

86-1043-15672

12/87

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,672

ASSESSMENT REPORT

FILMED

ON

GLACIER LEASES:

16023
16024
16025
16026
16027
16028
16029

CLINTON MINING DIVISION, BRITISH COLUMBIA

NTS 820/7E

FOR

BLACKDOME MINING CORPORATION

BY

D. W. RENNIE, B.A.S.C., P.Eng.

DECEMBER 22, 1986



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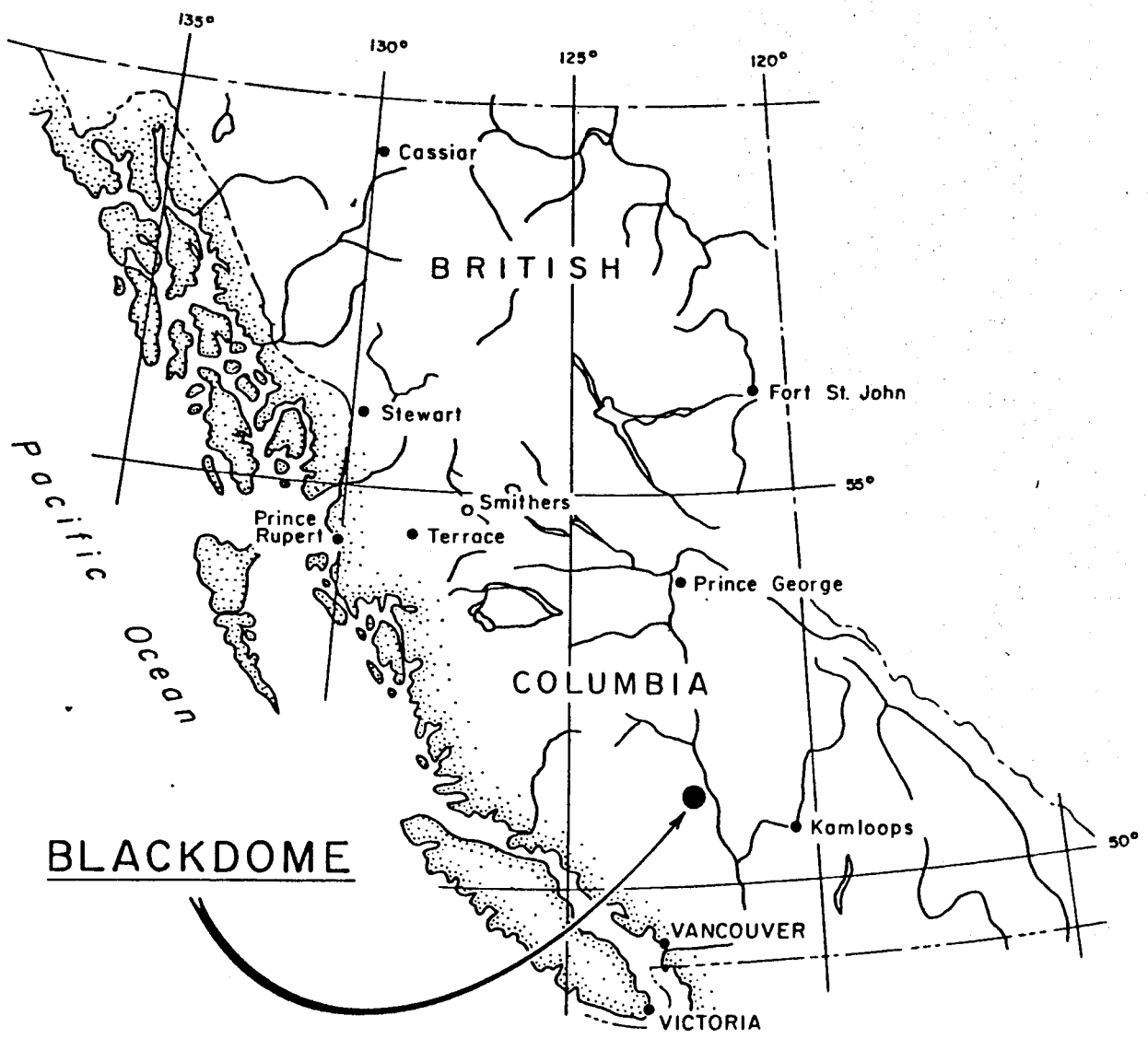
INTRODUCTION

