

**GEOLOGICAL MAPPING AND TRAIL WORK
ON THE DM PROPERTY-AREA
OF THE THURLOW PROPERTY**

Located Claims

DM Property-area:

Fill A	(1 unit)	355556
Fill 10 and 11	(2 units)	355557 + 355559
Fill 12 to 19	(8 units)	355575 to 355582
Fill 23 to 30	(8 units)	373367 to 373373
Hy	(9 units)	349983
Lo	(9 units)	352496
East 2	(10 units)	373366
Mid	(12 units)	358928

Picton Property-area:

Pic	(10 units)	361034
Ton	(3 units)	361035
PP	(12 units)	362107
Milt	(15 units)	365874

Crown-granted Mineral Leases

Doratha Morton Mine Property-area:

Doratha Morton	(1 unit)	L 253
Eva	(1 unit)	L 254
Banker	(1 unit)	L 291
Comox Fraction	(1 unit)	L 297
Percy	(1 unit)	L 299
Doratha Morton Fr.	(1 unit)	L 300
Chimnang	(1 unit)	L 319
Douglas	(1 unit)	L 320
Maggie May	(1 unit)	L 322

Location:

Vancouver Mining Division

N.T.S.: 92 K/6, 92 K/11

50° 30' 44" N., 125° 24' 28" W.

U.T.M.: 5,598,350 N., 329,250 E.

Owners:

Bernard H. Fitch

404-525 9th. Street
New Westminster, B.C.
V3M 5J9

Christopher I. Dyakowski

3750 West 49th. Avenue
Vancouver, B.C.
V6N 3T8

Owner and Optionee:

THURLOW RESOURCES LTD.

430-580 Hornby Street
Vancouver, British Columbia
V6C 3B6

By:

John Ostler; M.Sc., P. Geo.
Consulting Geologist

September 5, 2000

as amended

December 20, 2000

**GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT**



26,431

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GEOLOGICAL MAPPING AND TRAIL WORK ON THE DM PROPERTY-AREA OF THE THURLOW PROPERTY

SUMMARY

The Thurlow property comprises three contiguous property-areas: the Doratha Morton mine property, the DM property and the Picton property, all of which have been reported upon separately during their exploration histories. The property is located on the moderate to steep slopes of the Pembroke Range west of Fanny Bay on Phillips Arm at the western boundary of the Pacific Ranges of the Coast Mountains of south-western British Columbia. It comprises 27 located claims (99 claim-units) and 9 crown-granted mineral leases which are owned: by C.I. Dyakowski with options to Thurlow Resources, by B.H. Fitch for the benefit of or on option to Thurlow Resources and by Thurlow Resources Ltd. itself. These claims cover about 2,383 ha (5,860 A) after deducting areas of overlapping claims.

The Doratha Morton mine workings, which host the most-developed gold potential on the Thurlow property are located in the northeastern part of the claims at $50^{\circ} 30' 44''$ N., $125^{\circ} 24' 28''$ W. (U.T.M.: 5,598,350 N., 329,250 E.). This property adjoins the northern and western boundaries of the Alexandria gold mine property which currently is being developed by Norwood Resources Limited of Vancouver, B.C. Also, it surrounds three crown-granted mineral leases: Champion (L276), Commonwealth (L277) and Shoo Fly (L243); all of which host old prospect workings.

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. Approximately 0.8 km (0.5 mi) of all-terrain vehicle road was built during the current work program to connect the two logging road systems.

The Doratha Morton and Alexandria mines, both located in the central part of the Phillips Arm gold camp, were the two largest gold producers in that camp. 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. The Alexandria mine produced about 773.66 ounces of gold and 1,340.5 ounces of silver from 1,915 tons of ore from 1898 until 1940.

The gold prospects of the Phillips Arm camp are alkaline intrusion-associated gold-and silver-bearing veins. They contain pyrite and a white-grey telluride, probably sylvanite (AuAgTe_2), in quartz and occupy shear-induced dilatancies in a panel of volcanic and intermediate intrusive rocks. Rocks variably enriched in molybdenum are exposed adjacent to the southwest margin of the shear zone hosting the Alexandria and Doratha Morton gold occurrences. The Picton-Margurete molybdenum belt is currently covered by the western part of the Thurlow property. It is prospective for low-fluorine porphyry molybdenum deposits.

The most prominent geological feature identified during current mapping was a tight northwesterly striking syncline that extended from the southern East 2 claim to the eastern part of the Mid claim. Intermediate to felsic welded tuffs and intercalated greywacke beds formed the core of the syncline. They were flanked by underlying fine-grained, thinly bedded greywacke.

The metavolcanic and metasedimentary stratigraphy of the syncline is flanked to the north and west by medium-grained quartz-feldspar-hornblende-biotite granodiorite. The syncline may be part of a roof pendant separating two lobes of a single granodioritic pluton in that area.

An area of weak potassic alteration of the granodiorite is exposed just northwest of the nose of the syncline along its axial trend. Alteration occurs as pink potassium feldspar, secondary biotite, epidote, and chlorite in thin veins and fracture fillings. This alteration fades

out about 1.5 km northwest of the nose of the anticline, and no economic mineral concentrations are associated with it on surface.

The old iron and copper showings that reportedly were exposed on the Shoo Fly crown grant and the Nelly C. area to the north of it, were not located or explored. However, current mapping indicated that their most likely locations would be, along the axial plane of the syncline between the lower and upper logging roads on the eastern parts of these claim areas.

Mapping in the northeastern part of the property confirmed that geological structures turned northwesterly in that area. Any northerly extensions of the Doratha Morton gold trend and the Picton-Margurete molybdenum belt probably are located on the western parts of the Lo and Mid claims in the western part of the Thurlow property.

Extension of geological mapping across the western parts of the Lo and Mid claims to explore the northwestern extent of the Doratha Morton gold trend and the Picton- Margurete molybdenum belt is recommended.

GEOLOGICAL MAPPING AND TRAIL WORK ON THE DM PROPERTY-AREA OF THE THURLOW PROPERTY

1.0 INTRODUCTION

1.1 Terms of Reference

The writer was retained by Bernard H. Fitch on behalf of Thurlow Resources Ltd. through Cassiar East Yukon Expediting Ltd. to conduct reconnaissance mapping in the Shoo Fly-Nelly C. area located on the Hy, Mid and East 2 claims, and examine trail work on the Thurlow property. The Thurlow property comprises three contiguous property-areas: the Doratha Morton mine property, the DM property and the Picton property. All of these three areas have been reported upon separately during their exploration histories.

Field work on the Thurlow property was conducted as follows:

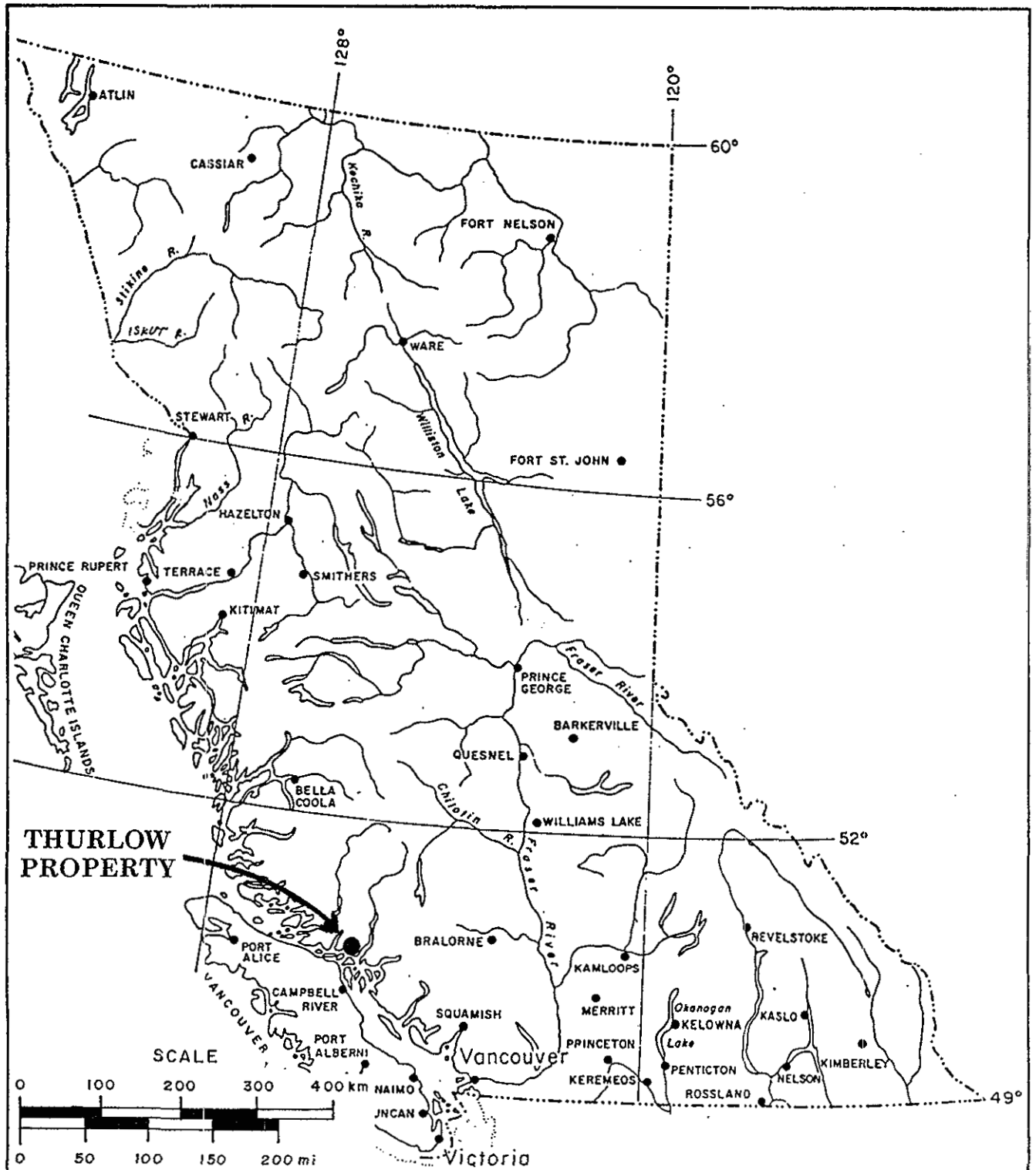
Type of Work on the Thurlow Property	Duration of Work
All-terrain vehicle road building and general road maintenance	June 24-29, 2000
Geological mapping	July 4-7, 2000

