

840751

Memorandum

Vancouver, B. C.
1987-05-07

Re: Churn Creek - M580

EARL D. DODSON

Attached please find the Corp-966 for Churn Creek (M580) along with supporting documentation.

L. A. Dick
L. A. DICK

LAD:am
Attachs.

Memorandum

Vancouver, B. C.
1986-12-02

Re: Churn Creek Project (M580)

Introduction

The Blackdome epithermal Au deposit, situated 150 miles north of Vancouver (Figure 1) is the newest gold mine in British Columbia. Production began in May, 1986 at a production rate of 200 tons per day.

The deposit contains proven reserves of 200,000 tons grading 0.79 oz./ton gold and 3.76 oz./ton silver. A recently discovered ore shoot has drill-indicated reserves of 50,000 tons grading 2.4 oz./ton Au and excellent possibilities exist for additional ore shoots in unexplored areas.

The deposit consists of a high level, fault-filling zone of intense silicification. Individual ore shoots are irregularly distributed along the structure and have a vertical range not exceeding 150 meters. The host rocks are Eocene-age rhyolites which show only minor visible alteration effects peripheral to the "vein". The ore-hosting volcanics are overlain, unconformably, by Miocene-age plateau-forming flood basalts which are not mineralized or altered.

The most important controls of mineralization appear to be the Eocene felsic host rocks, the NE-trending fault zone which hosts the silicification and the proximity to the Eocene paleo-surface, now represented by the Miocene unconformable contact. This latter feature suggests that the deposit formed at a very high level, and that erosion of 150 meters below this surface would have removed the orebody.

Property acquisition adjacent to Blackdome

Figure 2 shows the location of ground owned by Minequest Exploration which is recommended for option. Also shown is the location of ground which we have optioned.

The favourable features of the Minequest ground are as follows:

1. the property, combined with the proposed new staking, would cover the NE-trending potential continuation of the controlling structure at Blackdome, in similar host rocks (On a recent trip to La Habra I analysed the Blackdome structure and was able to trace it to the NE). This structure forms one element of what we perceive to be a regionally-important NE-trending zone within which the majority of known Au, Ag, Hg, Sb occurrences in the district (Figure 3) fall. This trend is further accentuated by the coincident distribution of Hg stream sediment anomalies (not shown - determined from our compilation of the government-generated stream sediment geochemical database);
2. heavy mineral stream sediment samples taken on the property by Minequest have resulted in a number of anomalies in Au;

3. preliminary geological reconnaissance by Minequest and S. McAllister of Chevron (Sept/86) indicate that felsic volcanics of the type known to host the Blackdome veins underly, at least in part, the claims. Float in creek beds locally consisted of silicified rhyolite, and Minequest geologists located siliceous sinter on the western part of the claims;
4. six regionally anomalous (80th percentile) stream sediment Hg anomalies (as per 1, above) could have had, as a source area, the Minequest property.

Exploration approach

Due to a paucity of data which could be used to quickly delineate a target, the property has been optioned such that we have until July 31, 1987 to perform a detailed property examination and to determine whether or not an option agreement will be exercised. This will give us time to determine the existence of the following:

1. potential ore-hosting structures (mapping, soil geochemistry, selected VLF);
2. permissive lithologies and alteration (geologic mapping);
3. geochemical anomalies (soil geochem lines across structural trend).

Economic considerations

Blackdome is a small, yet profitable mine. Revenue for the third quarter of 1986 for the deposit was 7.5 million dollars from production of just under 13,000 oz. gold and 28,500 oz. silver. Operating profit was 4.8 million dollars, and net earnings were 2.4 million dollars. Capital costs for mine and mill construction were in the order of 10 million dollars.

