882802

TGS → Eskay CK.

Eskay 2003 Exploration Program

The 2003 Eskay surface and underground exploration program consisted of 35,500 metres of diamond drilling. The main focus of the surface program was the 22 Zone, which is situated 2 km south of Eskay Mine site. Drilling also expanded on known resources in the 21C, 21A and 21E zones. At the north end of the deposit, deeper holes were completed to test the area down plunge from the NEX and Hangingwall Zones.

~~As of Dec. 31, 2002, total ore reserves were 1.43 Moz Au & 64.4 Moz Ag.~~

The mill production target for 2003 was 700 tonnes per day. Approx 50% of the ore came from the 21B orebody and is all smelter ore (i.e. direct shipping). About 25% came from the NEX zone and was mainly milling ore. The mill rate was 330 tpd. Smelter ore is scheduled to cease in 2005; after that, the cut-off grade for the mill ore will likely rise above the current 15 g/t Au. Optimum mill ore came from the 109 zone which is nearly mined out. The 44 orebody, deep in the plunging NEX ore at the northern end of the mine, was added to the reserve base and will supply high-grade mill ore. Mining was resumed in the 21C zone; it supplies lower-grade mill ore. Definition drilling continued in the Water Tower zone, a future source of mill ore in the footwall rhyolite. Present mill reserves are sufficient to 2008.

Schroeter, Tom EM:EX

From: Schroeter, Tom EM:EX
Sent: Friday, November 21, 2003 8:24 AM
To: 'Gale, Dave (Vancouver)'
Subject: RE: Exploration Summary

Thanks, Dave

ESKAY CREEK May '03
"accounts for 41% of Canada's silver production"
(#1, May 9/03)

Tom

Tom Schroeter, P.Eng./P.Geo.
Senior Regional Geologist
Resource Development Division
Ministry of Energy and Mines

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Messages & Enquiries 604 660-2708
Facsimile 604 775-0313
email tom.schroeter@gems6.gov.bc.ca
Autotel 604 662-9091

May 10/00
ESKAY CREEK
- Stephen Orr @ KEG
2000: Cash Cost < US$30/oz Au
Profit = $120M
Taxes Paid = $49M

ESKAY CREEK
"recent briefing for mining ana / x's -
Barrick - latest drilling
16.7m (55ft.) @ 1.45 opt Au
SW - June 27/03 - Hathor Expl!

-----Original Message-----
From: Gale, Dave (Vancouver) [mailto:DaveG@barrick.com]
Sent: Thursday, November 20, 2003 2:45 PM
To: Schroeter, Tom EM:EX
Subject: FW: Exploration Summary

Tom,

Here is that summary you were looking for. The drilling total includes the exploration component of the mine's drilling. The break down is 18000 for us, and 17500 for the mine.

Dave.

<<Eskay 2003 Exploration Program.doc>>

Dave Gale
Project Geologist
Barrick Gold Corporation
Vancouver, BC
604-895-4453

ESKAY CREEK Mar. 24/05
2007 - Q3
- Eskay Ck. finished
(DA/PW)

ESKAY CREEK (Apr. '03)
Past Prod. + Reserves
= 2.94 MT @ 43.25 g/t Au
+ 1926 g/t Ag
= 3,754,968 oz Au + 181,488,462 Ag
[$1.88B] + [$1.45B] = $3.33B

KEMESS – Maurice Ethier @ Minerals North (Smithers) Apr. 15/04

~52,000 tpd – milling

US$ 125/oz Au net of Cu credits

350 employees + mgt.

Reserve (end-'03)
92 Mt @ .6 Au .22% Cu
[2.1M 459M lbs Cu]

+ Resource 52 Mt (800k Au 192M)

Ag prod. up by 81% (eg. ~477,000 oz)
[check 2003 Ann. Rpt.]

2004 Total Operating Costs ~ $128M

Paymt to Gov't + Crown Corp. $3.4M ($36M in 04)

2004: 19 MT – mill 300k Au 75M lbs Cu
Cash cost ~ US$206/oz, net of Cu credits
Expl'n Exp ~ $2M (@ minesite), Total cap. exp. $17M

Kemess North

Res. 4 Moz Au, 1.4B lbs Cu

Total $153M – cap. cost (2005-2009)

Start-up Q4, 2006

Expl'n $2.5M ('03) – incl. mine, Breece + Hyland

"Total" (Reserve + Resource) ~ 11 Moz Au

Stewart-Omineca Res. Road
– 100 km – new const.
– $30 – $40M – est. cost

ESKAY CREEK @ Minerals North (Smithers) – Apr. 15/04

Gord Graham – operations Mgr.