Data compilation continued intermittently until September 5, 2000.

1.2 Location and Access

The Thurlow property is located on the moderate to steep slopes of the Pembroke Range west of Fanny Bay on Phillips Arm at the western boundary of the Pacific Ranges of the Coast Mountains of south-western British Columbia (Figure 1).

The property comprises 27 located claims (99 claim-units) and 9 crown-granted mineral leases which are owned: by C.I. Dyakowski with options to Thurlow Resources, by B.H. Fitch for the benefit of or on option to Thurlow Resources and by Thurlow Resources Ltd. itself. These claims cover about 2,383 ha (5,860 A) after deducting areas of overlapping claims.



N.



Figure 1

THURLOW RESOURCES LTD.

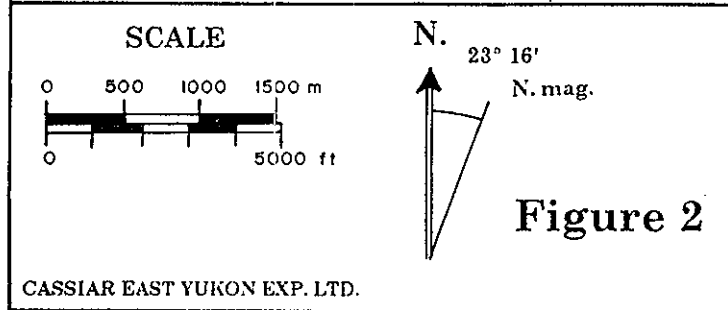
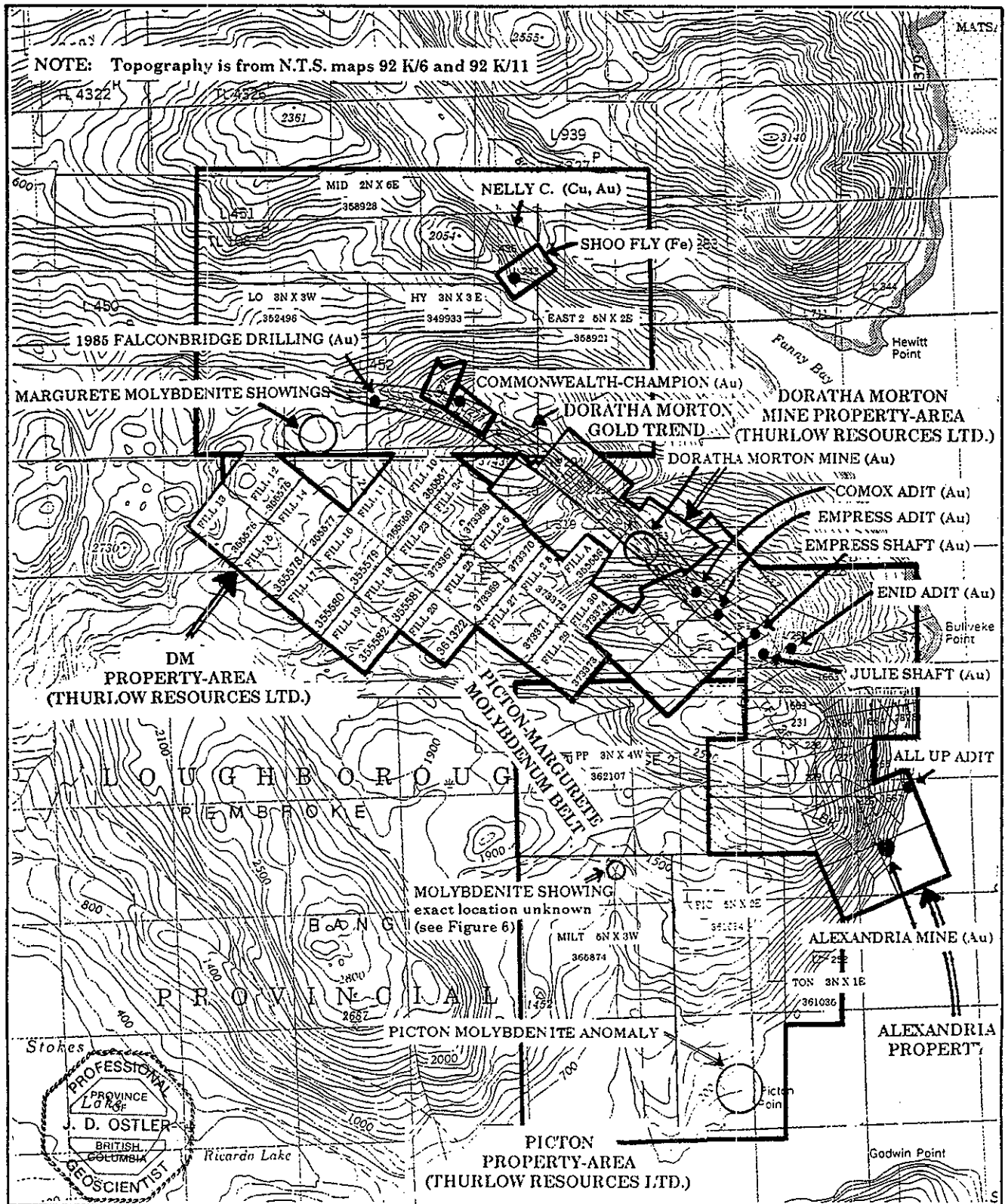
GENERAL LOCATION

THURLOW PROPERTY

50° 30' 44" N., 125° 24' 28" W.

U.T.M.: 5,598,350 N., 329,250 E.

N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.
 JOHN OSTLER; M.Sc., P.Geo. SEPTEMBER, 2000



THURLOW RESOURCES LTD.

**LOCATION, TERRAIN and
CONSTITUENT PROPERTY-AREAS**

THURLOW PROPERTY
50° 30' 44" N., 125° 24' 28" W.
U.T.M.: 5,598,350 N., 329,250 E.

N.T.S.: 92 K/6 and K/11. VANCOUVER M.D., B.C.
JOHN OSTLER; M.Sc. P.Geo. SEPTEMBER, 2000

The Doratha Morton mine workings, which host the most-developed gold potential on the Thurlow property are located in the northeastern part of the claims at 50° 30' 44" N., 125° 24' 28" W. (U.T.M.: 5,598,350 N., 329,250 E.) in the Vancouver Mining Division.

This property adjoins the northern and western boundaries of the Alexandria gold mine property which currently is being developed by Norwood Resources Limited of Vancouver, B.C. Also, it 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 Thurlow 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.

During the June, 2000 work program, about 0.8 km (0.5 mi) of all-terrain vehicle trail was built to connect the two logging road systems. That work comprised part of the work reported upon herein.

The June, 2000 work was conducted from the camp site at the Doratha Morton mine. Supplies were brought in by road from Picton Point (Figure 2). The July, 2000 mapping program utilized the northern road system and a camp at Fanny Bay.

1.3 Terrain and Vegetation

The Thurlow 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 property-area 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 Thurlow 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 sea-level 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. First and old second-growth forest covers the steep slope that descends eastward from the Doratha Morton mine workings to Fanny Bay. The rest of the property has been clear-cut recently and there is insufficient timber left on the property

to support a mining operation.

Soil development on the 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 around the Doratha Morton mine workings, snow can accumulate from November until April during a cold year.