Summary

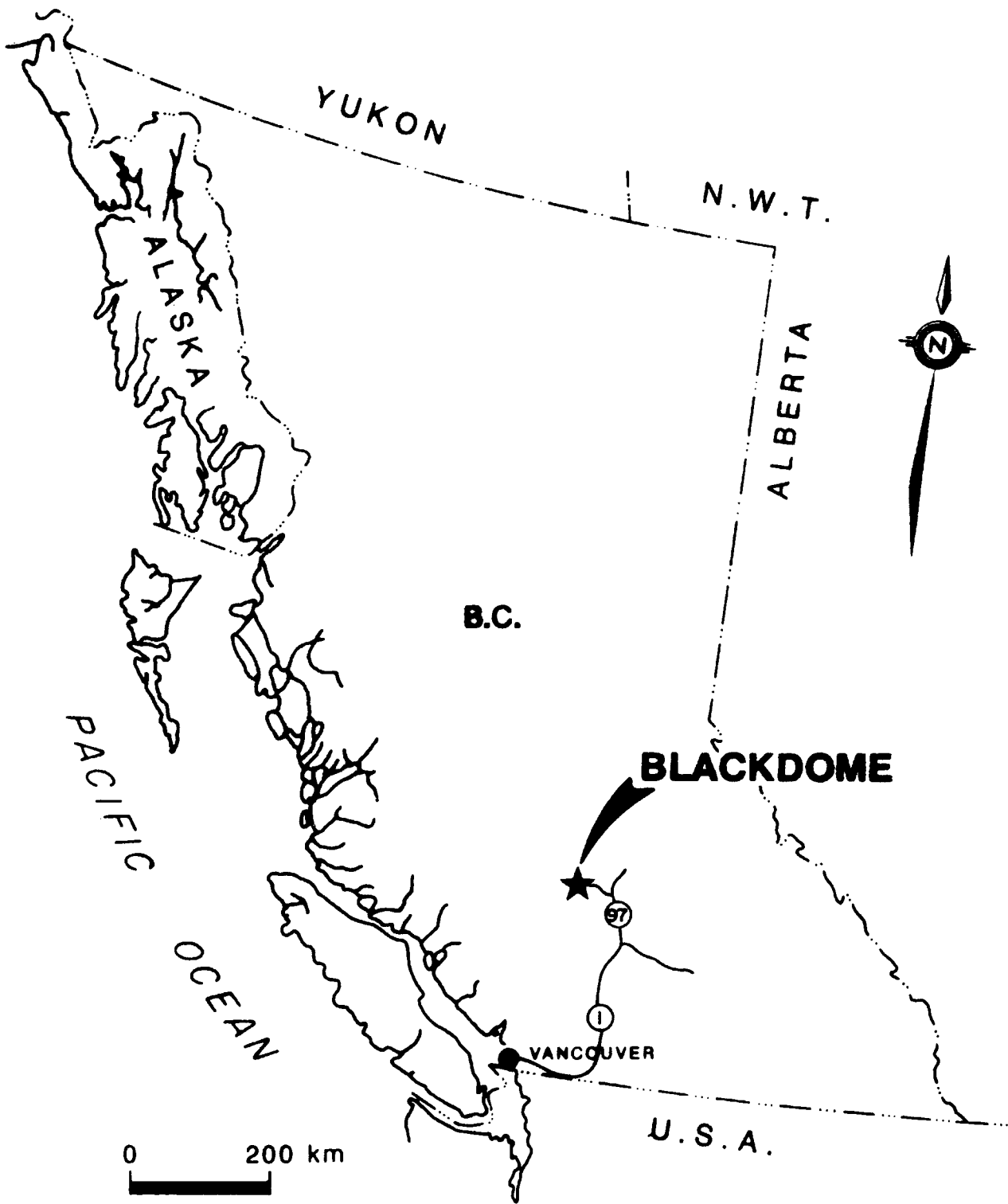
A vein deposit like Blackdome is a small exploration target, necessitating careful exploration with particular attention to NE-trending structures. The target deposit is profitable to mine and deserves to be explored for.

The Minequest claims, combined with the ground to be acquired by the additional staking, will represent a good ground position in a favorable geologic setting to explore for additional vein deposits of the Blackdome type. The geologic rationale behind the option and additional ground acquisition is that the Blackdome deposit appears to have formed along a regional NE-trending corridor of vein and porphyry-style deposits, and that additional vein deposits could exist to the NE of Blackdome in Eocene, felsic volcanics. The terms of the present acquisition will allow us to carry out a detailed property examination before committing to an option.

