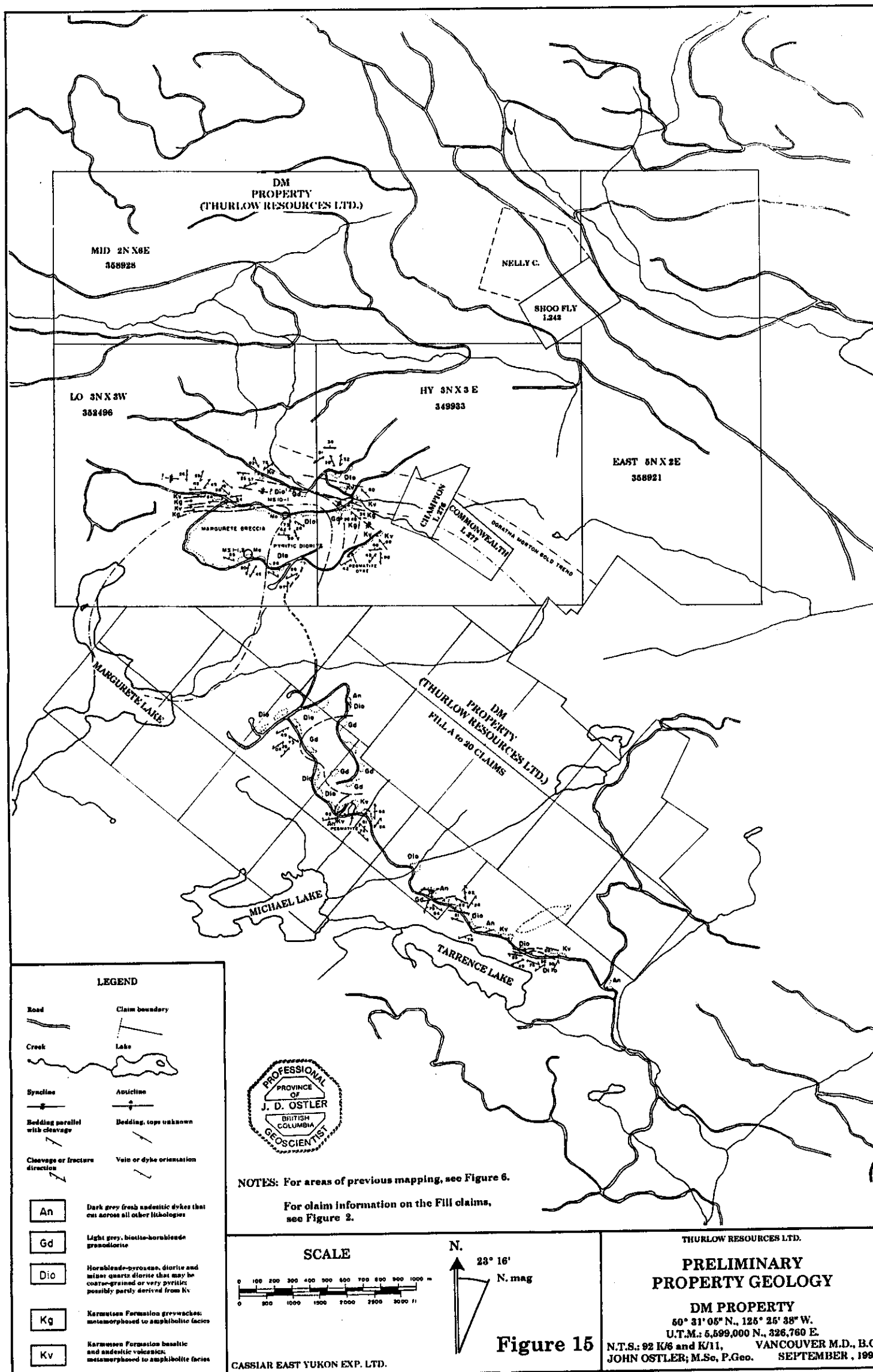
The oldest rocks in the 1998 map-area are volcanics and greywackes that have been metamorphosed to upper amphibolite facies and have undergone severe plastic multi phase deformation. Consequently, bedding and initial cleavages have been rotated into a plane of gneissosity that drapes around the nearest intrusive lobe, which seems to be invariably close by. These rocks are tentatively thought to be metamorphosed equivalents of the Triassic to Jurassic-age Karmutsen Formation (Roddick, 1977).

Greywacke beds, which comprise about 40% of the sequence near the Hy and Lo claim boundary, are normally less than 25 cm thick. This seems to be a comparatively distal part of an eugeosynclinal basin. The increase in the volcanic content of this sequence southward could be related to a volcanic centre having been located in that direction. However, the Karmutsen Formation stratigraphy is so severely disrupted by subsequent deformation and igneous intrusion that conclusions concerning local Mesozoic-age geography are rendered highly speculative.

On the DM property-area, igneous rocks were derived both from in-place melting of Karmutsen Formation sedimentary and volcanic rocks and from intrusion of stocks. Roddick (1977) suggested that much of the mafic intrusive rock could have been Mesozoic-age subvolcanic intrusions and the more felsic igneous rocks were emplaced later by regional batholithic development. Locally, development is more complex. Both felsic and mafic igneous rocks have resulted from in-place melting of Karmutsen Formation Volcanics and greywackes.

On the logging road between the creek that drains the Champion crown-grant area and the Margurete molybdenum showings (Figures 6 and 15), a unit of greywackes pass gradually westward into a 70 m thick unit of granodiorite. The gradual fading of sedimentary structures indicates that the greywackes have been completely melted in place. A short distance farther west along the road is a comparatively young, highly pyritic diorite that intrudes into the granodiorite formed from the greywacke.

On the central Fill claims, the situation is the opposite. The mafic intrusive rocks, represented by pyroxene-bearing diorite and quartz diorite are almost invariably in contact with Karmutsen Formation metavolcanics. Granodiorite is in intrusive contact into the diorites. This is most obvious where logging road outcrops in the northern part of the Fill claims has exposed a 500 m wide plug of granodiorite that intrudes through diorites. Near the northern contact of the granodiorite plug, blocks of diorite are exposed as xenoliths in a matrix of medium-grained granodiorite.





The granodiorite of the plug has a fairly consistent composition, grain-size and texture, indicating that it was formed from a rather homogeneous melt which is typical of an intrusion. This differs greatly from the adjacent diorite and quartz diorite which have highly variable textures mineralogies and grain-sizes. It is interpreted that on the northern Fill claims the more mafic igneous rocks are derived from the Karmutsen stratigraphy and the granodiorite is derived from regional batholithic development as is described by Roddick (1977).

Potassium feldspar pegmatite dykes and blowouts occur in metavolcanic rocks close to igneous contacts. Orientations of these pegmatites seems to be related to hydraulic fracturing near the local intrusive contact and consequently have no regional significance. Potassium feldspar pegmatites are best-exposed southwest of the Champion crown-grant and on the main logging road 0.5 km northeast of Michael Lake.

#### 4.2.2 Molybdenum Mineralization

West of the rocks that host the Doratha Morton gold trend is a zone containing several molybdenum showings. This zone occupies an area of gentle topographic relief that is bounded to the southwest and northeast by long ridges (Figure 2). The southwestern part of the DM property covers part of that zone.

The most intense molybdenum development yet discovered on the DM property is located around a knob in the southeastern part of the Lo claim (Figures 10 to 12 and 15). Two molybdenum showings have been found to date. The more northerly showing was found by the Bute Joint Venture crew in 1983 (Cathro and Cairne, 1983) and the main molybdenum showing was discovered by Joe Christensen in 1996 (Dyakowski, 1997).

