881043

Aug. 26/86

ADDITIONAL NOTES ON BLACK DOME by Tom Schroeter

PRODUCTION: - Began May, 1986 @ approx. 120 to 150 tpd.
- dore bars @ 65% gold, 35% silver
- expected to be 40,000 oz. gold + 200,000 oz. silver/yr.

PERSONNELL: Mine Manager - Bob Roscoe
Mine Geologist - Dave Rennie
Mill Superintendent - Rod Samuels

GEOLOGY: High level 'explosive' epithermal quartz vein - quartz breccia system intruding Eocene andesitic and rhyolitic rocks

MINERALIZATION: - Two 'main' veins (No. 1 and No. 2) which coalesce towards southern end of vein system - av. 1.5 to 2m wide
- strike length traced ~ 2000 metres
- native gold, native silver, electrum, bornite(?), pyrite, arsenopyrite(?) + sulphosalts(?) almost exclusively in gangue of silica.
- total sulphide content less than 0.5%
- geochemical correlation between Au, As + Sb
- complete lack of carbonate
- no barite observed to date (Ba-feldspar present)
- selenium identified: aguilarite (Ag_2Se) and naumannite $Ag_2(Se,S)$
- oxygen isotope data indicates consistent geothermal system dominated by meteoric water ($\delta^{18}O$‰ fluid ranges -7.5 to -8.96)

RESERVES: 184,120 tonnes (203,000 tons) @ 27.09 gpt (0.79 opt) gold and 128.9 gpt (3.76 opt) silver, based on a 8.57 gpt (0.25 opt) gold allowing for 21% mining dilution.

TGS

- recent exploration identified additional 24,000 tons of ore grading in the 60 gpt (2 opt) range; thus adding an addition 84,784 ounces to the gold reserve.
- drilling has only tested mineralization to depth of 125 metres
- best ore shoot to date (No. 3) on No. 2 vein assayed 60 gpt (2 opt) gold over a strike length of 28 metres + a width of 2.27 metres.

PROJECT COSTS: ~ $18 million total: $10 million for mill, $7.5 million exploration, and $0.5 million development.

PAYBACK PERIOD: optimistic - 1½ to 2 yrs.

POTENTIAL: for more ore - excellent!

RECOVERY: 92% - gold; 73%-75% - silver

THESIS STUDY: Gary Vivian - Univ. of Alberta (Edmonton)
Completion date - Nov. '86?

COMMENT: Best analogy of high level epithermal vein system in Tertiary rocks in BC (cf. Nevada, Mexico). - TGS

Round-Up '87

Jan. 28/87

BLACKDOME

[Dave Rennie]

Expl. – 38 yrs – 1947 – Mr. Frenier + Shraeder

– great aerial shot – ask for slide!

→ mined 6 oz Au at time

1952 – Empire Valley Gold Mines + Silv. Std.

acquired north + south portion resp.

→ 1950's

1954 Silv. Std. – 6 ddh on No. 1

1955 – Empire Valley – built airstrip + 150 ft of drifting on Giant Vein + 50 ft on Red Bird

1977 – Bert Reeve + Jim Dawson – Barrier Reef Res.

1978 – formed Blackdome Expl. Ltd.

(incl. Silv. Std. + Empire Valley props.)

1980 70 more ddh (58 on No. 1; 12 on Red Bird

1979 ~15 ddh

1981 collared south drift 1960 m level

– 3000 ft. drifting + raising

– 3 ore shoots disc.

1982 – option to Heath Steele Mines → $2.3 million spent 1982-83 by Noranda

– geophys., geochem, trending VLF-EM – Mag – not that successful

1983 North portal collared + 2000 ft. of drifting

1984 Re-financed – U/G drifting – South Mine

– 1960 + 1920 levels (~900 ft. on No. 1 vein) 3700 ft drifting

= 4 new ore shoots!

Res. → 263,000 t containing 160,410 oz 763,000 oz Ag

[Rod Samuels] Tailings Dam = 85 ft. high; 150 ft. across valley

Sept. 1984 → 100,000 cu m of rk. removed for mine/mill complex

early Dec. – buildings up

5 to 15% kaolinite (clay) in ore
it used scrubbing trommel
- very efficient

- wood tank (~35' high) ⟹ resale value!