L. A. Dick
L. A. DICK

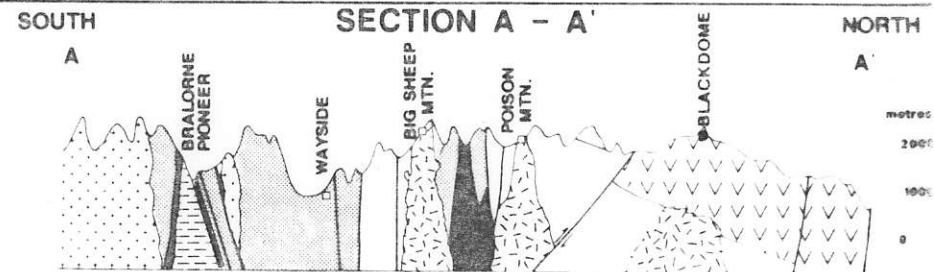
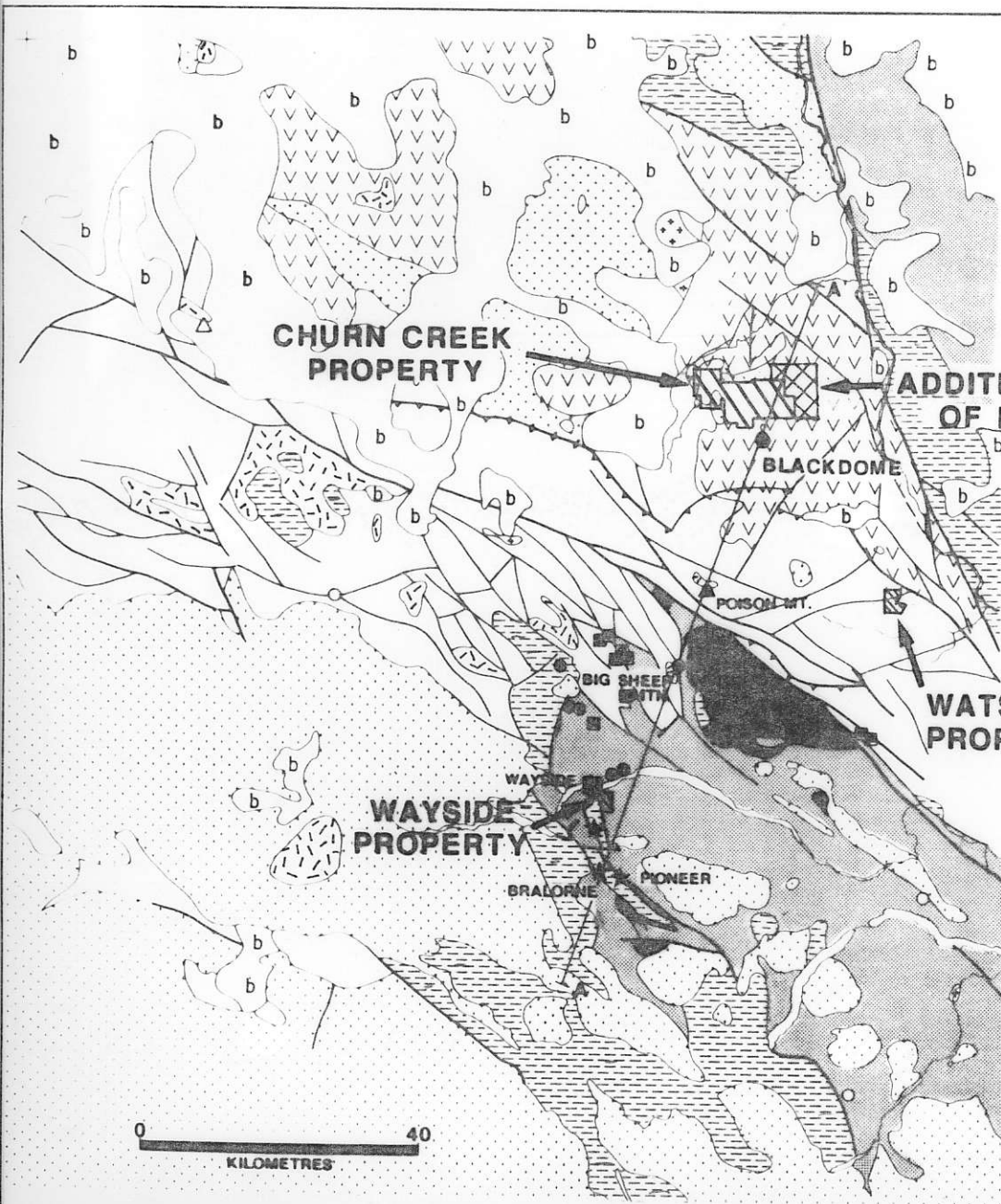
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a31/29/2