~350 employees (incl. ~200 contractors)

Tahltans ~ 34% of employment

Mine life: mid-2008

DSO are finished Q4, 2005 (i.e. becomes mill only)

Dec. 27, 2003 ; .84 Mt 34.8 Au, 1604 Ag

Prod. Jan. '93 – end '03
1.53 Mt 58.1 Au 26-35 Ag

Geol. Res.
.63 12.9 Au + Ag

Expl'n: 3 main areas: ② u/g 33,000 m ddh
Surface ~ 5,000 m ddh
US$ 2.5 M

① Deep Adrian (44 Zone, NEX) – drive ramp down (3-500 m below existing workings) (pot. to host DSO material) – drill from surface (long holes)

2004 670 tpd (u/g) [370 t direct ship → 135,000

mill – 110,000 t (300 tpd) @ 23.3 g/t Au

Grade 42.1 Au 2060 Ag

Payable Au ~ 310,000 oz ; Payable Ag = 14,987,000 oz

Cap. exp. ~ $8.4M US$119/oz = Total cash cost

note: est. done @ US$5.50/oz Ag → i.e. now $8.5

Cash flow US$ 66.2 M

Total Cash Cost 654/tonne

ESKAY CREEK — Minerals North (Smithers) — Apr. 15/04

2) 22 Zone: Disc. (2002) — looking @ u/G dd
— winter '04 ddh (just completed) — some interesting results.
2006 m S of existing u/G infrastructure [$8M capital cost to drive out to it]

Last week — 2 rounds of >30 oz/t Au grade!

(excellent talk!)

HUCKLEBERRY — Carl Bottaro (Chief Mine Engineer)
— $1.05/lb Cu — re-design East Zone pit (200 m deep)
— grinding problems (i.e. high work index)
— no waste dumps at end of proj. i.e. all put under water back into Main Zone pit —

Concentrate. 11,500 t/mo. 2003 Prod. 80 M lb Cu/y 8000 oz Au 300K Ag
1 M t Mo

Employment $87K/yr. — av. salary

Ann. Exp. = $48M Expl'n ('04) $500,000 for phase 1 — new full-time geol.
→ esp. NE end of pit + N. of Main Zone pit

Whiting Ck.: 31.6×10⁶ Mt @ .06% Cu, 0.112% MoS_2
(pre-NI 43-101) within 123.5 Mt .06 .04 MoS_2

ENDAKO: Alan Morrish — Thompson Ck. Mining (private co.) + Sojitz Noble Alloys Corp (formerly Nissho Iwai) — large trading co. (Japan)
— great aerial photo
Main Zone 300 m deep — 27,200 tpd — present capacity ~230 employees
— Denak West pit (not (yet) devel.)
— Uses of Moly: * steel alloy (toughen)
* jet engines (Ni-Mo alloy)
* medical implants (Cr-Mo alloy)

Av. grade .123% MoS_2 Recover ~78%
(i.e. 1 lb Mo/tonne of ore)
Prod. 10 M lbs/yr of molybdic oxide

In-pit crusher: saved ½ costs of haulage + crushing (without) (from Island Copper)

$ US/lb Mo up to $14 (Apr. 9/5)

Reserves: i) 2.5 yrs below S wall (Main zone)

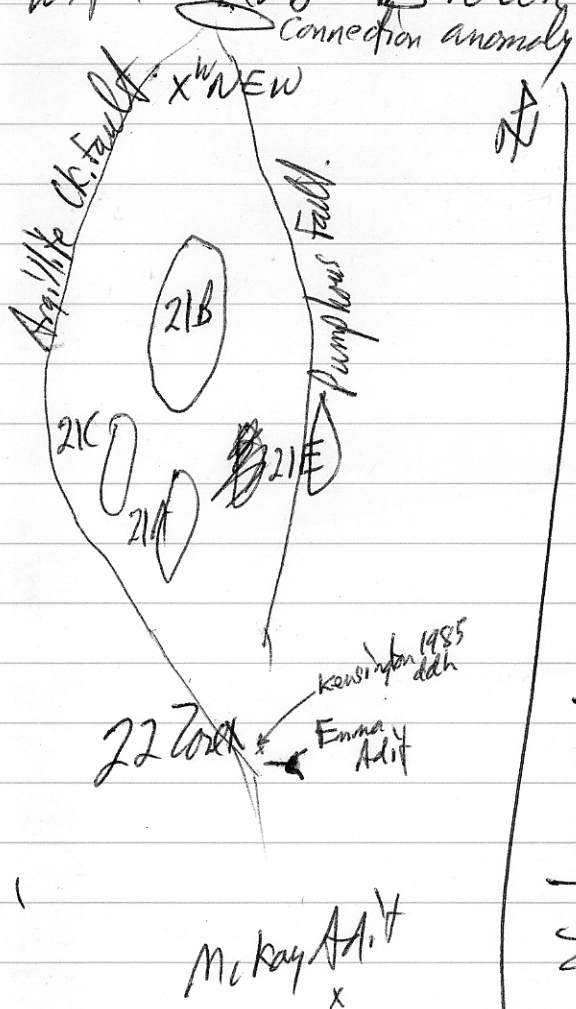
West Denak — 2 yrs, 8M cap. cost.
Low-grade stockpiles 2.5 yrs