The northerly showing is the less dramatic of the two. Minute amounts of molybdenite occur with extensive yellow ferrimolybdate stain in the matrix of a polymictic breccia at its contact with a younger, highly pyritic diorite. Rock chip samples from this road cut taken by Dyakowski (1997) contained concentrations of up to 67 ppm molybdenum with trace amounts of gold (Figures 10 and 11). Sample MS 10-1 taken by the writer contained 27 ppm molybdenum (Figure 15) (Appendix 'A').

The main showing is exposed at the eastern end of a pit on the road on the southern slope of the knob. There, massive molybdenite occurs with subhedral pyrite in a siliceous breccia matrix. The highest concentrations of molybdenite occur where both clasts and matrix have been pervasively silicified. Sample 6-04-04 taken by Dyakowski from this material contained 0.28% molybdenum and an insignificant concentration of gold (Figures 10 and 11). The writer's sample MS 1-1 contained 0.55% molybdenum (Figure 15) (Appendix 'A'). The periphery of the silicified area is exposed in the southern wall of the pit, 5 m west of the main showing. The breccia matrix there contains abundant pyrite with traces of molybdenite. Sample MS 1-2 taken from the peripheral zone contained 63 ppm molybdenum (Figure 15) (Appendix 'A').

Breccia containing angular clasts up to the size of pick-up trucks is exposed all around the knob that contains the molybdenite showings. Clast lithologies include Karmutsen Formation metasediments and metavolcanics, and intrusive rocks ranging from granodiorite to diorite. Clasts form an unsorted polymict mass that has obviously been transported some distance from source areas through the conduit. The lack of plastic deformation, metasomatism and extensive cooling rinds in the clasts indicates that the breccia developed at moderate temperatures during a single explosive event. The general lack of milling of clasts implies that they were lubricated during transport by a significant amount of fluid.

This breccia has been named the Margurete Breccia by the writer because it is exposed in the northeastern part of an elliptical topographic feature that extends southwestward from the molybdenum showings to Margurete Lake (Figure 15).

Highly pyritic diorite is exposed at several locations along the eastern margin of the Margurete Breccia (Figure 15). Contact relations in road outcrops and the lack of clasts of pyritic diorite in the breccia indicates that this rock-unit intruded along the northeastern margin of the breccia. Fluids expelled during the intrusion of the pyritic diorite may be the source of silicification and molybdenum mineralization in this area. The extent of the pyritic diorite and molybdenum mineralization is unknown due to lack of mapping southwest of the

logging roads.

The youngest rocks exposed on the property are dark grey, fine-grained andesitic dykes. Locally, these dykes have quite variable orientations but in general, orientations tend to be northeasterly. These dykes may be Eocene to Pliocene-age structures that are related to tensional tectonics during the unroofing of the Coast Plutonic Complex (Roddick, 1977). They seem to be related to regional-scale northeasterly trending faults that disrupt stratigraphy and mineralization throughout the Phillips Arm camp.

#### **4.3 Access Trail Construction and Renovation**

Trail work was conducted in two areas on the property during the 1998 exploration program.

The northern end of the main access trail that connects the Picton Point road system with the Fanny Bay road system crosses part of the Lo claim (Figure 6). In that area, a total of 220 m of trail across a logging scar was rebuilt to provide access to the northern part of the property via quad motorcycles.

Access to the 1998 Hy claim grid area required the construction of 100 m of trail to connect the base line of the grid with the logging road to the southeast (Figure 6).

### **5.0 CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Conclusions**

The DM property hosts two separate economic targets: part of the Doratha Morton gold trend and an extensive belt of molybdenum mineralization located throughout the central and western parts of the property. Advances in understanding of both mineral targets has been achieved from the results of the 1998 exploration program.

##### **5.1.1 Doratha Morton Gold Trend**

The distribution of gold in soils in the 1985-1986 Commonwealth-Champion survey area indicates that trends of high soil-gold concentrations are offset about 20° north of the general trend of the Doratha Morton gold trend (the main shear). This would support the thesis that

the main Doratha Morton gold trend is a right-lateral shear and the areas of gold concentration are dilatent zones spaced at somewhat regular intervals along the shear-zone in the plane of least compressive stress. The dilatent zones seem to be best-developed in the area between the Commonwealth crown-grant and the northwestern boundary of the Doratha Morton mine property in the southeastern part of the Hy claim.

The gold-bearing intersections encountered in 1986 drilling on the southwestern Hy claim revealed that dilatent zones there are of good grade but smaller than those hosting the Commonwealth and Champion adits. This further supports the interpretation of the soil results that the best-developed gold-bearing dilatencies could be found between the Commonwealth crown-grant and the Doratha Morton mine property boundary on the southeastern part of the Hy claim.

The 1998 Hy claim soil survey area is located on the southwestern Hy claim up-slope from the 1986 drilling. Gold concentrations in the 1998 survey-area range up to 55 ppb which is quite moderate for the Doratha Morton trend. Probably this is due to two factors. The 1998 survey is located on a part of the Doratha Morton trend where gold anomalies are comparatively small and weak and very rapid transport down the steep slopes in the survey area efficiently disperses gold. However, despite these conditions, gold concentrations in the survey-area are sufficient to produce significant anomalies.

The northern boundary of the 1998 grid is a steep canyon that drains the slope westward from the Champion-Commonwealth workings-area. Near the canyon, down-slope transport reorients all soil anomalies to the northeast. The secondary creek that crosses the central part of the grid-area seems to be at the southern boundary of the Doratha Morton gold trend. Soils to the south of that creek contain far less gold and molybdenum than do those north of the creek. Between the two creeks, gold in soils is concentrated in north-northwesterly trending anomalies. This confirms the theory derived from earlier work that along the Doratha Morton gold trend, gold is concentrated in a series of northwesterly trending dilatent zones produced by shearing of the Doratha Morton trend. Molybdenum anomalies in the northern

part of the current survey-area tend to have similar orientations.

The soil anomalies in the 1998 survey-area are probably produced by a series of en echelon gash veins, some of which could have sufficient extent and gold grades to justify underground production. However, the most profitable veins probably are located in the southeastern part of the Hy claim where no work has been done yet by the current operators.

#### 5.1.2 Mapping in the Western Molybdenum Belt

Keels of metavolcanics and metasedimentary rocks of the Mesozoic-age Karmutsen Formation comprise more than 25% of the outcrops in the central part of the DM property-area. They tend to form keels, plastically deformed around small intrusive lobes. Igneous rocks are derived both from in-place melting of Karmutsen Formation sedimentary and volcanic rocks and from intrusion of stocks.

West of the rocks that host the Doratha Morton gold trend is a zone containing several molybdenum showings. This zone occupies an area of gentle topographic relief that is bounded to the southwest and northeast by long ridges. The southwestern part of the DM property covers part of that zone.

The most intense molybdenum development yet discovered on the DM property is located around a knob in the southeastern part of the Lo claim. Two molybdenum showings have been found to date.

The northerly showing is the less dramatic of the two. Minute amounts of molybdenite occur with extensive yellow ferrimolybdate stain in the matrix of a polymictic breccia at its contact with a younger, highly pyritic diorite.

The main showing is exposed at the eastern end of a pit on the road on the southern slope of the knob. There, massive molybdenite occurs with subhedral pyrite in a siliceous breccia matrix. The highest concentrations of molybdenite, containing about 0.55% molybdenum, occur where both clasts and matrix have been pervasively silicified.