A preliminary investigation has been made of seven placer leases in the Clinton Mining Division, British Columbia. These leases are owned by Blackdome Mining Corporation and are located 3 km. northwest of the Blackdome Minesite. The purpose of the work was to determine if a potential exists for the development of a placer mining operation on the leases and to determine what exploration methods, if any, should be employed to assess this potential. Work done included road improvements, field investigations of the extent and characteristics of stream sediments and reconnaissance pan-sampling of these sediments for placer gold. The area studied in most detail was a flat clearing at the confluence of Meadow and Fairless Creeks that is apparently underlain by as much as 1.1 million cubic metres (1.44 million cubic yards) of material. However, no gold was found in any of the samples and the volume of sediments on the claims appears to be too small to support a mechanized placer operation.

LOCATION AND ACCESS

The Blackdome Property is in the Clinton Mining Division at latitude 51 degrees 20 minutes N, longitude 122 degrees 29 minutes W on NTS sheet 920/76 (Figure 1). It is 250 air-kilometres north-northeast of Vancouver, B. C. and 63 kilometres west-northwest of Clinton, B. C. (Figure 2).

Access to the property is gained from Highway 97 at 58 Mile via 125 kilometres of good gravel road to the Blackdome Minesite. From there, 3 kilometres of poor dirt road provides access to the easternmost of the claims.