1.4 Property

The Thurlow property comprises three contiguous property-areas that, until recently, have been developed as separate entities. The Doratha Morton mine property has been developed intermittently since the 1890s for its high-grade gold potential. The DM property-area covers the northern extension of the Doratha Morton gold trend and part of a molybdenum-enriched belt of rocks located west of the gold trend. The southern part of the molybdenum belt is covered by the Picton property-area. Claim tenure of the three constituent property areas is separated by property area as follows (Figure 2):

**Picton Property-area:
Located Claims**

Claim Name	Record Number	No. of Units	Record Date	Expiry Date	Owner
Pic	361034	10	Dec. 11, 1997	Dec. 11, 2002	C.I. Dyakowski
Ton	361035	03	Dec. 10, 1997	Dec. 10, 2002	B.H. Fitch
PP	362107	12	Apr. 18, 1998	Apr. 18, 2001	B.H. Fitch
Milt	365874	15	Sept. 13, 1998	Sept. 13, 2001	B.H. Fitch
		40			

**DM Property-area:
Located Claims**

Claim Name	Record Number	No. of Units	Record Date	Expiry Date	Owner
Fill A	355556	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 10	355557	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 11	355559	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 12	355575	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 13	355576	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 14	355577	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 15	355578	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 16	355579	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 17	355580	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 18	355581	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 19	355582	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 23	373367	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Fill 24	373368	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Fill 25	373369	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Fill 26	373370	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Fill 27	373371	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Fill 28	373372	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Fill 29	373373	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Fill 30	373374	1	Nov. 8, 1999	Apr. 28, 2001	B.H. Fitch
Hi	349933	9	Aug. 12, 1996	Apr. 28, 2001	C.I. Dyakowski
Lo	352496	9	Nov. 10, 1996	Apr. 28, 2001	C.I. Dyakowski
East 2	373366	10	Nov. 5, 1999	Apr. 28, 2001	B.H. Fitch
Mid	358928	12	Aug. 22, 1997	Apr. 28, 2001	B.H. Fitch
		60			

**Doratha Morton Mine Property-area:
Crown-granted Mineral Leases**

Lease Name	Lot Number	Area:		Owner
		Hectares	Acres	
Doratha Morton	253	20.91	51.65	B.H. Fitch
Eva	254	17.06	42.14	Thurlow Resources
Banker	291	16.90	41.75	Thurlow Resources
Comox Fraction	297	8.04	19.85	Thurlow Resources
Percy	299	20.05	49.52	Thurlow Resources
Doratha Morton Fraction	300	9.43	23.30	Thurlow Resources
Chimnang	319	20.77	51.30	Thurlow Resources
Douglas	320	19.73	48.74	Thurlow Resources
Maggie May (old mill site)	322	9.72	24.00	Thurlow Resources
		142.61	302.73	

The total area of the Thurlow property after deducting for overlapping claims is estimated as follows:

Property-area within the Thurlow Property	Area	
	hectares	acres
DM property-area: located claims	1350	3334
Picton property-area: located claims	900	2223
Doratha Morton mine property-area: crown-granted leases	143	303
Total area:	2393	5860

The property boundaries of the located claims comprising the DM and Picton property-areas have not been surveyed.

**Doratha Morton Mine Property-area:
Crown-granted Mineral Leases**

Lease Name	Lot Number	Area:		Owner
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Eva	254	17.06	42.14	Thurlow Resources
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Comox Fraction	297	8.04	19.85	Thurlow Resources
Percy	299	20.05	49.52	Thurlow Resources
Doratha Morton Fraction	300	9.43	23.30	Thurlow Resources
Chimnang	319	20.77	51.30	Thurlow Resources
Douglas	320	19.73	48.74	Thurlow Resources
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Total area:	2393	5860

The property boundaries of the located claims comprising the DM and Picton property-areas have not been surveyed.

1.5 Summary of Present Work

Field work on the Thurlow property comprised all-terrain vehicle trail construction and road repairs undertaken from June 24 to 29, 2000, and geological mapping conducted from July 4 to 7, 2000. Data compilation continued intermittently until September 5, 2000. The work was conducted by:

Bernard H. Fitch, B.A. New Westminster, B.C.	Exploration Manager
John Ostler; M.Sc., P.Geo. West Vancouver, B.C.	Consulting Geologist
Patrick Poisant Royston, B.C.	Geological Technician
Thomas Jones Bold Point, B.C.	Geological Technician

The June-July, 2000 work program on the Thurlow property included the following:

A. Building of 0.8 km of all-terrain vehicle road and minor access road repairs	15.00 man-days
B. 4 km ² of geological mapping at a scale of 1:10,000	9.00 man-days
C. Transportation, expediting, camp set-up	6.00 man-days
D. Data compilation and report production	<u>3.00 man-days</u>
Total time spent during the current work program	33.00 man-days

1.6 Claims Worked On

During the June-July, 2000 program, work was done on the following claims:

Claim Name	Record Number	No. of Units	Record Date	Expiry Date	Owner
Fill 11	355559	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 16	355579	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Fill 18	355581	1	Apr. 28, 1997	Apr. 28, 2001	B.H. Fitch
Hi	349933	9	Aug. 12, 1996	Apr. 28, 2001	C.I. Dyakowski
Lo	352496	9	Nov. 10, 1996	Apr. 28, 2001	C.I. Dyakowski
East 2	373366	10	Nov. 5, 1999	Apr. 28, 2001	B.H. Fitch
Mid	358928	12	Aug. 22, 1997	Apr. 28, 2001	B.H. Fitch

2.0 EXPLORATION AND DEVELOPMENT OF THE THURLOW PROPERTY-AREA

2.1 Exploration and Development: 1897 to 1976

Development of the Thurlow 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.

In 1898, the Doratha Morton gold mine was put into production by the Fairfield Exploration Syndicate of London, England. 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).

Faulting off of the main structure became the greatest difficulty faced by the operators of the mine. No modern exploration methods were available to them and if they could not see or tunnel to new mineralization, it could not be found. The mine closed in 1899 (B.C. Min. Mines, Ann. Rept.; 1899: p. 799).

Reportedly, about 90 m of drifting was completed in the two adits on the Commonwealth and Champion in 1899 (Hardy, 1987B).

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.

That year, an aggressive program of development was conducted on all of Glasord's holdings (B.C. Min. Mines, Ann. Rept.; 1925: pp. A 278-A279).

Although exploration and development continued in the Enid-Julie and Alexandria areas until the onset of the 1929 depression, the Doratha Morton became idle in 1926.

By 1934 the *Doratha Morton mine property had come under the control of the Hercules Consolidated Mining, Smelting & Power Company, Limited* through which R. Crowe-Swords, the former principal of the Glasord Mining Corporation, effected a return to the camp. Hercules acquired an extensive ground position in the Phillips Arm area. Development work was done at the Doratha Morton mine and surface work was done along the Doratha Morton gold trend from the Commonwealth-Champion area in the northwest to the Enid-Julie area in the southeast (B.C. Min. Mines, Ann. Rept.; 1934: pp. F9-F10).

By 1934, it had been recognized that mineralization from the Champion-Commonwealth area, through the Doratha Morton to the Enid-Julie area was associated with a northwesterly trending shear. However, the arrangement of local structures that controlled the concentration and tenor of mineralization seems not to have been understood.

Santiago Mines, Limited leased the Doratha Morton from Hercules in 1935 and did a little development work after which the property became idle until 1983.

The Shoo Fly claim (L243) was located on a steep ridge at the boundary between the Mid and East 2 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. The Nelly C. claim adjoined the Shoo Fly claim to the northwest but was later abandoned. That area is presently covered by part of the Thurlow property.

The Shoo Fly was an iron prospect and the Nelly C. was worked for copper. During the 1920s, exploration on the Shoo Fly iron prospect comprised an adit about 100 feet long, 40 feet of which reportedly crossed solid iron ore that outcropped above the adit (B.C. Min. Mines, Ann. Rept.; 1923; p. N 242).

No work is known to have occurred around the Shoo Fly and Nelly C. area from 1925 to 1983.

The area currently covered by the Picton-Margurete molybdenum belt was probably intensively prospected for gold during the development of the Doratha Morton and Alexandria properties in the 1890s. However, the results of any such early work are unknown to the writer.

Prospecting prior to 1977 resulted in the discovery of the Phil molybdenum showing in the creek in the northern part of the Milt claim-area in the Picton property-area (Figure 5).

The exact location of this molybdenum showing has not been confirmed but its location in the creek is probably correct. Probably it was found by prospectors working up the creeks. The showing was noted by Roddick (1977) and recorded in the B.C. MINFILE with most of the other showings in the Thurlow property-area as follow:

Name	Number	Type	Map Sheet
Shoo Fly Nelly C.	92 K020	Fe scarn Cu scarn	92 K/11 W
Doratha Morton	92 K023	Producer Au quartz veins	92 K/11 W
DM (Margurete)	92 K151	Mo showing	92 K/11 W
PHIL	92 K151	Mo showing	92 K/6 W

For the locations of these showings on the property, see Figure 2.

2.2 Exploration and Development: 1976 TO 2000

Pegging the official gold price at \$US 35/oz from 1935 to 1970 effectively halted gold exploration in British Columbia for two generations. When a free market for gold was re-established, gold exploration resumed using many new ideas and techniques.