Breccia containing angular clasts up to the size of pick-up trucks is exposed all around the knob that hosts the molybdenite showings. Clast lithologies include Karmutsen Formation

metasediments and metavolcanics, and intrusive rocks ranging from granodiorite to diorite. Clasts form an unsorted polymict mass that has obviously been transported some distance from source areas through the conduit. The lack of plastic deformation, metasomatism and extensive cooling rinds in the clasts indicates that the breccia developed at moderate temperatures during a single explosive event. The general lack of milling of clasts implies that they were lubricated during transport by a significant amount of fluid.

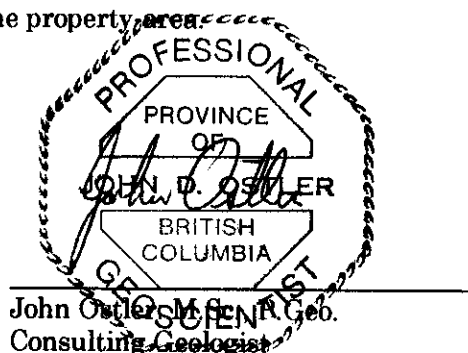
This breccia has been named the Margurete Breccia by the writer because it is exposed in the northeastern part of an elliptical topographic feature that extends southwestward from the molybdenum showings to Margurete Lake, located 1 km southwest of the showings.

Highly pyritic diorite is exposed at several locations along the eastern margin of the Margurete Breccia. Contact relations in road outcrops and the lack of clasts of pyritic diorite in the breccia indicates that this rock-unit intruded along the northeastern margin of the breccia. Fluids expelled during the intrusion of the pyritic diorite may be the source of silicification and molybdenum mineralization in this area.

## 5.2 Recommendations

Detailed prospecting, soil sampling and mapping should be conducted along the Doratha Morton gold trend covered by the DM property between the area of 1986 drilling on the southwestern Hy claim to the southern boundary of the property. A similar program should be conducted in the area between Margurete Lake at the southwestern boundary of the DM property and the knob hosting the Margurete molybdenum showings. General exploration should be conducted throughout the rest of the property area.

West Vancouver, British Columbia  
September 28, 1998



John D. Ostler, M.Sc., R. Geol.  
Consulting Geologist

## 6.0 Itemized Cost Statement for the 1998 Program

	Costs Incurred before and on August 11, 1998		Costs incurred after August 11, 1998	
<b>Wages:</b>				
B.H. Fitch, B.A.: 9 days @ \$300/day	\$ 1,800.00		\$ 1,050.00	
J. Ostler; M.Sc., P.Geo.: 18.25 days @ \$400/day	\$ 1,500.00		\$ 5,800.00	
M. Grace: 8 days @ \$150/day	\$ 975.00		\$ 225.00	
P. Poissant: 8 days @ \$150/day	\$ 975.00		\$ 225.00	
T. Jones: 8 days @ \$150/day	\$ 975.00		\$ 225.00	
A. Juvik: 9 days @ \$150/day	<u>\$ 1,050.00</u>		<u>\$ 300.00</u>	
	\$ 7,275.00	\$ 7,275.00	\$ 7,825.00	\$ 7,825.00
<b>Transport:</b>				
B.C. ferry	\$ 72.17		\$ 14.84	
Gasoline	\$ 60.45		\$ 12.42	
Water taxi	\$ 664.79		\$ 136.64	
Air fares	\$ 80.85		\$ 16.62	
All terrain vehicle rental	<u>\$ 387.63</u>		<u>\$ 79.67</u>	
	\$ 1,265.89	\$ 1,265.89	\$ 260.19	\$ 260.19
<b>Camp Costs:</b>				
Camp food	\$ 465.06		\$ 95.59	
Supplies	<u>\$ 353.05</u>		<u>\$ 72.57</u>	
	\$ 818.11	\$ 818.11	\$ 168.16	\$ 168.16
<b>Crew in Transit:</b>				
Hotel	\$ 161.17		\$ 33.13	
Meals in transit	<u>\$ 143.98</u>		<u>\$ 29.60</u>	
	\$ 305.15	\$ 305.15	\$ 62.73	\$ 62.73
<b>Balances Carried Forward:</b>		\$ 9,664.15		\$ 8,316.08

**Balances Carried Forward:**

\$ 9,664.15

\$ 8,316.08

**Data Compilation and Reporting:**

Rock and soil analyses

\$ 1,959.70

Copies, scale changes and image repeats

\$ 53.83

Copy of text of report

\$ 50.38

Report covers

\$ 12.86

\$ 2,076.77

\$ 2,076.77

G.S.T.

(7% of \$ 9,199.09)

\$ 643.94

(7% of \$10,392.85)

\$ 727.50

Estimated total cost of the August, 1998

exploration program on the DM property

**\$10,308.09****\$11,120.35**

NOTE: During the January-August, 1998 camps, exploration was conducted on other projects. Consequently, many of the field costs reported in this estimate have been prorated to the time actually spent on the Picton project.