- jig + spiral system - collected 80% of gold prior to flotation
30 to 40 oz/t Au + 400 oz/t Ag in flotation conc.
⟹ put on Wifley table (2 to 3 times)
→ 60 to 75% of Au in bullion form

May 26/86 - poured 1st gold bar
May - 2200 oz Au prod. 150 tpd
Sept. → 200 tpd Oct., Nov, Dec. - av. 4200 oz Au/month
7½ mos. ⟹ 29,800 oz Au 78,800 oz Ag

- non union
[Carl Ashenurst] - Financing - see history
- Barrier Reef 'story' - Bart Reeve
- Kerr Addison Mines - Canada
- funds from London
MFC / Blackdome Mining

Project financed totally by equity - no debt!

BLACKDOME

May 12/88

- talk with Giles Peatfield (rep. Bert Reeve & Assoc.)
- large surface ddh program late last fall discovered south (western) extension – western splay (tail) (towards Lexington prop.) – ~~[illegible]~~ adit @ 1860 m level
- total Watson vein system now ~ 1.5 km strike
- north end of system appears to go under Blackdome Mtn. as min. picked up on east side
- mining from 1860 m level (by mill-camp)
- → prod. ~ 47,000 oz Au in 1987
- est. ~ 55,000 oz for '88
- reserves for another 8 yrs?
- Dave Rennie gave talk on new SW zone at CIM in Edmonton. (see abstract in file)
- Proposed $6m budget for '88 (mainly U/G)
- Longitudinal sections available.

CIM - Ann. Meeting
Quebec City
May '89
talk

BLACKDOME

- calc-alkalic suite host
- meteoric groundwaters penetrated fissures ½ to 1 km below surface.
- partly vented i.e. brecciation
- boiling, geothermal system
- aqueous fluids affected phyllosilicate + K-fsp alt'n.
- pervasive propylitization characteristic
- low salinities (.2 to 2 wt % NaCl equiv.)
- $\delta^{18}O$ values -6.8 to -8.8 ‰ (snow)
→ adularia-sericite type volc.-hosted epi. system!
- 5 km x 1500 m wide (at least 12)
- ~ 48,000 oz Au + 220,000 oz Ag / yr.
- tension fracs. are loci of ppn veins — apparently result of uplift by volc. doming (cf. graben - Toodoggone)
- orig. within emergent island arc system (Stikinia)
- stkwks + zones of silic.
- qtz.-rich gangue carries <.5% opaques. - vg, Ag, elec, acanthite, sulphosalts + aguilarite (Ag_4SeS) + naumannite
- qtz. veins both early + late → Au + elec. = late
→ qtz - adularia - ser - kaolinite - chl - mont - ill.
- temp of ore fmn 260 to 295°C
- coexistence of liquid-rich + vapour-rich fluid inclusions suggests boiling.
- leaching by brines in deep volc. package
- ore shoots small - eg. 12 to 70 m strike, 75 m vert, 1.5 to 3.5 m wide.

→ Blackdome

BLACKDOME

Feb. 7/94

- chat with Charlie Forster (consultant)
- working on pre-prospectus rpt. with Ivor/Watson + Dave Workman
- plan for $1.5 m expl'n — follow up on #18 Vein, etc.
- rather than attempt to produce 20,000 ounces + believed to exist in workings.
  i.e. need to confirm + expand.
- owner is Ross Sargent

→ BLACKDOME

BLACKDOME SUMMARY - BLACKDOME MINING CORPORATION

- production began in May 1986
- original expected mine life of 3 years
- ore bodies difficult to find / costly to find, but once found are very profitable.
- total production to end of 1989

tons milled	208,683
gold oz	181,518
gold grade	0.62 → 0.86
silver	503,722

- original cutoff was 8.5 g/t Au!! andesites / rhyolitic rocks
- pmetal - qtz veins hosted in calc-alkalic host rocks
- adularia - sericite type epithermal system. - lack of carb!!
- tension fractures host veins (qtz - adul - ser - kaol - chl - mont - ill.)
- metallic mins = vg, Ag, elec, acanthite, sulphosalts + aguilarite (Ag + SeS) + naumannite

- pervasive propylitization characteristic
- partly vented system → brecciation.
- alteration halos around veins can extend 1 → 15 metres beyond walls of veins into wall rock.. (noticeable bleaching of propyl. rocks)

- No.3 ore shoot (on the No. 2 vein) was traced over 38 m strike length and has an average width of 2¼ m. depth ≈ 125 m.

- qtz veins dip steeply to NW
- cockscomb textures, vug. & brecciation = common
- total sulphide content in vein = < .5%; native gold = major ore mineral

MINING METHODS

- cut & fill methods in upper zones - fill from surface - andesite scree.