1976 A soil geochemical survey was conducted on part of the current PP claim of the Picton property-area and the adjoining Ben and Jeff claims of the Alexandria property for M.P. Warshawski (MacLeod, 1976).

Warshawski's holdings comprised all of the reverted crown-granted claims from the Alexandria mine to the Doratha Morton mine.

1981 M.P. Warshawski and J.W. MacLeod 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 (Ostler, 1997 and 1998A).

They optioned their claims extending from the Doratha Morton mine property boundary southeastward to the Enid-Julie workings to Corpac Minerals Ltd. Corpac reconsidered the value of soil surveys in the area and commissioned G.A. Noel (1980) to conduct them over three small grids along the trend joining the Enid-Julie and Doratha Morton workings. Results indicated that the Doratha Morton gold trend continued along the bluffs from the Doratha Morton workings to the Enid-Julie area.

1982 Corpac Minerals continued soil sampling grids 3 and 4 along the crest of the bluffs southeastward from the Doratha Morton workings and found several anomalies. Soil grids 1 and 2 on the Alexandria property-area were a failed attempt to intersect a northwesterly extension of the Alexandria vein system (Jones, 1982).

G. Wares and G.H. Carriere calculated an inferred resource on the main Alexandria vein within the mine workings using the 1931 Premier sampling data (Cathro and Carne, 1983; Ostler, 1997 and 1998A).

1983 The southeastern part of the Phillips Arm gold camp now covered by the Alexandria property was held under option by Charlemagne Oil and Gas Ltd. (subsequently Charlemagne Resources Ltd.). Work at the Alexandria mine comprised underground mapping sampling and drilling (Carriere, 1983). The 1983 program was the first modern exploration conducted in the Alexandria workings.

The Bute Joint Venture staked and explored a large block of ground north of the Doratha Morton mine. Exploration emphasis 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. Work there included geophysical surveys (Cathro and Carne, 1983).

The Doratha Morton property crown-grants were sold to Signet Resources Ltd. (later New Signet Resources Inc.). The old mine workings were opened, mapped and sampled. 596 m (1955 ft) of BQ core was drilled from two locations on surface near the No. 5 adit (Harris, 1984).

- 1984 Mapping of the underground workings at the Doratha Morton mine continued. The access road from Picton Point to the Doratha Morton workings was completed.

The Bute Joint Venture abandoned its property north of the Doratha Morton mine.

- 1985 Underground drilling comprising 387 m (1269 ft) of AQ core was conducted from a location in the No. 3 adit and 259.4 m (850.8 ft) of BQ core was drilled from 5 holes in the camp zone (Scott, 1987).

Falconbridge Ltd. optioned claims held by Charlemagne Resources Ltd. south of the Doratha Morton mine workings in 1985 and staked a large land position that extended from north of the Nelly C. and Shoo Fly claim-areas to Picton Point. At that time, the only ground in the central Phillips Arm gold camp that was not under the control of Falconbridge was the Doratha Morton mine property which was owned by Signet Resources Ltd.

The Alexandria workings were explored by Falconbridge during 1985 as part of its larger Phillips Arm exploration program (Hicks, 1986). Underground mapping, sampling more drilling were conducted in the Alexandria workings. During Falconbridge's 1985-7 exploration most of the camp was mapped at a scale of 1:10,000 and airborne geophysical surveys were flown over the whole area. The area northwest of the Champion crown-grant was mapped at a scale of 1:2,500 (Hicks, 1986). 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, around the Alexandria workings and near the Enid-Julie workings (Hicks, 1986; Hardy, 1987A and 1987B). Soil surveys and ground geophysical surveys were done on the present Alexandria property-area west of the Enid-Julie workings and around the Alexandria workings. Also prospecting and reconnaissance mapping was conducted around the Picton Property-area.

- 1986 Drilling in the camp zone at the Doratha Morton mine property continued into January, 1986 when 438.1 m (1437 ft) of BQ core was drilled from 6 additional holes. Subsequently, some of the core from the 1984 and 1985 drilling was re-logged (Scott, 1987). Signet Resources Ltd. conducted a soil survey between the Doratha Morton workings and the camp zone (Spearing, 1987).

- 1987 Geological mapping was done along the Doratha Morton gold trend between the Doratha Morton mine workings and the camp zone (Shea and Stanley, 1987). Some trenching and sampling was done at the camp zone.

1988-

- 1989 The Doratha Morton property was optioned to Aramis Ventures Inc. machine stripping, trenching, mapping and sampling was conducted around the workings and camp zone (Allen, 1989; Borovic, 1990). An electromagnetic survey was done in the camp zone area (Borovic, 1990).

- 1990 The Doratha Morton property was optioned to Carrack Gold Resources Ltd., a private company. Quest Canada Exploration Services Ltd. Conducted an induced polarization survey in the camp zone (Pezzot, 1990). Drilling was conducted from the main workings to the camp zone (Ostler 1999A).

1991-

1992 Ripple Rock Resources Ltd. optioned claims covering the Alexandria, Enid-Julie and Doratha Morton workings and high-graded the trenches near the centre of the camp zone. Drums of high-grade mineralization from that program are still at the roadside in the camp zone. A sample of pyritic mineralization was sent to the Westmin Premier mill for a bench-scale leach test (unsigned letter, 1992)

1994 Home Ventures Ltd. gained control of ground now covered by the Alexandria property, however no work was done.

1996 Norwood Resources optioned the Alexandria property from B.H. Fitch and C.I. Dyakowski. Norwood's 1996 exploration program on comprised the following: magnetic, electromagnetic and soil surveys near the Picton-Alexandria boundary and soil surveys around the Alexandria workings and on the Ben claims, located southeast of the Doratha Morton mine workings (Ostler, 1998A). The Doratha Morton gold trend was located between the Enid-Julie and Doratha Morton areas.

1997 Norwood Resources Ltd. expanded soil coverage along the Doratha Morton trend almost to the Enid-Julie area and conducted magnetic and electromagnetic surveys over the whole grid-area. Results of that work indicated that a series of gold-bearing dilatant zones occupied the Doratha Morton trend from the mine workings southeastward to the Enid-Julie area (Ostler 1998A). Norwood conducted soil and geophysical surveys around the Alexandria workings and on the Dy claims near the eastern boundary of the Picton property-area with inconclusive results (Ostler, 1998A)

B.H. Fitch and C.I. Dyakowski gained control of the DM property-area and staked most of the Picton property-area. The Margurete and Picton molybdenum showings and anomalies were discovered by prospecting and soil surveys in those areas (Ostler, 1998B and 1998C).

1998 Thurlow Resources Ltd. gained control of the DM and Picton property-areas. Geological mapping at a scale of 1:10,000 was conducted on the Fill A-30 claims and at the Picton molybdenum anomaly. Soil surveys were conducted north of the Commonwealth-Champion workings, on the Douglas crown-grant of the Doratha Morton mine property-area and around the Picton molybdenum anomaly (Figure 5) (Ostler, 1998B, 1998C and 1999B).

1999 Thurlow Resources Ltd. gained control of the Doratha Morton mine property-area. Allen's 1989 sampling in the camp zone was confirmed and drill data for most of the 1990 drill program was recovered and interpreted (Ostler 1999A).

2000 The northern and southern road systems were joined by an all-terrain vehicle trail and reconnaissance geological mapping was conducted in the Shoo Fly-Nelly C. area in the northeastern part of the DM property-area (this report).