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## **APPENDIX 'A'**

### **1998 Rock Assays and Soil Analyses:**

#### **Methods and Results**



## GEOCHEMICAL ANALYSIS CERTIFICATE



Thurlow Resources Ltd. PROJECT NORTH File # 9803462 Page 1

430 - 580 Hornby St., Vancouver BC V6C 3B6 Submitted by: Bernard Fitch

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
1+50W BL	3	17	12	18	<.3	3	4	138	4.89	4	<8	<2	3	9	.4	<3	<3	159	.10	.014	3	21	.26	9	.27	4	1.70	.01	.03	<2	3
1+50W 0+17S	4	23	12	23	.5	8	4	144	5.76	10	<8	<2	5	8	.4	<3	<3	133	.08	.023	3	41	.32	16	.28	4	5.38	.01	.02	<2	6
1+25W BL	4	9	12	6	.5	2	<1	50	5.92	4	<8	<2	3	7	<.2	<3	<3	203	.05	.012	2	19	.06	3	.33	<3	2.05	<.01	.02	<2	2
1+25W 0+25S	4	10	6	7	.4	5	2	56	5.18	5	<8	<2	3	8	<.2	<3	<3	262	.06	.012	1	27	.06	9	.32	<3	1.89	<.01	.01	<2	6
1+00W BL	4	25	14	25	.5	10	3	141	4.38	4	<8	<2	5	8	<.2	<3	<3	94	.08	.030	4	63	.42	13	.22	4	9.89	.01	.02	3	18
1+00W 0+25S	2	5	6	3	.3	2	1	29	1.10	<2	<8	<2	<2	5	<.2	3	<3	76	.04	.011	2	11	.03	3	.13	<3	1.07	<.01	.01	<2	9
0+75W 0+11N	3	20	5	28	<.3	8	5	221	3.51	3	<8	<2	3	21	<.2	<3	<3	89	.19	.010	5	24	.43	28	.19	3	2.86	.02	.04	<2	<1
0+75W BL	3	5	6	10	<.3	1	1	123	2.42	<2	<8	<2	<2	8	<.2	<3	<3	79	.08	.012	2	12	.16	6	.11	<3	1.19	.01	.02	<2	6
0+75W 0+25S	3	6	10	7	.3	1	2	70	.91	<2	<8	<2	<2	8	<.2	<3	<3	81	.09	.008	2	8	.12	5	.21	<3	.65	.01	.02	<2	7
0+75W 0+50S	2	24	10	27	.4	5	4	167	3.21	3	<8	<2	3	25	1.0	<3	<3	80	.14	.035	4	20	.30	35	.16	<3	3.26	.02	.03	<2	9
RE 0+75W 0+50S	1	24	7	27	<.3	10	3	169	3.19	4	<8	<2	2	25	.6	<3	<3	79	.14	.032	4	19	.30	35	.15	<3	3.25	.02	.03	<2	12
0+50W 0+24N	5	19	11	36	<.3	11	6	243	3.37	2	<8	<2	3	19	.3	<3	<3	116	.19	.017	3	24	.49	28	.20	<3	1.66	.02	.05	<2	5
0+50W BL	6	15	9	17	.4	7	2	108	4.62	9	<8	<2	5	8	<.2	<3	<3	110	.08	.021	6	40	.25	13	.25	<3	5.20	.01	.02	<2	28
0+50W 0+25S	3	26	4	38	<.3	12	6	219	4.39	2	<8	<2	5	15	.3	<3	<3	91	.13	.027	10	37	.49	26	.18	4	6.11	.01	.04	<2	55
0+50W 0+44S	5	15	10	22	<.3	10	3	142	5.74	7	<8	<2	4	9	<.2	<3	<3	135	.10	.021	3	41	.30	19	.28	4	3.45	.01	.02	<2	11
0+25W 0+25N	2	30	7	47	<.3	11	9	346	3.07	2	<8	<2	3	28	.3	<3	<3	76	.25	.017	5	27	.74	59	.16	5	2.52	.03	.07	<2	22
0+25W BL	3	15	6	37	<.3	15	5	208	1.56	<2	<8	<2	3	21	<.2	<3	<3	53	.25	.029	5	22	.49	24	.11	<3	2.26	.02	.05	<2	9
0+25W 0+25S	4	11	8	12	.5	7	3	69	4.31	<2	<8	<2	4	5	.3	<3	<3	144	.07	.013	3	26	.13	6	.21	<3	3.05	.01	.01	<2	14
0+25W 0+35S	6	16	12	14	.6	8	2	111	7.52	9	<8	<2	5	7	.4	5	<3	201	.07	.022	2	35	.18	13	.41	5	3.86	.01	.03	<2	12
0+00 0+40N	43	17	18	23	.6	4	<1	92	4.35	4	<8	<2	2	13	.2	<3	<3	180	.10	.014	3	17	.16	12	.44	<3	1.69	.01	.02	<2	10
0+00 0+25W	11	23	9	27	.3	2	2	190	5.43	3	<8	<2	2	7	.2	<3	<3	139	.06	.011	1	8	.30	13	.35	4	2.14	.01	.03	<2	1
0+00 BL	3	19	7	40	<.3	14	5	258	1.33	<2	<8	<2	2	20	.2	<3	3	46	.19	.025	5	20	.57	28	.12	<3	2.75	.02	.05	<2	13
0+00 0+25S	5	11	8	27	<.3	5	4	156	1.97	<2	<8	<2	2	10	<.2	<3	<3	96	.13	.017	5	25	.40	16	.27	<3	2.57	.01	.04	<2	5
0+00 0+40S	1	46	3	72	<.3	26	11	299	2.77	4	<8	<2	3	30	<.2	<3	<3	74	.31	.049	7	28	.78	90	.13	<3	2.30	.03	.08	<2	14
0+00 0+60S	10	11	15	25	<.3	4	3	172	2.60	3	<8	<2	2	47	.2	<3	<3	78	.14	.020	3	8	.31	28	.23	3	1.12	.01	.03	<2	2
0+00 0+75S	6	8	8	11	<.3	6	3	61	1.92	<2	<8	<2	2	9	.3	3	<3	80	.09	.013	2	11	.06	9	.16	<3	.67	.01	.02	<2	2
0+00 1+00S	2	9	8	13	.5	1	2	85	3.47	2	<8	<2	3	7	.3	<3	3	71	.09	.018	4	8	.12	9	.18	<3	1.35	.01	.03	<2	<1
0+00 1+25S	1	10	8	16	<.3	3	2	127	2.86	<2	<8	<2	2	6	.3	3	<3	60	.07	.013	3	4	.13	12	.19	<3	1.23	.01	.02	<2	2
0+25E 0+45N	5	4	7	5	.4	1	2	18	1.53	<2	<8	<2	2	5	.2	<3	<3	81	.05	.009	2	12	.02	5	.07	<3	.30	.01	.01	<2	<1
0+25E 0+25N	29	11	9	16	<.3	3	<1	73	4.30	3	<8	<2	2	7	.8	<3	4	153	.06	.012	3	15	.11	9	.22	<3	1.59	.01	.03	<2	16
0+25E 0+00	4	19	9	25	<.3	12	4	148	1.06	<2	<8	<2	3	11	.2	<3	6	76	.11	.018	5	36	.39	16	.21	<3	3.51	.01	.03	<2	12
0+25E 0+25S	3	17	9	28	<.3	4	3	172	4.54	2	<8	<2	3	200	.8	<3	<3	205	.15	.012	3	16	.32	43	.36	<3	2.05	.02	.05	<2	1
0+25E 0+40S	3	23	8	53	.4	10	6	324	3.78	4	<8	<2	3	175	.6	<3	<3	92	.28	.035	4	17	.54	98	.18	7	3.50	.02	.07	<2	3
0+25E 0+60S	4	37	11	68	<.3	15	10	436	4.09	3	<8	<2	4	59	.7	<3	<3	94	.28	.033	8	28	.86	81	.21	<3	4.11	.03	.10	<2	4
0+25E 0+75S	5	12	5	11	.3	7	3	65	4.24	4	<8	<2	3	8	.9	<3	5	168	.08	.012	3	20	.08	6	.28	5	1.24	.01	.01	<2	2
STANDARD C3/AU-S	25	66	37	167	5.2	39	11	767	3.31	53	18	2	23	29	21.5	18	22	79	.52	.082	18	168	.58	149	.09	19	1.90	.04	.16	15	46
STANDARD G-2	2	6	4	45	<.3	9	5	543	2.04	<2	<8	<2	5	78	<.2	<3	3	41	.63	.094	8	79	.60	240	.13	3	1.07	.09	.50	2	<1

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 2-2-2 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 MASSIVE SULFIDE AND LIMITED FOR NA K AND AL.

- SAMPLE TYPE: SOIL AU\* - AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM)

Samples beginning 'RE' are Retuns and 'RRE' are Reject Retuns.

DATE RECEIVED: AUG 17 1998 DATE REPORT MAILED: Aug 20/98 SIGNED BY: C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