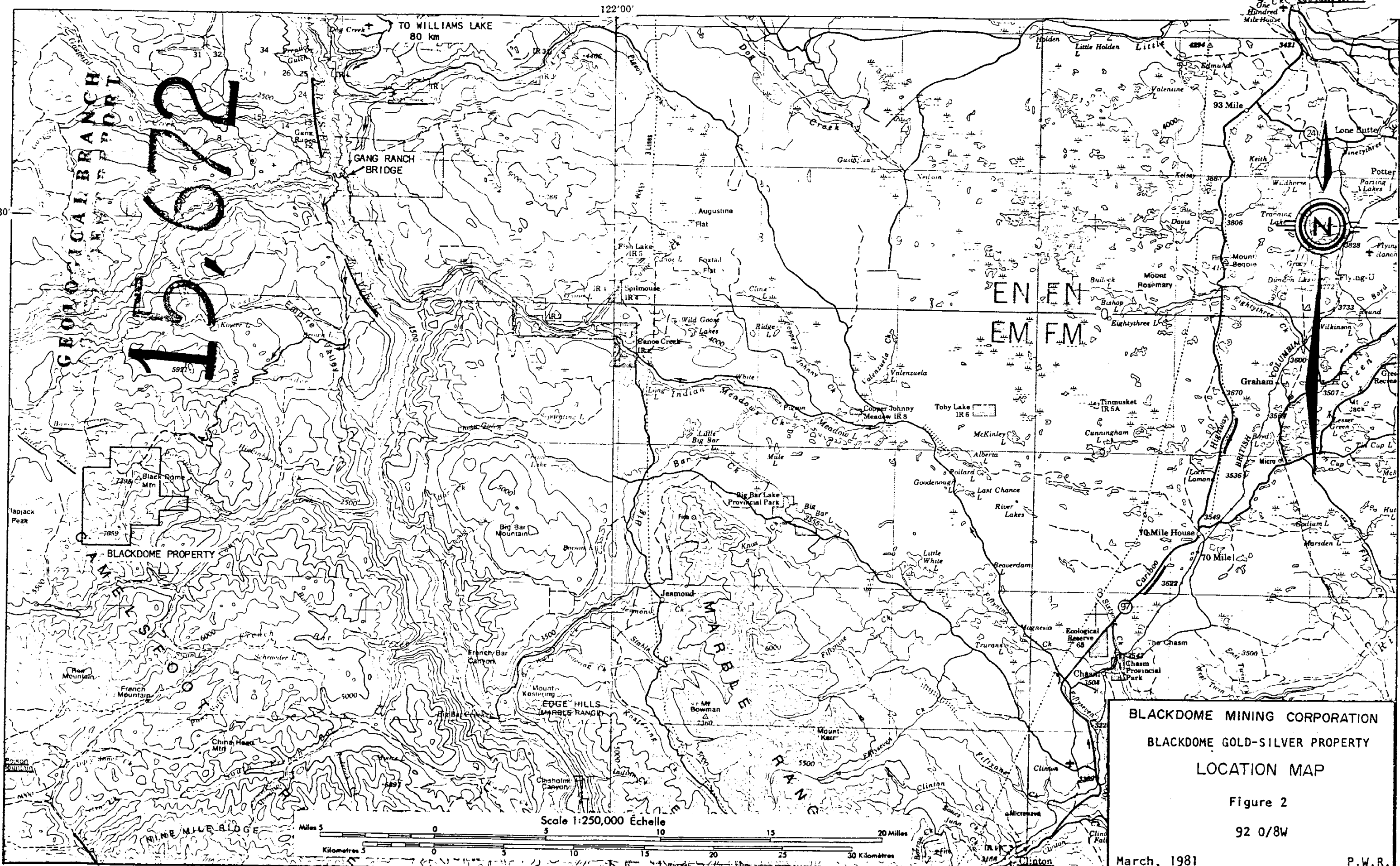


BLACKDOME MINING CORPORATION

LOCATION MAP

FIGURE 1





BLACKDOPE MINING CORPORATION
 BLACKDOPE GOLD-SILVER PROPERTY
 LOCATION MAP
 Figure 2
 92 0/8W
 March, 1981 P.W.R.

(From Richardson and Carlyle, 1981)