3.0 GEOLOGY AND GEOPHYSICS

3.1 Regional Geology and Mineralization

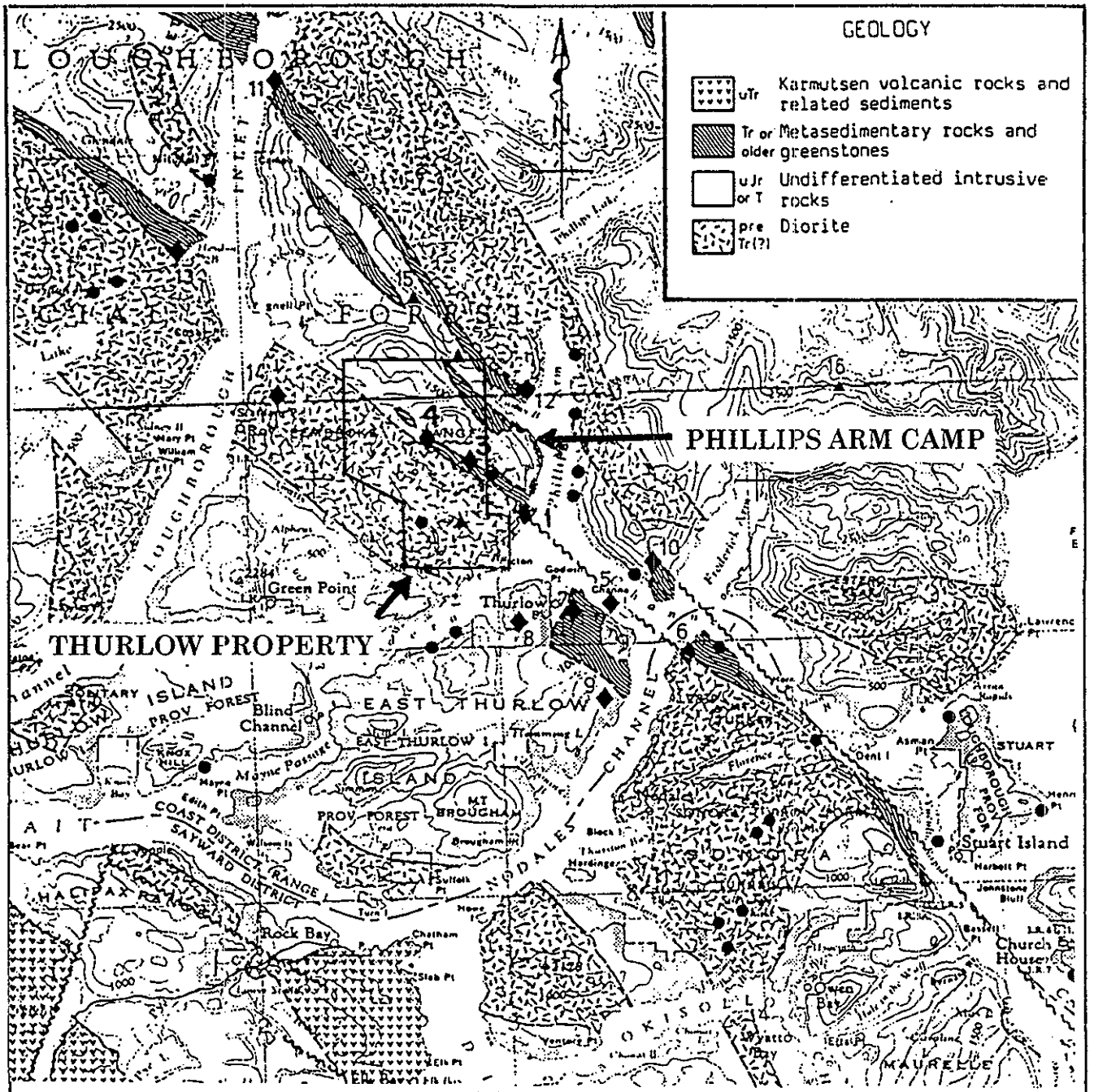
The regional geology of the area around the Thurlow property and the Phillips Arm gold camp was compiled by Roddick and Woodsworth of the Geological Survey of Canada (Roddick, 1977). Their general description of the rocks of the Phillips Arm gold camp are as follow:

... 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 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.



GEOLOGY

- uTr Karmutsen volcanic rocks and related sediments
- Tr or Metasedimentary rocks and older greenstones
- uJr Undifferentiated intrusive or T rocks
- pre Diorite

MINERAL OCCURENCES

- ◆ Gold showing or past producer
- ▲ Molybdenum occurrence
- Pyrite occurrence

- | | |
|-------------------------|--------------------------|
| 1 Alexandria | 9 Thurlow |
| 2 Enid-Julie | 10 Bluebells |
| 3 Doratha Morton | 11 Cuba Silver |
| 4 Champion/Commonwealth | 12 Monte Cristo/Amethyst |
| 5 Channe Island | 13 Heydon Bay |
| 6 Sonora | 14 Loughborough |
| 7 Douglas Pine | 15 Ace |
| 8 White Pine | 16 Colossus |

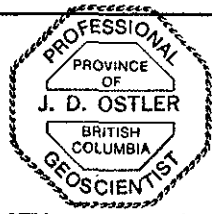
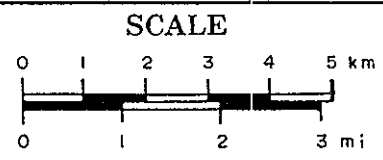


Figure 3

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

CASSIAR EAST YUKON EXP. LTD.

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GEOLOGY and WORKINGS
of the PHILLIPS ARM CAMP

THURLOW PROPERTY
50° 30' 44" N., 125° 24' 28" W.
U.T.M.: 5,598,350 N., 329,250 E.

N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.
JOHN OSTLER; M.Sc, P.Geo. SEPTEMBER, 2000

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 Thurlow 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-area.

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.

An account of the history of the development of the Doratha Morton mine property is contained within section 3.1.1 of this report. See (Ostler, 1997, 1998A or 1999B) 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-grey telluride, probably sylvanite (AuAgTe_4), in 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-area and the Picton property-area were acquired to facilitate exploration of the molybdenum-enriched belt (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
Recent 0.01-0 m.y.	valley rejuvenation, down cutting of stream gullies through grey clay-boulder till, development of brown soil
Pleistocene 1.6-0.01 m.y.	glacial erosion and deposition, deepening of major fjords, removal of Tertiary-age regolith, deposition of grey clay-boulder till at lower elevations
Eocene to Pliocene 57-1.6 m.y.	erosion and unroofing of Coast Plutonic Complex: tensional tectonics, development of northeasterly trending normal faults and mafic to intermediate dykes
Cretaceous to Eocene 144-57 m.y.	deposition of gold-bearing quartz-pyrite veins in roof pendants among igneous plutons during shearing and dilation development of the Coast Plutonic Complex: intense deformation of older stratigraphy in roof pendants among rising igneous lobes, development of a deeply rooted mountain chain local brecciation of and molybdenite deposition in intrusive rocks along the flanks of roof pendants
Triassic to Jurassic 245-144 m.y.	deposition of the Karmutsen Group: mafic volcanics associated sediments, and possibly dioritic sub-volcanic intrusions
Pre-Triassic pre-245 m.y.	evolution of pre-Karmutsen basement, now granitoid gneiss
	m.y. = million years ago

3.2 Regional Geophysics

Regional geophysical surveys conducted over the Thurlow 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. Two broad northwesterly trending magnetic highs were defined. One corresponded with the Phillips Arm gold camp and the other occurred in an unexplored area southwest of the Picton-Margurete molybdenum belt.

These features seem to be related to the presence of iron-rich Karmutsen Formation metavolcanic rocks and not directly to economic mineralization.

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.

3.3 Property Geology

3.3.1 Property Stratigraphy

The area north of the Doratha Morton mine workings was mapped by the Bute Joint Venture during its 1983 exploration program (Cathro and Carne, 1983) (Figures 5 and 6). Conclusions concerning the stratigraphy of that area were as follow:

The bedrock geology has been divided into four units ... The oldest intrusive rock, and possibly the oldest lithology in the area, is a weakly to well foliated hornblende diorite. This unit is composed of 30-40% hornblende with feldspar and no visible quartz. The diorite may represent the basement for the stratified rocks. The contact between the two was not observed and is interpreted to be a fault in one area.

Stratified rocks include metasedimentary and metavolcanic rocks of probable Triassic and older age. The metasedimentary rocks include black argillite, usually pyritic, banded green tuffs or greywacke, maroon biotitic quartzite and thin to thick beds or lenses of recrystallized limestone... The limestones vary from clean to gritty, with local lenses or beds of chert and pyritic greenstone. In many places, calc-silicate rocks have been recrystallized to garnet-tremolite-diopside skarn. Metavolcanic rocks include pyritic felsic greenstones and mafic flows and flow breccias. The greenstones may represent altered flow or, more likely, volcaniclastic rocks as they are interbedded with marble layers. Pods of hornblende amphibolite may be derived from more mafic rocks. The stratified rocks occur as linear belts averaging 500 to 1000 m wide and pinch out into younger intrusive rocks.

Large hornblende-biotite granodiorite bodies underlie much of the project area (DM property-area). In general, the granodiorite is medium to coarse grained and is composed of about 30% quartz. In fresh outcrops, dark, rounded inclusions of finer grained intrusive material are exposed. The granodiorite is locally intensely altered to pinkish orange k-feldspar or epidote along fractures with bleaching of the rock between fractures (potassic alteration). These alteration zones are likely related to small fault zones. Also included in the granodiorite unit are numerous aplite bodies. The aplites are creamy white in colour, almost mafic free and fine grained with a poorly developed crystalline texture. Granodiorite, aplite and coarse-grained quartz and pink feldspar pegmatite crosscut the diorite and stratified rocks.

The youngest rocks in the area are mafic to andesitic, occasionally porphyritic dykes which crosscut all rock units and foliation. The dykes, themselves unfoliated, average 1 to 2 m thick, but are sometimes somewhat larger. The intensity of dyking seems to increase in major shear zones.

Cathro and Carne; 1983: pp.20-21.

Falconbridge explored the Phillips Arm camp during 1985 and 1986. Most of the camp was mapped at a scale of 1:10,000 (Figure 5). The area northwest of the Champion crown-grant was mapped at a scale of 1:2,500 (Hicks, 1986).

Ken Hicks' comments on the stratigraphy of the southern part of the Thurlow property-area were as follow:

Plutonic Rocks

The property is dominated by a variety of granite-granodiorite-diorite intrusives. These range in age from Eocene to Late Jurassic. Medium-grained biotite-hornblende makes up approximately 70% of the property mapped. Porphyritic to equigranular granodiorite-diorite +/- biotite +/- hornblende occur in lesser amounts. Gradational contacts are common between intrusive units of different compositions. In areas of extreme shearing and alteration, primary minerals have been completely removed, making their original composition difficult to determine from field examination.