Data FA



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
0+25E 1+00S	3	9	7	21	.6	8	2	143	1.41	<2	<8	<2	2	109	<2	4	<3	43	.13	.021	3	9	.24	30	.12	<3	1.07	.01	.06	<2	2
0+25E 1+25S	2	9	6	21	<.3	4	3	163	2.48	<2	<8	<2	2	8	<2	3	<3	64	.09	.014	4	6	.19	16	.18	<3	1.43	.01	.08	<2	<1
0+25E 1+50S	1	10	4	45	<.3	7	9	351	2.50	2	<8	<2	3	13	.3	4	<3	77	.13	.024	3	52	.79	59	.18	<3	1.25	.02	.32	<2	1
0+50E 0+42N	18	7	12	24	.3	7	2	117	1.49	2	<8	<2	2	18	<.2	4	<3	72	.14	.013	2	15	.29	10	.20	<3	.98	.01	.03	<2	15
0+50E 0+25N	17	15	8	17	<.3	5	2	94	2.70	5	<8	<2	3	19	.3	<3	<3	121	.12	.013	3	13	.22	19	.23	<3	1.11	.01	.02	<2	8
0+50E BL	7	36	14	60	.4	15	7	188	1.37	2	<8	<2	3	17	.5	3	<3	90	.14	.027	7	41	.63	34	.23	<3	4.16	.01	.04	<2	10
0+50E 0+25S	7	19	5	33	.4	6	5	166	3.75	4	<8	<2	3	22	<.2	<3	<3	139	.15	.027	3	14	.39	28	.24	<3	1.65	.02	.05	<2	3
0+50E 0+50S	5	4	5	21	<.3	3	2	147	1.27	3	<8	<2	<2	7	<.2	3	<3	65	.11	.013	2	6	.25	28	.20	<3	.57	.01	.10	<2	3
0+50E 0+75S	4	15	7	19	<.3	8	4	107	4.60	<2	<8	<2	4	6	.4	<3	<3	137	.08	.021	4	35	.23	10	.25	<3	4.51	.02	.02	<2	6
0+50E 1+00S	7	8	9	17	<.3	7	2	107	4.70	2	<8	<2	2	17	<.2	3	<3	149	.11	.014	3	17	.25	7	.28	<3	1.25	<.01	.02	<2	6
0+50E 1+25S	3	17	3	39	<.3	14	6	227	3.03	4	<8	<2	2	12	.3	<3	<3	75	.17	.020	4	20	.48	37	.15	<3	1.51	.02	.06	<2	8
0+50E 1+50S	2	15	12	34	<.3	6	4	296	5.70	<2	<8	<2	4	9	.6	<3	<3	152	.09	.011	5	14	.42	23	.43	<3	2.44	.01	.03	<2	4
0+75E 0+45N	12	25	10	23	.5	8	3	140	5.94	<2	<8	<2	6	7	.4	5	<3	155	.08	.019	6	55	.34	20	.36	<3	6.39	.01	.04	<2	5
0+75E 0+25N	33	14	9	32	<.3	10	4	145	3.68	7	<8	<2	2	15	<.2	<3	<3	139	.12	.014	2	30	.34	16	.25	<3	1.29	.02	.02	<2	8
0+75E BL	8	19	10	34	.5	11	4	144	1.13	<2	<8	<2	3	13	<.2	<3	<3	43	.13	.029	14	27	.42	16	.14	<3	3.44	.01	.02	<2	12
0+75E 0+30S	9	9	8	11	<.3	2	1	57	3.57	4	<8	<2	2	7	.3	<3	<3	219	.07	.013	2	12	.05	7	.33	<3	.88	.01	.01	<2	14
0+75E 0+50S	21	7	12	17	<.3	6	2	90	1.96	3	<8	<2	<2	11	.6	<3	<3	126	.13	.012	3	17	.21	16	.28	<3	1.05	<.01	.02	<2	8
RE 0+75E 0+50S	22	6	14	19	<.3	5	1	95	2.06	<2	<8	<2	2	12	.3	<3	<3	134	.13	.011	3	18	.22	9	.29	<3	1.12	.01	.02	<2	8
0+75E 0+75S	4	19	6	17	<.3	7	2	86	3.76	<2	<8	<2	4	7	.7	<3	<3	91	.06	.019	4	39	.21	9	.21	<3	5.42	.01	.01	<2	5
0+75E 1+00S	8	7	8	18	<.3	6	1	90	4.34	2	<8	<2	2	10	.6	3	<3	119	.08	.015	3	16	.18	9	.28	3	1.23	.01	.02	<2	3
0+75E 1+25S	7	11	9	23	<.3	7	2	134	3.63	3	<8	<2	2	9	.4	<3	<3	108	.11	.014	3	16	.29	10	.24	3	1.32	.01	.02	<2	5
0+75E 1+50S	5	12	13	19	<.3	2	3	177	5.22	3	<8	<2	2	8	.3	<3	<3	177	.11	.023	3	12	.18	10	.36	<3	1.18	.01	.03	<2	6
1+00E 0+48N	5	11	11	17	<.3	12	3	102	5.09	<2	<8	<2	4	8	.4	<3	<3	168	.10	.013	3	32	.21	10	.32	<3	2.25	.01	.01	<2	9
1+00E 0+25N	7	23	5	36	.5	16	4	186	1.20	<2	<8	<2	3	12	<.2	<3	<3	77	.13	.029	7	47	.63	29	.21	<3	5.07	.01	.03	<2	9
1+00E BL	3	20	6	27	<.3	7	4	205	1.39	3	<8	<2	<2	18	<.2	<3	<3	79	.13	.010	2	7	.55	29	.19	<3	1.26	.01	.11	<2	14
1+00E 0+25S	1	81	10	73	<.3	24	17	489	2.68	4	<8	<2	2	46	.4	<3	<3	68	.52	.081	6	51	1.03	141	.15	4	3.15	.08	.19	<2	11
1+00E 0+50S	14	6	7	17	<.3	6	2	94	1.34	<2	<8	<2	<2	6	<.2	<3	<3	79	.10	.018	3	6	.25	22	.13	3	.80	.01	.03	<2	13
1+00E 0+75S	8	23	<3	33	<.3	8	5	192	5.00	3	<8	<2	3	10	.4	<3	<3	117	.12	.021	4	30	.46	30	.24	3	2.80	.02	.05	<2	5
1+00E 1+00S	14	10	6	19	<.3	5	3	110	4.63	<2	<8	<2	2	7	<.2	<3	<3	150	.10	.019	3	19	.18	7	.31	<3	1.66	.01	.02	<2	14
1+00E 1+25S	3	7	7	32	<.3	2	5	225	2.38	<2	<8	<2	2	18	<.2	3	<3	65	.11	.021	3	6	.40	32	.17	<3	1.09	.01	.11	<2	18
1+00E 1+50S	6	15	9	25	.4	6	3	162	4.20	4	<8	<2	3	6	.4	<3	<3	112	.09	.025	4	17	.21	4	.26	3	2.10	.01	.02	<2	21
1+25E 0+45N	12	9	9	10	<.3	5	4	85	3.48	6	<8	<2	4	7	.6	<3	<3	214	.07	.008	4	13	.07	4	.37	<3	.68	.01	.01	<2	4
1+25E 0+25N	24	6	10	11	<.3	4	1	79	2.66	3	<8	<2	2	7	.3	<3	<3	224	.13	.014	2	21	.09	4	.50	3	1.05	<.01	.02	<2	12
1+25E BL	15	18	6	33	<.3	7	4	158	5.22	7	<8	<2	3	13	.3	<3	<3	152	.16	.023	3	34	.34	17	.27	<3	3.62	.02	.05	<2	17
1+25E 0+25S	3	80	7	91	<.3	10	12	501	4.07	7	<8	<2	3	30	.2	<3	<3	93	.24	.069	6	33	1.02	89	.22	4	3.64	.04	.22	<2	6
STANDARD C3/AU-S	26	68	37	175	5.3	41	13	817	3.31	59	21	3	22	29	22.8	20	18	83	.55	.090	19	177	.62	153	.09	23	1.92	.04	.16	16	48
STANDARD G-2	2	3	<3	46	<.3	10	5	550	2.00	2	<8	<2	6	74	<.2	3	<3	42	.63	.096	8	78	.61	233	.13	<3	1.03	.08	.49	2	<1