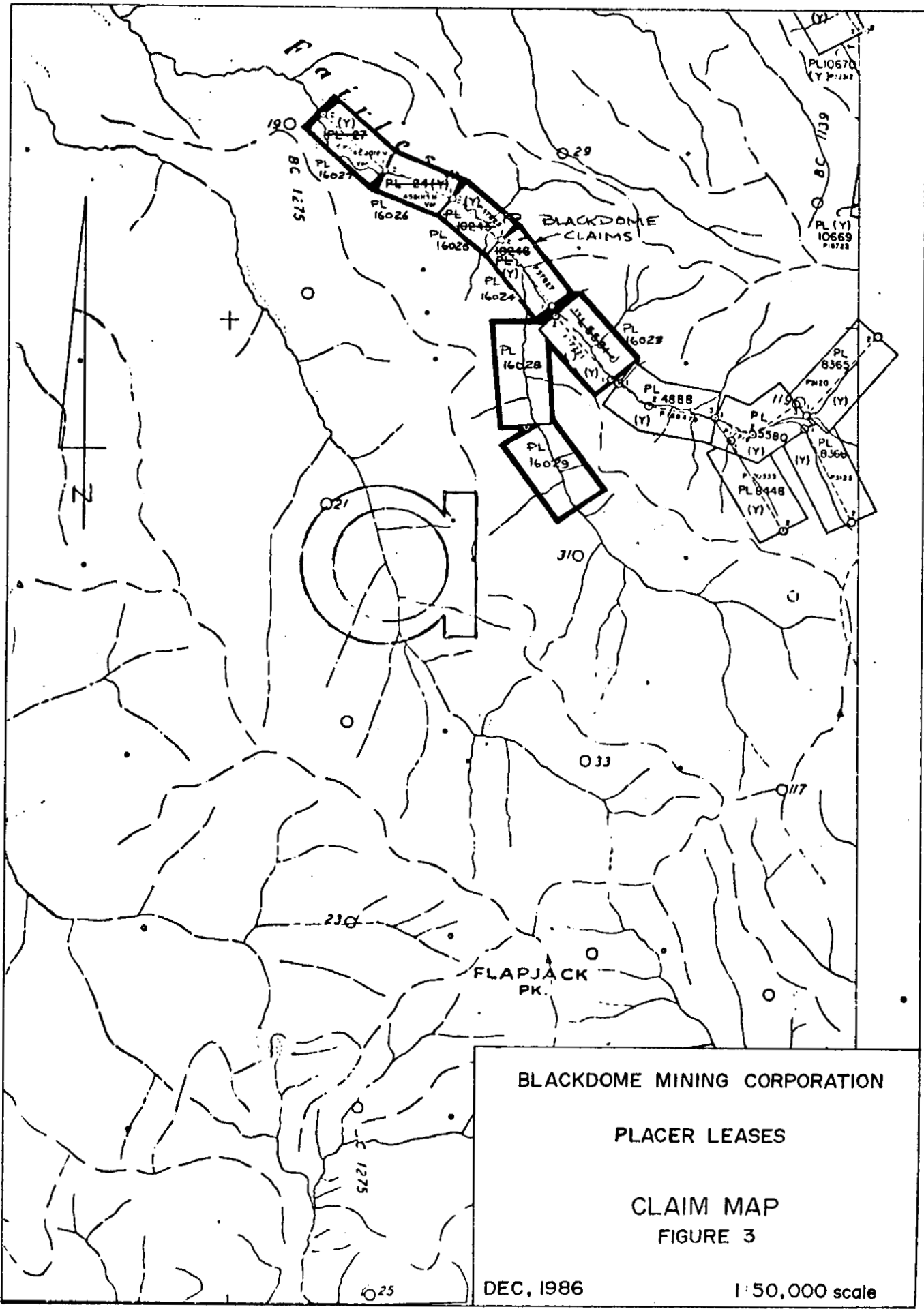
CLAIMS

The property consists of seven placer leases which are in the Clinton Mining Division, Fraser/Bralorne Designated Placer Area, and are shown on Placer Titles Reference Map P920/7E (Figure 3).

Pertinent claim data are listed below:

LEASE NO.	TAG NO.	EXPIRY DATE
16023	P39928	Dec. 31, 1987
16024	P39929	Dec. 31, 1987
16025	P39930	Dec. 31, 1987
16026	P39931	Dec. 31, 1987
16027	P39932	Dec. 31, 1987
16028	P39933	Dec. 31, 1987
16029	P39934	Dec. 31, 1987

Blackdome Mining Corporation hold either the leases or Bills of Sale for all of the claims.



BLACKDOME MINING CORPORATION

PLACER LEASES

CLAIM MAP

FIGURE 3

DEC, 1986

1:50,000 scale

HISTORY

References can be found in the B. C. Ministry of Mines Annual Reports to work done on placer claims on Fairless Creek as far back as 1966 but it appears as though this work was unsuccessful. Fairborn Mines Ltd. built roads and conducted bulldozer trenching over 12 leases in Fairless and Borin Creeks but did not record significant production. Evidence of this work can still be found in Fairless Creek, just upstream of the Blackdome ground.

Blackdome staked seven claims in 1984 and, prior to this study, had not done any work on them.

GEOLOGY

The leases are situated in an area underlain by Tertiary felsic to basic volcanic rocks. The Blackdome gold-silver mine, which started production in May of 1986, is some 3km upstream from the claims, at the headwaters of Fairless Creek. The deposits there are Eocene epithermal high-grade, low-tonnage deposits with reserves in all categories of 295,660 tons grading 0.735 oz Au and 2.74 oz Ag per ton. Medium- to very-fine-grained gold and electrum occur in quartz vein stockworks along with aguilarite, acanthite, tetrahedrite, pyrite, pyrrhotite, marcasite, digenite, chalcocite, bornite, covellite, chalcocite, arsenocobaltite, sphalerite and galena. Although the gold is usually fine-grained, grains up to 2 mm in diameter have been observed in the ore. Also, placer gold has been obtained in small amounts from the creeks which drain the mine property.