Volcanics

Medium to dark green fine-grained andesite-dacite tuffs and possible flows approximate 20% of mapped lithologies. Exposures of this unit are found most abundantly near to, and northwest of the Alexandria workings (southeast of the Doratha Morton mine workings). Narrow ribbons or slivers of andesite-dacite parallel the regional northwest trend.

Metamorphics

Dark grey to black biotite-hornblende schist/gneiss and amphibolite generally occur close to intrusive-volcanic contacts. This proximity suggests that these units could be contact metamorphic equivalents of the andesite-dacite volcanics. Foliation within the schist parallels the general northwest trend of the intrusive contact as well as the foliation of the intrusive. Both fabrics may have formed from the same coeval event.

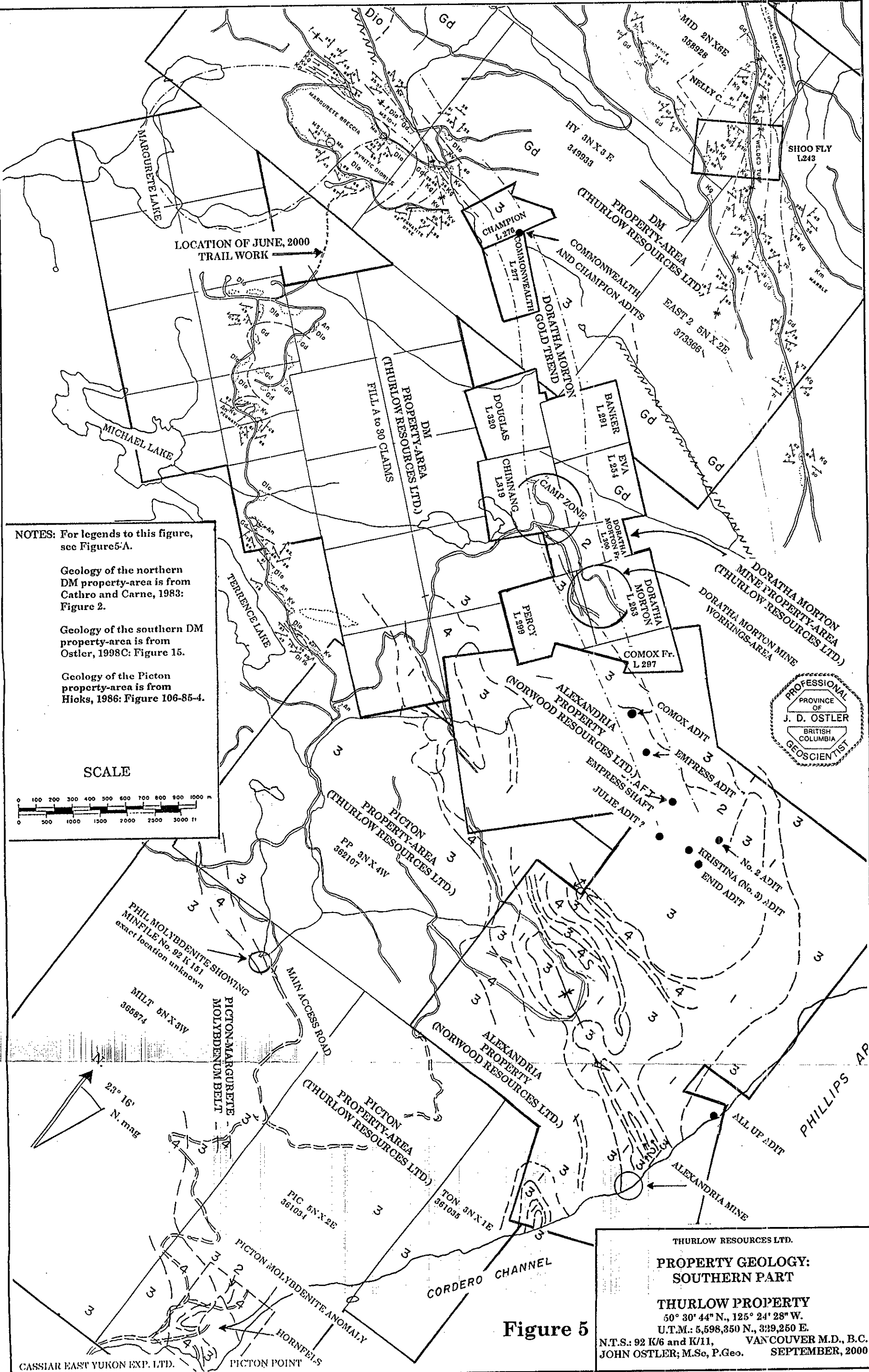
Sediments

Argillaceous sediments are found in a narrow band extending northwest from Bulveke Creek (northwestward) to the Doratha Morton workings. They are typically dark grey to black, fissile and commonly sheared unless calcareous. Occasional disseminated pyrite up to 2% gives a rusty weathered appearance. Minor bull quartz veins (<5 cm) are possibly quartz segregations.

Hypabissal

Three varieties of dykes are known on the property. Two different compositions of intermediate dykes are cut by later mafic dykes. Intermediate composition dykes tend to generally parallel larger quartz veins while mafic dykes crosscut them at an oblique angle. Mafic dykes have not undergone shearing and silicification as have other dykes indicating that they are of a later age.

Hicks; 1986: pp. 7-8.



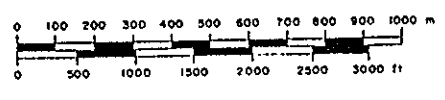
NOTES: For legends to this figure, see Figure 5-A.

Geology of the northern DM property-area is from Cathro and Carne, 1983: Figure 2.

Geology of the southern DM property-area is from Ostler, 1998C: Figure 15.

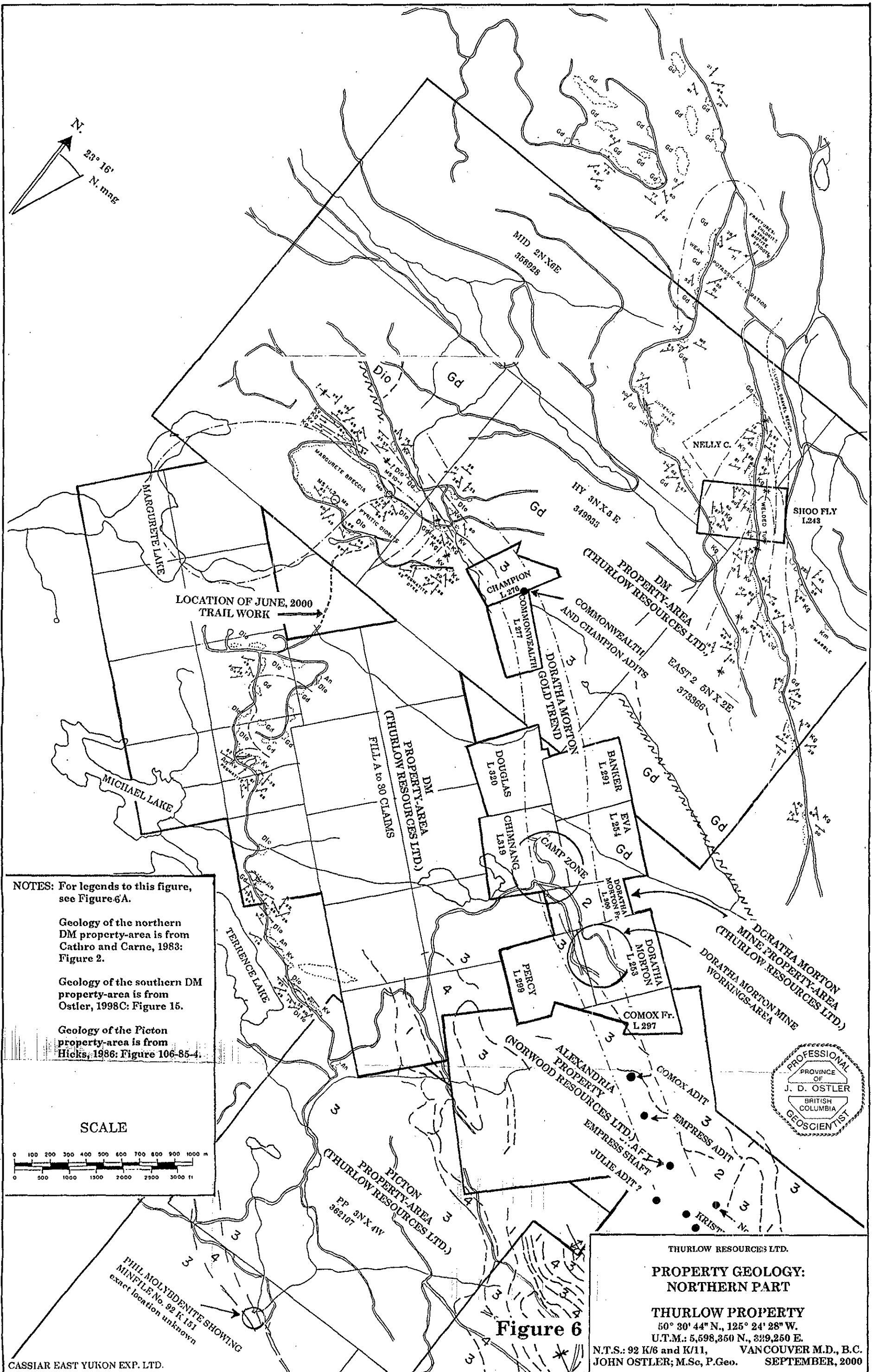
Geology of the Picton property-area is from Hicks, 1986: Figure 106-85-4.