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



## Thurlow Resources Ltd. PROJECT NORTH FILE # 9803462

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SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
1+25E 0+50S	1	10	6	16	<.3	<1	1	65	1.88	3	<8	<2	<2	7	<.2	<3	<3	33	.11	.029	2	4	.07	22	.06	<3	.72	.02	.02	<2	1
1+25E 0+75S	13	18	8	63	<.3	14	6	224	3.16	9	<8	<2	2	13	<.2	3	<3	87	.20	.021	5	28	.65	38	.22	<3	3.02	.02	.03	2	4
1+25E 1+00S	7	20	<3	53	<.3	11	5	198	1.53	22	<8	<2	<2	14	<.2	3	<3	49	.17	.048	7	33	.53	38	.11	<3	4.46	.01	.05	<2	14
1+25E 1+25S	3	10	6	25	.3	4	2	115	2.36	4	<8	<2	<2	11	<.2	<3	<3	87	.11	.021	3	13	.26	16	.17	3	1.15	.01	.02	2	6
1+25E 1+50S	9	17	8	28	<.3	3	3	136	5.41	14	<8	<2	2	8	<.2	<3	4	155	.11	.024	4	16	.35	25	.39	<3	1.91	.01	.02	2	10
1+50E 0+37N	32	4	13	9	.3	1	<1	86	.87	6	<8	<2	<2	9	<.2	<3	<3	71	.10	.017	3	10	.05	19	.22	<3	.72	.01	.03	<2	14
1+50E 0+25N	35	12	8	27	<.3	6	3	133	2.30	7	<8	<2	<2	12	.3	<3	4	154	.14	.011	4	27	.27	16	.32	<3	2.23	.01	.02	2	13
1+50E BL	12	9	11	16	.5	3	1	68	.46	2	<8	<2	<2	11	<.2	<3	<3	41	.11	.019	4	20	.14	19	.25	<3	2.16	.01	.02	2	54
1+50E 0+25S	17	6	14	12	<.3	1	1	43	.69	<2	<8	<2	<2	7	<.2	<3	<3	43	.07	.013	3	7	.06	16	.21	<3	.61	.01	.02	<2	10
1+50E 0+50S	1	30	<3	104	.3	8	8	561	5.15	8	<8	<2	3	28	.3	<3	3	136	.17	.025	5	28	1.37	97	.32	<3	4.69	.05	.34	<2	13
1+50E 0+75S	5	11	13	20	<.3	6	3	117	2.91	5	<8	<2	<2	10	<.2	<3	<3	140	.11	.011	2	15	.22	24	.26	<3	.84	.01	.03	<2	9
1+50E 1+00S	2	17	<3	38	<.3	8	4	235	2.49	<2	<8	<2	<2	17	<.2	3	<3	76	.19	.024	3	18	.62	38	.14	3	1.61	.03	.07	<2	7
1+50E 1+25S	4	13	<3	13	<.3	4	4	77	4.52	6	<8	<2	<2	12	.2	<3	3	169	.11	.018	1	27	.11	11	.30	<3	.78	.01	.01	<2	12
1+50E 1+50S	3	12	7	21	<.3	3	3	320	3.83	5	<8	<2	<2	12	<.2	<3	<3	74	.11	.031	4	3	.18	27	.17	<3	1.21	.02	.04	<2	1
RE 1+50E 1+50S	2	9	8	22	<.3	1	3	335	3.95	3	<8	<2	<2	13	<.2	<3	<3	76	.11	.033	4	4	.19	27	.17	<3	1.24	.02	.04	<2	1
1+75E 0+25N	11	4	5	7	<.3	1	1	46	.70	2	<8	<2	<2	10	<.2	<3	<3	62	.12	.009	2	8	.04	16	.13	3	.25	.01	.02	<2	4
1+75E BL	10	7	10	6	<.3	<1	<1	24	.32	2	<8	<2	<2	9	<.2	<3	<3	24	.06	.011	3	8	.03	13	.12	<3	.42	.01	.02	<2	7
1+75E 0+25S	4	4	8	4	<.3	<1	1	37	.90	<2	<8	<2	<2	8	<.2	<3	<3	57	.08	.014	2	5	.03	19	.13	<3	.37	.01	.02	<2	7
1+75E 0+50S	2	7	6	8	<.3	8	7	76	1.96	<2	<8	<2	<2	5	<.2	<3	<3	108	.07	.007	2	97	.04	8	.18	<3	.58	.01	.01	<2	2
1+75E 0+75S	2	18	<3	26	<.3	6	3	123	4.22	10	<8	<2	2	9	.2	<3	<3	117	.12	.014	4	38	.27	25	.23	<3	3.36	.02	.02	<2	4
1+75E 1+00S	2	8	5	15	<.3	4	2	112	2.79	3	<8	<2	<2	12	<.2	3	<3	87	.14	.018	2	19	.23	13	.18	<3	.84	.01	.02	<2	6
1+75E 1+25S	1	7	12	13	<.3	3	1	80	2.14	4	<8	<2	<2	12	.2	<3	<3	65	.13	.033	2	7	.13	22	.10	<3	.89	.02	.03	<2	2
1+75E 1+50S	3	9	<3	39	<.3	3	6	225	5.57	9	<8	<2	<2	36	.2	<3	<3	108	.19	.019	4	16	.53	33	.27	<3	2.09	.03	.05	<2	2
2+00E 0+35N	5	10	3	13	.4	3	3	93	5.26	4	<8	<2	<2	6	<.2	<3	<3	194	.07	.020	2	20	.14	19	.29	<3	1.18	.01	.04	<2	5
2+00E 0+25N	21	13	12	21	<.3	5	2	109	1.22	14	<8	<2	<2	14	.3	<3	<3	70	.14	.020	4	21	.23	21	.21	<3	1.19	.01	.03	<2	21
2+00E BL	6	25	5	51	<.3	13	5	216	2.11	14	<8	<2	2	20	.5	<3	<3	70	.19	.022	7	34	.80	35	.17	<3	3.12	.01	.05	<2	23
2+00E 0+25S	6	20	<3	78	<.3	10	5	230	3.37	5	<8	<2	<2	11	<.2	3	<3	98	.14	.016	4	27	.63	30	.24	<3	2.39	.02	.04	<2	6
2+00E 0+50S	2	20	9	39	<.3	14	6	191	2.87	4	<8	<2	2	14	<.2	<3	<3	86	.15	.022	3	31	.54	38	.19	<3	2.67	.02	.06	<2	8
2+00E 1+00S	2	3	8	7	<.3	<1	2	49	1.10	<2	<8	<2	<2	4	<.2	<3	<3	80	.04	.007	2	5	.05	19	.14	<3	.35	.01	.01	<2	7
2+00E 1+25S	5	12	6	24	<.3	8	3	115	3.23	3	<8	<2	<2	7	<.2	<3	<3	129	.09	.013	3	17	.24	21	.21	<3	1.50	.01	.02	<2	8
2+00E 1+50S	3	21	6	58	<.3	18	6	284	2.36	5	<8	<2	<2	15	.3	<3	<3	77	.22	.028	5	35	.76	46	.14	<3	3.07	.02	.07	<2	7
2+25E 0+40N	2	4	6	7	<.3	<1	1	51	1.30	3	<8	<2	<2	4	<.2	<3	<3	60	.08	.012	2	6	.04	8	.13	<3	.45	.01	.02	<2	4
2+25E 0+25N	6	7	6	10	<.3	2	2	89	2.38	<2	<8	<2	<2	5	.3	<3	<3	102	.08	.012	2	9	.11	16	.20	<3	.59	.01	.03	<2	7
2+25E BL	3	19	8	42	<.3	9	6	191	3.27	8	<8	<2	<2	14	<.2	<3	<3	93	.14	.015	3	29	.46	30	.20	<3	2.30	.02	.03	<2	21
2+25E 0+25S	14	22	7	46	<.3	6	3	241	3.33	8	<8	<2	<2	8	<.2	<3	3	141	.14	.020	3	20	.48	27	.34	<3	2.76	.02	.06	<2	6
STANDARD C3/AU-S	26	64	35	166	5.3	35	11	770	3.28	57	22	3	21	29	22.1	19	24	80	.54	.087	18	171	.60	153	.09	19	1.91	.04	.16	15	49
STANDARD G-2	2	3	3	42	<.3	6	3	528	1.98	<2	<8	<2	4	73	.3	<3	<3	40	.62	.091	7	76	.59	219	.13	<3	.99	.07	.47	2	1