The two creeks investigated in this study were Fairless and Meadow Creeks. They flow northwest from a flank of Blackdome Mountain and meet in a broad, flat clearing known locally as "The Meadow", at a point some 300 metres northwest of the initial post for lease number 16024. Stream sediments consist of unconsolidated Quaternary glacial drift and till (Heginbottom, 1972) comprised of clasts which vary from clay to boulder size. They are poorly sorted except for a clay layer of unknown thickness that is exposed in the bottom of Fairless Creek. Overlying the clay is 1 to 2 metres of loosely packed clay and silt capped by approximately 20-40 cm of organic material. Clasts in the stream, itself, are sub-rounded to sub-angular and are derived

from local volcanic units. This sediment has not been transported far as evidenced by the degree of rounding of the clasts and the rock-types observed. There are very few quartz vein fragments which suggests that the veins which comprise the Blackdome deposits have not contributed much to the sediment load in the creeks.

DESCRIPTION OF WORK

The property has not, to the best of the author's knowledge, been worked as a placer prospect, so the work done was comprised of the most preliminary of investigations. It was decided, after first gaining access to the ground, to make a general inspection of the area, both on foot and from aerial photographs; make a rough measurement of the areal extent and thickness of the sediments and to take some samples of this material and pan them to determine if any gold was present. At no time was it intended to make an accurate determination of the value of the sediments deposited in Fairless and Meadow Creeks.

A D-6 Cat was used to do road improvements. Since this qualifies as Physical Work, it will be reported as such and not discussed further in this report.

An inspection of the ground, including claim posts, was then made and from this it was determined that any further work would, most likely, be best applied to the Meadow. Upstream of the Meadow, on Fairless Creek, the valley narrows and the ground becomes swampy. On Meadow Creek, the valley narrows, also, to approximately 25 to 50 metres, although there is gravel in the creek-bed. Downstream of the Meadow, the creek-bed narrows to 5 to 10 metres with rocky slopes on both sides. In the initial stages of the investigation, it was evident that the only place where sufficient material for placer mining could be obtained was in the Meadow, itself, and, perhaps, in the lower part of Meadow Creek.

Starting at the initial post for lease no. 16024, a baseline measuring .85 km in length was flagged on a bearing of 315 degrees (Figure 4). At intervals of 100 metres along this baseline, crosslines were run over the Meadow to measure its width and to establish sample-points. These measurements were plotted on the topography map, the approximate boundary of the Meadow determined and, using a planimeter, an area of 79,000 sq. m. was obtained.

An estimation of the depth of sediments is more difficult, however. The stream has cut into the bank to an average depth of approximately 1 meter. On the bottom of the stream, in the north end of the Meadow, a clay layer of unknown thickness is exposed. If this clay layer extends throughout the Meadow and if it represents the base of the unconsolidated material, the volume of the sediments is also 79,000 cubic metres or 103,000 cu. yd. It is entirely possible, though, that the clay merely forms a horizon in the sediments. In soils tests performed at the headwaters of Fairless Creek for the design of the mine tailings dam, sand and gravel depths of up to 14.3 metres were encountered (Ulrich, 1984). Therefore, the figure of 79,000 cu. m. is considered a lower limit and, the true volume could be many times that figure. By assuming a depth of 14 metres, the volume becomes 1,106,000 cu. m. (1,447,000 cu. yd.). Most likely, the actual figure will fall somewhere between those two extremes.

Samples were taken in several places in both Fairless and Meadow Creeks and panned to determine if enough gold was present in them

to warrant a more rigorous sampling programme. The creeks were frozen over at the time of the sampling and holes had to be chopped in the ice to facilitate panning. The ground was soft enough in only one locality to allow testing of the bank material, which meant that virtually all of the samples were taken from the creek bed. This is not an ideal sampling method due to the re-working of the gravel that occurs when disturbed by a shovel in the flowing water.

There was no gold observed in any of the pans taken from either creek and only minor black sands were obtained. In fact, fire assays of the concentrates from two of the sample sites were very low and indicate that there is no significant amount of gold, in any form, in those two samples. While the use of fire assay is not recommended for the evaluation of placer deposits, it can give a rough indication of the presence of gold, either as grains locked in gangue particles or that are too fine to see. In this case, the absence of gold is significant and lends considerable doubt as to the presence of a mineable placer deposit on the property.