SCALE



THURLOW RESOURCES LTD.
**PROPERTY GEOLOGY:
 SOUTHERN PART**
THURLOW PROPERTY
 50° 30' 44" N., 125° 24' 28" W.
 U.T.M.: 5,598,350 N., 3,129,250 E.
 N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.
 JOHN OSTLER; M.Sc, P.Geo. SEPTEMBER, 2000

Figure 5

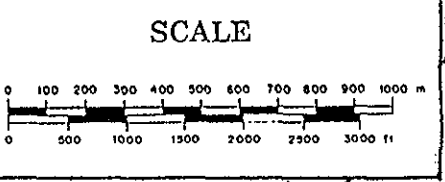


NOTES: For legends to this figure, see Figure 6A.

Geology of the northern DM property-area is from Cathro and Carne, 1983: Figure 2.

Geology of the southern DM property-area is from Ostler, 1998C: Figure 15.

Geology of the Picton property-area is from Hicks, 1986: Figure 106-85-4.



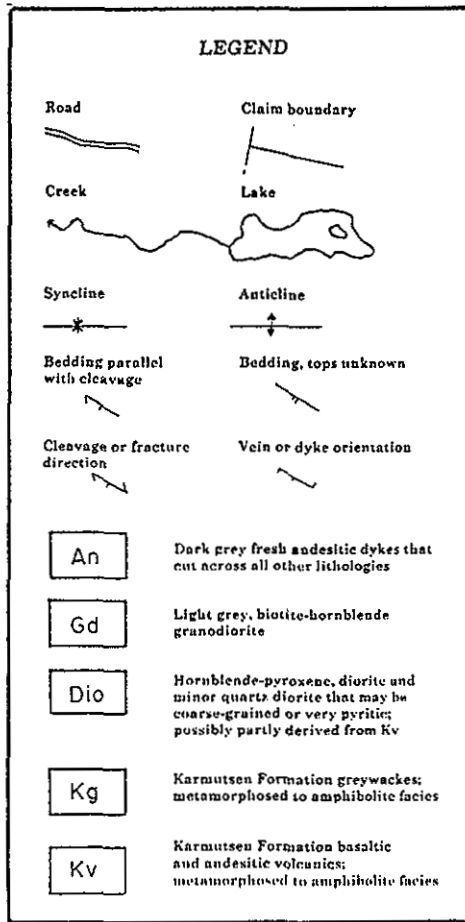
THURLOW RESOURCES LTD.

**PROPERTY GEOLOGY:
NORTHERN PART**

THURLOW PROPERTY
50° 30' 44" N., 125° 24' 28" W.
U.T.M.: 5,598,350 N., 329,250 E.
N.T.S.: 92 K/6 and K/11, VANCOUVER M.D., B.C.
JOHN OSTLER; M.Sc, P.Geo. SEPTEMBER, 2000

Figure 6

FIGURE 5A and 6A
LEGEND for FIGURES 5 and 6



LEGEND

- | | |
|-----------|---|
| | 1. hornblende-biotite gneiss |
| Gd or Dio | 2. granodioritic to dioritic intrusions |
| Ksv | 3. metasediments: mostly calc-silicate hornfels and argillite |
| | 4. metavolcanics: meta-andesite and basalt |

geological contact:	defined	approximate
	—	- - -
antiform		synform
	—	—*

The writer's work on both the Thurlow and adjoining Alexandria property-areas confirmed the accuracy of the of the field work done during the Bute Joint Venture and Falconbridge exploration programs.

To test the possibility that the stratigraphy and provenance of the rocks around the Phillips Arm gold belt could be discerned, the writer conducted two reconnaissance mapping studies. One was across a previously unmapped part of the DM property-area from the main Margurete molybdenum showing southeastward across the Fill claims. The other was over the Picton grid-area. The writer's mapping on the DM property-area was at a scale of 1:10000 (Ostler, 1998C). This mapping was extended to the Shoo Fly-Nelly C. area in the northeastern *part of the property during the current exploration program (Figures 5 and 6).*

Previous mapping was conducted by Falconbridge along the southern boundary of the Fill claims (Hicks, 1986) and by the Bute Joint Venture to the (Cathro and Carne, 1983).

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 that previously was believed to be underlain by an homogeneous granodioritic intrusion, the writer found that recognizable metavolcanics and metasedimentary rocks comprised more than 25% of the outcrops and that they tended to form keels, plastically deformed around small intrusive lobes. The true intrusive rocks were separated from the supercrustal rocks by extensive volumes of variably melted metavolcanics and metasedimentary rocks (Ostler 1998C).

The oldest rocks in the 1998 DM property 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 planes of gneissosity that drape 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).

On the DM property-area, igneous rocks were derived both from in-place melting of Karmutsen Formation metasedimentary and metavolcanic rocks and from the 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, there is no evidence of this. Both felsic and mafic igneous rocks have resulted from in-place melting of Karmutsen Formation volcanics and greywackes.

The Picton molybdenum anomaly is located at Picton Point on the Picton property-area about 4 km southeast of the reconnaissance mapping conducted by the writer on the DM property-area. Ken Hicks (1986) mapped the Picton Point area at a scale of 1:10,000 mostly as medium-grained biotite-hornblende granodiorite. Northwesterly trending volcanic units were recognized at Picton Point and along the main access road west of the Pic claim. The resulting map indicated that the Picton Point area was underlain by a marginal part of the intrusion that was assumed to be present across the Fill claims.

The Picton grid-area was mapped by the writer at a scale of 1:1,2500 (Ostler, 1998B) (Figure 5).

The area is underlain by a northeast-southwesterly striking sequence of greywacke and pillowed basalt. These rocks seem to represent lava deposition on the deep floor of the distal part of an eugeosynclinal basin.

Karmutsen Formation metavolcanics and metasedimentary rocks formed a major component of the stratigraphy at Picton Point as they did farther north on the DM property-area. Mapping and general examination of the rocks across the central part of the Thurlow property-area revealed that most of those rocks were derived from the variable anatexis of Karmutsen Formation supercrustal rocks and not from batholithic intrusion.

Mapping during the current exploration program was conducted along a northwest-southeasterly trending area across the Hy, Mid, and East 2 claims, which form the

northeastern part of the property-area (Figure 6).

The most prominent geological feature identified during current mapping was a tight northwesterly striking syncline that extended from the southern East 2 claim to the eastern part of the Mid claim. Intermediate to felsic welded tuffs and intercalated greywacke beds formed the core of the syncline. They were flanked by underlying fine-grained, thinly bedded greywacke.

The metasediments on the eastern limb of this structure have been intruded by a band of granodiorite that is up to 300 m thick, that is oriented subparallel with the bedding and early cleavage orientations. It is possible that this magma advanced along a zone of weakness related to a pre-existing fault plane on the eastern limb of the syncline. However, no direct evidence for this was seen in outcrop.

The metavolcanic and metasedimentary stratigraphy of the syncline is flanked to the north and west by medium-grained quartz-feldspar-hornblende-biotite granodiorite. The syncline may be part of a roof pendant separating two lobes of a single granodioritic pluton in that area.

Near the intrusive contacts, the greywackes are metamorphosed to white sugary quartzites making the intrusive contact itself difficult to map accurately. However, unlike in the southwestern part of the Thurlow property, there is very little field evidence of extensive anatexis of the metasedimentary and metavolcanic rocks. The granodiorite has a very homogeneous grain size and texture. It seems to be almost entirely of plutonic origin.

An area of weak potassic alteration of the granodiorite is exposed just northwest of the nose of the syncline along its axial trend. Alteration occurs as pink potassium feldspar, secondary biotite, epidote, and chlorite in thin veins and fracture fillings. Generally, these strike 075° and dip steeply southeast (Figure 6). This alteration fades out about 1.5 km northwest of the nose of the anticline, and no economic mineral concentrations are associated with this alteration on surface.

The old iron and copper showings that reportedly were exposed on the Shoo Fly crown

grant and the Nelly C. area to the north of it, were not located or explored. However, current mapping indicated that their most likely locations would be, along the axial plane of the syncline between the lower and upper logging roads on the eastern parts of these claim areas (Figure 6).