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



## Thurlow Resources Ltd. PROJECT NORTH FILE # 9803462

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SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
2+25E 0+50S	1	15	4	64	<.3	6	5	417	3.55	3	<8	<2	2	10	<.2	<3	<3	102	.10	.025	8	24	1.04	40	.25	<3	5.36	.03	.10	<2	1
2+25E 0+75S	5	12	6	27	<.3	1	4	79	3.94	3	<8	<2	2	9	.2	<3	<3	213	.08	.008	2	17	.08	10	.38	3	.87	.01	.01	<2	4
2+25E 1+00S	1	4	5	37	<.3	1	5	179	2.37	<2	<8	<2	<2	5	<.2	<3	<3	63	.15	.016	3	4	.31	17	.13	3	.98	.02	.03	<2	2
2+25E 1+25S	4	11	6	42	<.3	7	4	177	2.02	<2	<8	<2	2	14	<.2	<3	<3	89	.15	.022	5	19	.44	20	.18	<3	2.21	.01	.04	<2	5
2+25E 1+50S	<1	38	5	106	<.3	8	18	662	5.77	<2	<8	<2	3	58	.8	<3	<3	120	.13	.022	6	74	1.51	105	.33	<3	4.65	.03	.17	<2	<1
2+50E 0+50M	13	16	7	21	<.3	4	4	112	7.02	6	<8	<2	2	12	<.2	<3	<3	159	.09	.023	2	22	.20	26	.39	<3	1.18	.01	.02	2	6
2+50E 0+25M	3	8	11	9	<.3	2	4	49	2.94	3	<8	<2	<2	4	.2	<3	3	189	.04	.010	3	14	.03	11	.31	<3	.59	<.01	.01	<2	8
2+50E BL	3	12	3	7	<.3	2	1	43	2.10	<2	<8	<2	<2	3	.2	<3	<3	177	.05	.010	2	6	.05	4	.24	<3	.36	.01	.02	<2	3
2+50E 0+25S	3	10	5	10	<.3	2	4	67	3.41	4	<8	<2	<2	5	.5	<3	<3	213	.09	.007	2	15	.05	4	.30	<3	.62	.01	.01	<2	3
2+50E 0+50S	2	16	11	32	<.3	11	6	193	2.71	2	<8	<2	2	12	<.2	<3	<3	90	.17	.018	5	31	.45	14	.20	3	2.77	.01	.03	<2	5
2+50E 0+75S	4	12	16	24	<.3	2	3	151	1.64	<2	<8	<2	2	7	.3	<3	5	115	.08	.014	3	13	.33	36	.39	<3	2.15	.01	.10	<2	11
2+50E 1+00S	1	5	10	9	<.3	2	2	54	.64	<2	<8	<2	<2	4	<.2	<3	<3	42	.05	.016	2	2	.08	8	.12	<3	.38	.01	.02	<2	3
2+50E 1+25S	4	20	6	49	<.3	14	5	266	3.52	4	<8	<2	2	14	.3	<3	<3	107	.17	.014	4	24	.67	27	.24	<3	1.69	.01	.05	<2	5
2+50E 1+50S	5	25	12	55	<.3	9	4	174	2.17	<2	<8	<2	2	17	<.2	<3	<3	86	.18	.017	5	21	.39	20	.19	<3	1.79	.01	.04	<2	2
2+75E 0+25M	1	4	4	5	<.3	1	1	21	1.16	<2	<8	<2	<2	6	<.2	<3	<3	39	.04	.016	2	6	.02	20	.10	<3	.54	.01	.01	<2	3
2+75E BL	5	9	6	13	<.3	5	1	80	1.63	2	<8	<2	<2	9	<.2	<3	<3	91	.11	.016	3	13	.15	11	.19	<3	1.20	.01	.02	<2	48
2+75E 0+25S	3	9	9	21	<.3	9	2	126	1.19	<2	<8	<2	<2	8	<.2	<3	<3	61	.12	.014	3	25	.54	23	.21	<3	1.31	.01	.04	<2	5
RE 3+00E 0+25S	2	16	4	36	<.3	11	5	211	1.68	2	<8	<2	2	13	<.2	3	<3	62	.18	.015	4	27	.55	30	.14	<3	2.45	.01	.03	<2	7
2+75E 0+75S	2	5	7	9	<.3	3	2	54	.54	<2	<8	<2	<2	6	<.2	<3	<3	41	.11	.010	2	24	.11	5	.12	<3	.80	.01	.01	<2	4
2+75E 1+00S	2	9	11	16	<.3	7	4	82	.87	2	<8	<2	<2	9	<.2	<3	<3	42	.17	.018	2	18	.32	30	.11	<3	.84	.02	.06	<2	5
2+75E 1+25S	3	12	8	56	<.3	39	9	197	2.93	3	<8	<2	<2	10	.2	<3	<3	96	.14	.020	3	95	.99	11	.14	3	1.55	.01	.04	<2	3
2+75E 1+50S	4	17	7	49	<.3	15	4	211	3.28	3	<8	<2	2	14	<.2	<3	<3	106	.16	.027	4	27	.62	30	.23	<3	1.90	.02	.07	<2	3
3+00E 0+25M	2	12	7	16	<.3	6	1	89	2.60	3	<8	<2	<2	8	.4	<3	<3	65	.07	.031	3	10	.16	9	.11	<3	.99	<.01	.03	<2	10
3+00E BL	2	7	9	10	<.3	3	2	64	.91	<2	<8	<2	<2	4	<.2	<3	<3	71	.08	.010	3	6	.12	8	.23	<3	1.19	.01	.02	<2	6
3+00E 0+25S	2	15	<3	34	<.3	13	5	204	1.59	<2	<8	<2	<2	13	<.2	<3	3	58	.16	.016	4	25	.52	18	.13	<3	2.33	.01	.04	<2	4
3+00E 0+50S	3	19	9	17	<.3	9	3	104	2.45	<2	<8	<2	2	9	<.2	3	<3	69	.10	.019	5	23	.20	15	.16	<3	3.31	.01	.02	<2	6
3+00E 0+75S	6	12	9	20	<.3	6	3	102	3.63	4	<8	<2	3	8	.4	<3	4	155	.10	.017	4	32	.22	15	.32	<3	2.89	.01	.02	<2	10
3+00E 1+00S	4	51	4	42	<.3	11	7	200	2.69	15	<8	<2	<2	41	.2	<3	<3	91	.24	.018	4	15	.83	65	.22	<3	3.13	.05	.06	<2	3
3+00E 1+25S	2	6	10	9	<.3	4	1	51	.46	<2	<8	<2	<2	10	<.2	<3	<3	30	.11	.023	2	9	.12	14	.09	<3	.76	.01	.03	<2	4
3+00E 1+50S	1	11	4	10	<.3	<1	2	65	2.22	<2	<8	<2	<2	14	<.2	<3	<3	75	.12	.017	2	4	.11	12	.13	<3	1.27	.02	.01	<2	2
3+25E BL	2	9	11	11	<.3	3	1	59	1.83	<2	<8	<2	<2	8	<.2	<3	<3	71	.09	.012	3	13	.09	12	.10	<3	1.68	.01	.02	<2	11
3+25E 0+25S	2	31	6	47	<.3	11	6	240	2.77	<2	<8	<2	2	10	<.2	<3	<3	75	.12	.026	7	17	.60	62	.18	<3	3.59	.02	.13	<2	3
3+25E 0+50S	2	27	9	44	<.3	10	6	231	3.72	4	<8	<2	3	11	<.2	<3	3	85	.12	.025	6	27	.50	25	.21	<3	4.17	.02	.04	<2	5
3+25E 0+75S	3	22	3	37	<.3	14	5	200	4.98	5	<8	<2	3	11	<.2	<3	<3	123	.13	.017	5	42	.46	18	.21	<3	4.08	.02	.04	<2	18
3+25E 1+00S	13	3	10	18	<.3	13	2	80	.61	<2	<8	<2	<2	19	<.2	<3	<3	37	.13	.018	2	45	.35	30	.16	<3	.88	.01	.03	<2	11
STANDARD C3/AU-S	.26	65	35	172	5.1	34	13	802	3.29	55	22	3	21	29	23.0	21	24	80	.54	.088	18	173	.60	155	.08	16	1.87	.04	.16	16	46
STANDARD G-2	2	5	3	46	<.3	10	4	539	1.97	<2	<8	<2	5	75	.3	<3	<3	41	.61	.094	8	78	.59	231	.13	3	1.03	.08	.50	3	<1