CONCLUSIONS

- 1.) A preliminary evaluation has been made of the placer leases belonging to Blackdome Mining Corporation. This evaluation consisted of an early-stage assessment of the volume of sediment in the creeks encompassed by the leases and an attempt to discern whether or not placer gold was present in this material. The purpose of the work was to determine if a rigorous exploration programme was warranted on the ground.

- 2.) No gold was found in any of the pan samples from the creek sediments. Even though proper sampling was hampered by the weather conditions, one would expect to see at least one or two colours in a pan, especially considering the proximity of the Blackdome gold-silver deposits. This strongly suggests that a mineable placer gold deposit does not exist on the Blackdome ground.

- 3.) The estimate of the volume of sediment in Fairless and Meadow Creeks is largely dependent on the depth of material; a quantity which, at this point, can only be guessed at. The most optimistic estimate is only 1.1 million cubic metres. One metre of silty glacial till is presently exposed which overlies a clay layer of unknown depth. This clay may, in turn, overlie other sediments. If not, however, the total accumulation of material may be as low as 79,000 cubic metres.

4.) The sediments in Fairless Creek consist of poorly to moderately sorted glacial drift and till of Quaternary age and ranging from clay-sized to boulder-sized clasts. In the Meadow, most of the material is silt-sized or smaller with approximately 20-30% sand, gravel and cobbles. The top 20-40 cm of the sequence consists of organic-rich material. None of the Meadow sediments appears to have been re-worked much by stream action. As mentioned before, the silty till rests on top of a clay layer.

The Meadow Creek sediments are coarser-grained and better-sorted although there is much less of an accumulation of this material.

5.) In order to determine the extent of the clay, a series of backhoe trenches would be required. This would also allow for the assessment of the value of any underlying sediments and for an improved volume estimate. This is the only work that is appropriate at this time and, if undertaken, should be of modest scope. No rigorous exploration programme is warranted.



REFERENCES

- Heginbottom, J. A.**, Surficial Geology of Taseko Lakes Map-Area British Columbia, 1972, G.S.C. Paper 72-14, 9 pp.
- Urlich, C. M.**, Field Exploration Program For Blackdome Project Tailings Disposal System, Black Dome Mountain, British Columbia, 1984, Unpublished Report to Blackdome Exploration Ltd., 10 pp.
- Wells, J. H.**, Placer Examination - Principles and Practice, 1973, Technical Bulletin 4, U.S. Department of the Interior, Bureau of Land Management, 209 pp.

STATEMENT OF COSTS

Dates of work:

D. Rennie	Nov. 10 & 28, Dec. 5, 1986
R. Simpson	Dec. 5, 1986
T. Scheres	Nov. 10, 1986
S. Ellwood	Nov. 28, 1986

Labour:

D. Rennie	3.00 days @ \$	178.57/day	\$	535.71	
R. Simpson	1.00 day @ \$	142.86/day		142.86	
T. Scheres	1.00 day @ \$	119.05/day		119.05	
S. Ellwood	1.00 day @ \$	119.05/day		119.05	
				=====	
			\$	797.62	797.62

Room and board:	6.00 days @ \$	30.00/day			180.00
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4x4 Truck:	1.00 day @ \$	50.00/day			50.00
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Snowmobile:	2.00 days @ \$	20.00/day			40.00
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Report and drafting:					500.00
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				SUB-TOTAL	\$ 1567.62

PHYSICAL WORK

Bulldozer:	6.00 hrs. @ \$	60.00/hour			360.00
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				=====	
				TOTAL	\$ 1927.62

CERTIFICATE OF QUALIFICATION

I, David William Rennie, of Maple Ridge, British Columbia, Canada, do hereby certify that:

- 1.) I am a geological engineer residing at 12404 Dawson Place, Maple Ridge, B. C., V3Z 1G1.
- 2.) I am a graduate of the University of British Columbia, with a Bachelor of Applied Science degree in Geological Engineering (1979).
- 3.) I have practised my profession continuously since graduation.
- 4.) I am a registered member of the Association of Professional Engineers of the Province of British Columbia (1982).
- 5.) I am presently employed as a geologist with Blackdome Mining Corporation.

December 22, 1986

D. W. Rennie
B.A.Sc., P. Eng.