- details of No. 18 vein mining methods / success / reasons why?!
- Δ's from N-S along vein system (systematic Δ's)
- (i.e. ↑ or ↓ in Sx content?)
- Δ's w.r.t. depth of vein
- grade & tonage remaining (geological reserves) & at what $/ton Au would they become 'economic'?
- grade in wall rock in No. 18 veins!

- size of ore shoots relative to (exposed) vein length
- i.e. size of exploration target!
- are grades higher in areas where veins coalesce
- variation in grade w.r.t alt assemblage
- association of grade & alt. mineralogy
- u/g sampling techniques / stope sampling techniques  in narrow / restricted vein-type situations
- % of ore zone reserve left in ground as structural support.
- availability of lower grade ore in vicinity of mined out high grade shoots - at what increased cost will it become 'economic' - i.e. how much more will it cost (to get the lower grade ore) because the gravy was scooped out first at a disregard to the "actual deposit"

SCMDRC meeting - Kamloops
(from Art O'Brien)

Tom Colborne, P.Eng. May 28/92

BLACKDOME FAX 573-4491 - office
KAMLOOPS. Phone same

Tom C.
Consulting Manager
Blackdome Mining Corp.
127 Robson Dr.
Kamloops V2E 2K6

Home Tel. - 828-2132

EMPIRE VALLEY RANCH.

Interest in purchasing Blackdome

IAN McINTYNE
Edmonton 403-962-4055

Note: Art planning a site visit ~ June 26, 27/92
Thurs, Fri.

FILE → BLACKDOME

June 16/92

Tom

Re: BLACKDOME VISIT

- got Don Rose's phone # from Ron Arksey ⇒ 459-2416 in Clinton (McColl Road)
- I talked to Don's wife(?) & left a message for him to give us a call - he is currently up at the mine with Tom Colborne & was to have phoned home last night or today. I briefly described our intent & dates & times to Don's wife.

- Ron Arksey later phoned back ~~[illegible]~~ with Eric Le Neve's # (992-7579 in Quesnel) & also Tom Colbornes home phone # (573-4491 - Clinton?).

B.

BLACKDOME | NO.

Int'l Prospector + Developer acq/[illegible]

Drill indicated reserves over min. 5 ft. width = 455,000 tons @ .32 g/t Au & 2.7 g/t Ag

Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources
GEOLOGICAL SURVEY BRANCH

Su 301, 865 Hornby Street
Vancouver
British Columbia
V6Z 2G3
Telephone: (604) 660-2708
Fax: (604) 775-0313

JUN 15 1992

Geological Survey Branch
EMPR

May 29, 1992

~~G.T. Colborne, P.Eng.
Consulting Manager
Blackdome Mining Corp.
127 Robson Drive
Kamloops, BC
V2E 2K6~~

No longer there - resigned as of June 21
Box 458
Clinton BC
V0K 1K0
Acting (On site) Mgr. - Don Rose or Eric Le Neve
get phone #

Dear Tom:

Subject: **PRESERVATION OF GEOLOGICAL MATERIAL FROM OPERATING/CLOSING MINES**

The Geological Survey Branch of the Ministry of Energy, Mines and Petroleum Resources has embarked on an initiative aimed at 'preserving' **geological** material from closing mines. As you are well aware, current legislation does not address this specific issue. Everyone involved in the mining business, whether it be from the government or industry side, recognizes the importance of technical and scientific data. This is particularly true for geologists. Recognizing that Blackdome has been 'closed' for about a year and a half and that assets on the site are still for sale, I wonder: 1) What happened to the **geological**/mining records upon closure/abandonment? 2) Is there any possibility of retrieving anything to be stored and eventually made accessible to the future explorers in the Province? Obviously we're not talking about 'confidential' material, rather things such as **geological** maps, sections, reports, metallurgy, assays (bench plans), photographs, and perhaps rock/core samples.

If there is some potential of preserving **geological** material from Blackdome please let me know so I can pursue the matter with you as well as internally. In the meantime, I would like to visit the site in the latter part of June. I understand I must make arrangements with you re: a key?

Thanks for your consideration.

Yours sincerely

Tom Schroeter

Tom Schroeter, P.Eng.
Sr. Regional Geologist

cc R. Meyers
V. Preto

TS:JB

Tom
Inquired for new address/contact from Rick Meyers.
Redo as is with new name or do you need to amend?
Janie