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
3+25E 1+25S	2	22	7	51	<.3	13	5	250	2.40	5	<8	<2	2	14	.3	<3	<3	76	.17	.029	6	45	.69	33	.16	4	3.66	.02	.06	<2	5
3+25E 1+50S	4	14	10	36	.4	8	3	194	1.92	6	<8	<2	<2	20	<.2	<3	<3	89	.14	.016	4	19	.51	33	.31	<3	1.87	.01	.05	<2	8
RE 3+25E 1+50S	3	15	13	39	.4	8	4	192	1.95	5	<8	<2	<2	21	<.2	<3	<3	91	.14	.016	4	19	.52	36	.32	3	1.88	.01	.06	<2	6

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221 FAX: 604-984-0218

To: CASSIAR EAST YUKON EXPEDITING LTD.

2224 JEFFERSON AVE.  
WEST VANCOUVER, BC  
V7V 2A8

A9828072

Comments: ATTN: JOHN OSTLER

## CERTIFICATE

A9828072

(DYQ) - CASSIAR EAST YUKON EXPEDITING LTD.

Project:  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 20-AUG-98.

### SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	4	Geochem ring to approx 150 mesh
226	4	0-3 Kg crush and split
229	4	ICP - AQ Digestion charge

\* NOTE 1:  
The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, W.

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2118	4	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
2119	4	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	4	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	4	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	4	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	4	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	4	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	4	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
2126	4	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	4	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	4	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	4	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	4	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	4	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	4	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	4	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	4	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	4	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	4	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	4	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
2138	4	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	4	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	4	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	4	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	4	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	4	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	4	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
2145	4	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	4	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	4	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	4	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	4	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000



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Project :

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Page Number : 1-B

Total Pages : 1

Certificate Date: 20-AUG-98

Invoice No. : 19828072

P.O. Number :

Account : DYQ

## CERTIFICATE OF ANALYSIS

A9828072

SAMPLE	PREP CODE	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
MS1-1	205 226	0.10	3	240	< 2	< 2	3	19	0.04	< 10	< 10	26	< 10	34
MS1-2	205 226	0.13	15	590	2	< 2	12	30	0.22	< 10	< 10	116	< 10	156
MS10-1	205 226	0.14	11	170	< 2	< 2	7	30	0.10	< 10	< 10	36	< 10	50
PP4-1	205 226	0.22	20	80	< 2	2	14	89	0.23	< 10	< 10	124	< 10	58

CERTIFICATION:

*[Handwritten signature]*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221 FAX: 604-984-0218

To: CASSIAR EAST YUKON EXPEDITING LTD.

2224 JEFFERSON AVE.  
WEST VANCOUVER, BC  
V7V 2A8

Project :

Comments: ATTN: JOHN OSTLER

Page Number : 1-A

Total Pages : 1

Certificate Date: 20-AUG-98

Invoice No. : I9828072

P.O. Number :

Account : DYQ

## CERTIFICATE OF ANALYSIS

A9828072

SAMPLE	PREP CODE	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
MS1-1	205 226	< 0.2	0.74	10	60	< 0.5	< 2	0.17	< 0.5	3	136	40	1.13	< 10	1	0.13	< 10	0.38	280	5500
MS1-2	205 226	< 0.2	2.50	6	30	< 0.5	< 2	0.46	< 0.5	20	120	206	5.72	< 10	< 1	1.07	< 10	1.45	965	63
MS10-1	205 226	< 0.2	1.55	8	90	< 0.5	< 2	0.31	< 0.5	7	198	138	4.11	< 10	< 1	0.58	< 10	0.71	475	27
PP4-1	205 226	< 0.2	3.24	8	40	< 0.5	< 2	1.91	< 0.5	60	43	334	4.04	< 10	< 1	0.08	< 10	1.69	485	5

CERTIFICATION:

*John Ostler*

## APPENDIX 'B'

### CERTIFICATE OF QUALIFICATION

I, John Ostler, of 2224 Jefferson Avenue in the City of West Vancouver, Province of British Columbia do hereby certify:

That I am a consulting geologist with business address at 2224 Jefferson Avenue, West Vancouver, British Columbia;

That I am a graduate of the University of Guelph in Ontario where I obtained my Bachelor of Arts degree in Geography (Geomorphology) and Geology in 1973 and that I am a graduate of Carleton University of Ottawa, Ontario where I obtained my Master of Science degree in Geology in 1977;

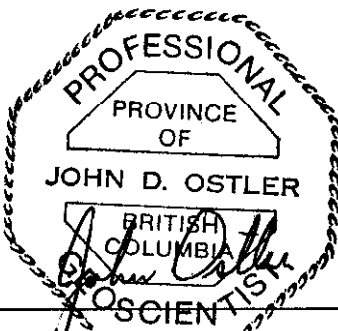
That registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia and that I am registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta, and that I am a Fellow of the Geological Association of Canada;

That I have been engaged in the study and practice of the geological profession for over 25 years;

That this report is based on data in literature and an examination of the DM property located near Phillips Arm in the Coast Mountains of British Columbia personally conducted from August 7 to 12, 1998;

That I have no interest in the DM Property nor in the securities of Thurlow Resources Limited, nor do I expect to receive any.

West Vancouver,  
British Columbia  
September 28, 1998



The seal is a circular emblem with a decorative border. Inside the circle, the word "PROFESSIONAL" is at the top, "PROVINCE OF" is in the center, and "BRITISH COLUMBIA" is at the bottom. The name "JOHN D. OSTLER" is written across the middle. A signature is written over the seal. Below the seal, the text "JOHN OSTLER; M.Sc., P.Geo. Consulting Geologist" is printed.

JOHN D. OSTLER  
JOHN OSTLER; M.Sc., P.Geo.  
Consulting Geologist