BLACKDOME LOCATION MAP

FIG.1



MEBOTHERMAL Au Au/Ag > 2 Sb-rich Hg Au/Ag < 2 EPITHERMAL Au
 □ MINERALIZED ZONE PORPHYRY

TERTIARY

- b b Plateau Basalt
- ▤ Felsic Volcanics

CRETACEOUS

- Sediments

TRIASSIC

- ▨ Volcanics & Sediments
- Ultramafics

PERMIAN

- ▨ Sediments & Volcanics

INTRUSIONS

TERTIARY

- ▤ Felsic intrusives

MESOZOIC

- ▤ Coast Range

— Major Fault

— Fault

☆ Au/Ag > 2

○ Au/Ag < 2

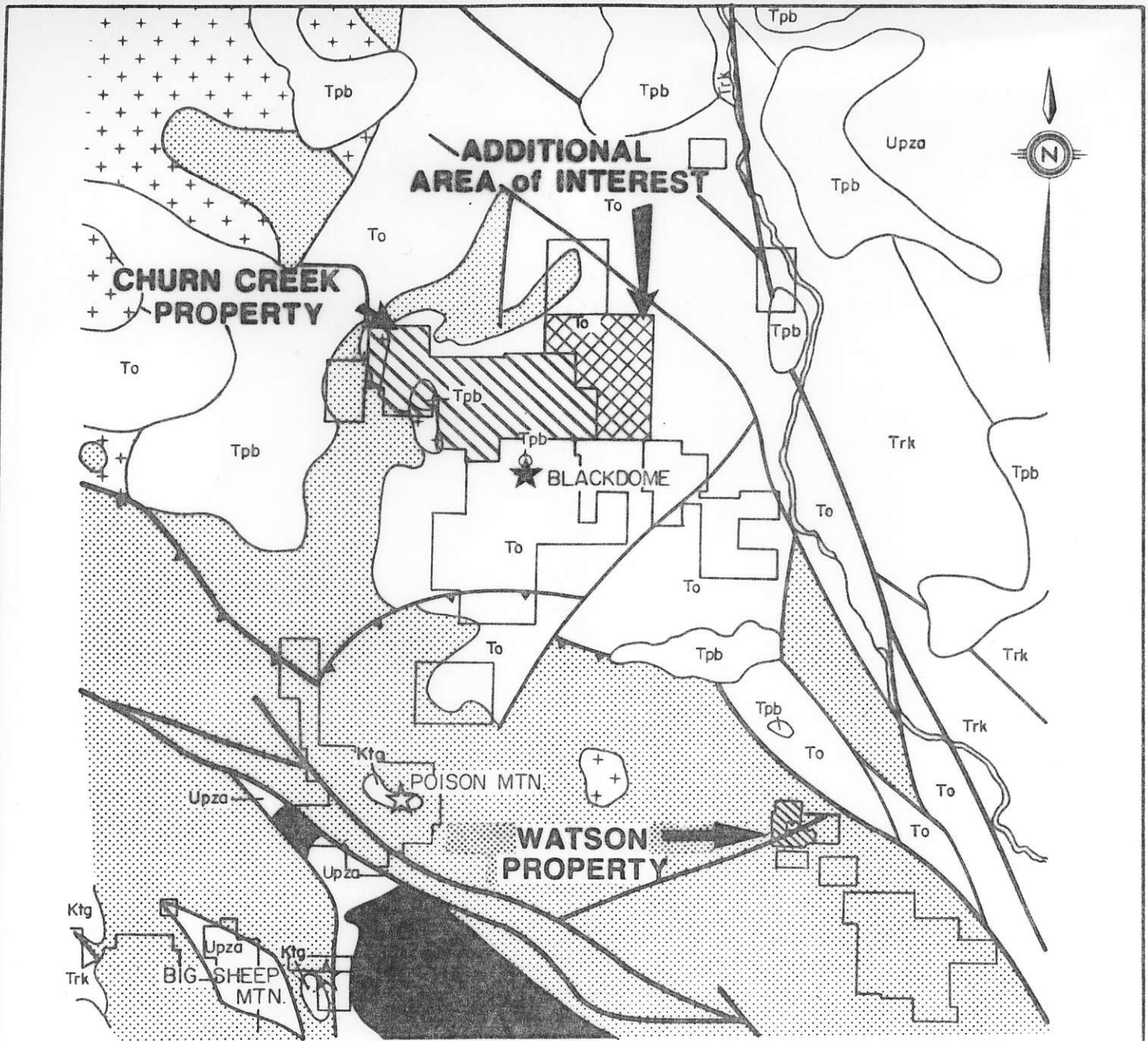
○ high sulphide high Sb

○ low sulphide

△ Porphyry deposits

□ Hg deposits

BRALORNE BLACKDOME AREA



TERTIARY

- Tpb Plateau Basalt
- To Felsic Volcanics
- Ktg Feldspar Porphyry
- Claim Outline
- Deposit

CRETACEOUS

- Sediments

TRIASSIC

- Trk Sediments and volcanics

PERMIAN

- Upza Sediments and volcanics
- Ultramafic

MESOZOIC

- + Coast Range Intrusive



Chevron Canada Resources Limited Minerals Staff		
CHURN CREEK & WATSON PROPERTY LOCATIONS		
FIGURE No.	PROJECT No. M543	
DATE NOV. 1986	REVISIONS	SCALE
NTS No. 92-0		FILE No.
COMPILED BY		M543-86-23