Potassium feldspar-rich pegmatite dykes and blowouts occur in metavolcanic rocks close to igneous contacts in the central part of the Thurlow property. These seem to be the intermediate dykes referred to by Cathro and Carne (1983) and Hicks (1986). Orientations of these pegmatites seem to be related to hydraulic fracturing near the closest intrusive contact and consequently seem to have no regional significance. cursory examination of these dykes indicates that they were formed from fluids given off during partial melting of surrounding metavolcanic and metasedimentary rocks.

Sufficient mapping has not been conducted to discern the various generations of igneous intrusion in the property-area, however hints of its complexity were found around the Margurete molybdenum showings in the western DM property-area.

The molybdenum showings are located around a knob of breccia in the southeastern part of the Lo claim (Figure 5).

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 temperature during a single explosive event.

Highly pyritic diorite is exposed at several locations along the eastern margin of the Margurete Breccia (Figure 5). Contact relations in road outcrops and the lack of clasts of pyritic diorite in the breccia indicate 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.

Breccia clast lithologies and contact relations near the Margurete breccia indicate that brecciation and intrusion of the pyritic diorite occurred after anatexis of the Karmutsen Formation stratigraphy and after emplacement of the granodiorite of the Coast Plutonic Complex, providing proof of at least two distinct episodes of igneous intrusion in this area.

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.

Detailed geological mapping around the Thurlow property-area has been insufficient to discern local Mesozoic-age palaeogeography during deposition of the Karmutsen Formation. However, a general picture may be constructed concerning the provenance of those rocks.

It is evident by the amount of partially melted Karmutsen Formation rocks on the DM property-area that probably they covered the whole current Thurlow property-area. The dominance of turbidite beds in the sedimentary part of the Karmutsen Formation assemblage indicates that it was deposited in a deep marine basin. Volcanic rocks dominate the Karmutsen stratigraphy between the Commonwealth-Champion and Enid-Julie areas hinting that a volcanic pile built up on the basin floor that was centred near the current Doratha Morton workings-area. There is paucity of volcanic rocks and melted mafic equivalents exposed in the northern part of the DM property-area (Figures 5 and 6). This may indicate that anatexized metasediments occupied that area defining a distal part of the basin away from a volcanic centre. Graphitic and carbonate horizons identified along the Doratha Morton gold trend between the mine workings and the Enid-Julie area (Hicks, 1986) may be related to deposition from brines in euxinic sub-basins within and around the submarine volcanic pile.

It is possible that the initial source of the gold found in the Phillips Arm camp was gold

sparsely disseminated throughout a mafic submarine volcanic pile, preserved in the axis of the camp-area.

2.3.2 Property Structure and Metamorphism

Structural mapping has been conducted at the Alexandria workings located east of the Thurlow property (Hicks, 1986), in small areas near the Doratha Morton workings (Allen, 1989), at the Picton molybdenite anomaly (Ostler, 1998B and 1999A) and along a road traverse across the DM claim-area (Ostler, 1998C) (Figure 5). Structural mapping of the Thurlow property-area by previous mappers has been minimal and accounts have been restricted to general impressions.

The writer believes that deformation in the Thurlow property-area was dominated by plastic flow from Cretaceous to Eocene time and that brittle faulting and brecciation was *predominant during more recent time.*

Initial deformation of local Karmutsen Formation volcanic and sedimentary strata may have occurred with the closing of the eugeosyncline hosting them during the Late Jurassic or Early Cretaceous periods. Mountain building accompanied by polyphase deformation and amphibolite-grade regional metamorphism followed which resulted in tight polyphase folding. *No studies have been done on the Mesozoic-age regional metamorphism in the Thurlow property-area.* It is assumed that each deformational event was accompanied by a phase of metamorphism.

Granitic intrusions of the Coast Plutonic Complex were established during the Cretaceous and Early Tertiary periods. It seems that granodioritic bodies intruded *preferentially into areas dominated by sedimentary strata, thus leaving the volcanic centres as keels among the intrusions.* Plastic deformation reoriented and reopened some previously vertical tight folds within the stratigraphy, draping them around intrusive contacts.

Heat flow from the Coast Plutonic Complex granodiorite bodies continued after their emplacement and was sufficient to cause widespread anatexis, hornfels development and

contact metamorphism. This locally obliterated mineral assemblages developed during earlier amphibolite-grade regional metamorphism. New cleavages oriented around adjacent cooling intrusions were formed. Anatectic melt products pressed out of contact metamorphosed rocks formed felsic orthoclase-rich dykes and blowouts in supercrustal rocks around the intrusions.

Fluids containing an abundance of volatile elements were assumed to have been driven out of Karmutsen Formation strata ahead of the contact metamorphic front into the volcanic keels among the Coast Plutonic Complex intrusions. They could be responsible for leaching, transporting and concentrating gold and other metals in the axial areas of the volcanic keels.

Northwesterly trending dextral shearing occurred along a volcanic keel forming the *Doratha Morton gold trend during the Early Tertiary Period (Ostler, 1998C)*. At that time unroofing above and cooling of the rocks in the area allowed the development of tension dilations, minor amounts of mylonite and northwesterly trending cleavage along shears. Gold seems to have been wrung out of the axial area of the volcanic keel and deposited in quartz-filled dilations during that shearing.

A major change in the orientations of the principal compressive stresses during the Eocene epoch may have resulted in brecciation, molybdenum deposition and pyritic diorite intrusion in the DM property area. This seems to have been the time of transition between the period of northwesterly trending dextral shearing and northeasterly trending transcurrent faulting.

Northeasterly trending transcurrent faulting and andesitic dyke intrusion occurred during the *Late Tertiary Period* and represented the completion of the transition from predominantly ductile to brittle deformation. It disrupted pre-existing stratigraphy and was accompanied by a northeasterly trending fracture cleavage. No significant metamorphic event accompanied this deformation.

Late Tertiary isostasy has produced surficial tension fractures of no regional importance.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The most prominent geological feature identified during current mapping was a tight northwesterly striking syncline that extended from the southern East 2 claim to the eastern part of the Mid claim. Intermediate to felsic welded tuffs and intercalated greywacke beds formed the core of the syncline. They were flanked by underlying fine-grained, thinly bedded greywacke.

The metavolcanic and metasedimentary stratigraphy of the syncline is flanked to the north and west by medium-grained quartz-feldspar-hornblende-biotite granodiorite. The syncline may be part of a roof pendant separating two lobes of a single granodioritic pluton in that area.

An area of weak potassic alteration of the granodiorite is exposed just northwest of the nose of the syncline along its axial trend. Alteration occurs as pink potassium feldspar, secondary biotite, epidote, and chlorite in thin veins and fracture fillings. This alteration fades out about 1.5 km northwest of the nose of the anticline, and no economic mineral concentrations are associated with it on surface.

The old iron and copper showings that reportedly were exposed on the Shoo Fly crown grant and the Nelly C. area to the north of it, were not located or explored. However, current mapping indicated that their most likely locations would be, along the axial plane of the syncline between the lower and upper logging roads on the eastern parts of these claim areas.

Mapping in the northeastern part of the property confirmed that geological structures turned northwesterly in that area. Any northerly extensions of the Doratha Morton gold trend and the Picton-Margurete molybdenum belt probably are located on the western parts of the Lo and Mid claims in the western part of the Thurlow property.

4.2 Recommendations

I recommend that geological mapping be extended across the western parts of the Lo and Mid claims to explore the northwestern extent of the Doratha Morton gold trend and the Picton- Margurete molybdenum belt.

4.3 Itemized Cost Statement for the June-July, 2000 Exploration Program

Wages:		
Bernard Fitch, B.A., 10 days @ \$300/day	\$ 3,000.00	
Thomas Jones, 6 days @ \$150/day	\$ 900.00	
John Ostler, M.Sc., P.Geo., 7 days @ \$400/day	\$ 2,800.00	
Patrick Poisant, 10 days @ \$150	\$ 1,500.00	
	\$ 8,200.00	\$ 8,200.00
Transport:		
Truck rental	\$ 1,300.00	
All-terrain vehicle rental	\$ 523.37	
Gasoline	\$ 246.56	
Ferry, Horseshoe Bay-Nanaimo.	\$ 172.50	
Water taxi, Campbell River-Phillips arm (4 trips)	\$ 1,180.00	
	\$ 3,422.78	\$ 3,422.78
Camp and Crew Costs:		
Chain saw rental	\$ 200.00	
Camp and road supplies	\$ 358.00	
Camp food and meals	\$ 465.30	
	\$ 1,023.30	\$ 1,023.30
Report Production:		
Copy of text and diagrams including scale changes	\$ 31.76	
Report covers	\$ 8.00	
	\$ 39.76	\$ 39.76
		\$12,685.84
G.S.T. 7.0% of \$12,396.71		\$ 867.77
Total cost of June-July, 2000 Exploration		\$13,553.61

West Vancouver, British Columbia
September 5, 2000

John Ostler
John Ostler: M.Sc., P.Geo.
Consulting Geologist



5.0 REFERENCES

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APPENDIX 'A'

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 Thurlow property located near Phillips Arm in the Coast Mountains of British Columbia personally conducted from July 4 to 7, 2000;

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



West Vancouver,
British Columbia
December 20, 2000

John Ostler; M.Sc., P.Geo.
Consulting Geologist