Mine life ~7 yrs. (i.e. 2011)

ESKAY CREEK

Nov. 14/03

- chat w. Rob Brown (Mgr.) + Dave Gale (in Barrick office)



- ~ ½ expl'n ddh (total ~ 17,000m) around mine site, in its 'support' & replenish resources

- ~ ½ on (new) 22 Zone - incl. 'resource' dr. 'ling (announce later, Spring '04?)

CONFIDENTIAL

- Winter '04 ddh program to fill in gaps on 22 Zone

- Min. - very similar to 21C Zone i.e. structurally-controlled stkwk (cf. stratabound ore) all within rhyolite.

- geometry of 22 Zone still not certain — overall 'trend' of min. is NW, but there are sig. NE structures.
- Excellent high grades locally (eg. > 20 g/t over > 10m)
- Stibnite + tetrahedrite + py

N. end only where 'system' plunges steeper @ 60°!

- tried ground gravity & IP surveys (E-W) - whole prop.
- 2004 → plan to test entire claim block south of mine to McKay adit 'boundary, esp. on the eastern limb (no previous expl'n)

ESKAY CREEK

Jan. 28/99

Roundup '99 – Domestic Session
– talk by Carl Edmunds (moving to Reno, Nv.)

1998 Highlights: high grades i.e. 1.6 gpt Au; 70.9 gpt Ag
Prod. > 505,000 oz Au equiv.
Cash operating cost = #US 158/oz
(250 tonnes) 275 ~~tons~~/day – direct shipping ore
(150 tonnes) 165 tons/day – mill

Total Capital Costs (Ltd) = #93M

[Since start up (1995) → produced ~ 1 Moz Au + 45.5 Moz Ag.
(OR ~ 1.8 M oz Au equiv.) Ag:Au = 55:1]

- Total Resources (Prod. + Res.) = 6.5 Moz Au equiv.
- 9 oz Au equiv / metre of drilling (costs)
- Current mill feed from 109 and NEX zones.

* KAY claim (within 200m of ore-grade intercepts, immed. W/W of HW/NEX zones) ⟹ underpins 'opportunities' in BC!

Order of Reserves: 1. 21B (75%) → 2. 109 → 3. NEX → HW → 5. 21C

* 1998 Success: a) #4 Stope (21B zone) eg. some intercepts > 300 gpt Au
36,376 tons @ 3.19 gpt Au and 129.4 gpt Ag
[~ 116,000 oz Au and 4.5 M oz Ag]
b) 21C Zone: 334,000 tons @ 0.48 gpt Au + 8.9 gpt Ag
c) 109 Zone (112 ddh) = 217,000 tons @ 1.43 gpt Au + 90.6 gpt Ag

1999 Plans: i) Bulk sample of 21C zone
ii) regional expl'n.

Info: John Thompson
Thanx: Henry Awmack

MEG LUNCHEON

Wednesday, March 3, 1999, At the Georgia Hotel

The Eskay Creek Mine:

Review and Update of Exploration and Production in an Unusual VHMS Deposit

Tina Roth, Mineral Deposit Research Unit, UBC, John Dadds, Homestake Canada Inc.

Stratiform gold and silver rich mineralization in the Eskay Creek deposit has attracted much interest since its discovery in 1988. The deposit, located 85km northeast of Stewart, British Columbia has been in production since December 1994. It is 100% owned and operated by Homestake Canada Inc. since the recent amalgamation between Homestake and Prime Resources Group Inc. To the end of 1998, the mine produced 934,631 ounces of gold and 45.5 million ounces of silver from 502,794 tons of ore. Proven and probable ore reserves at the beginning of 1999 are 1.5 million tons grading 1.68 ounces/ton gold and 72.7 ounces/ton silver.

57.6 g/t Au 2492.5 g/t Ag 1.36 MT

Based on its environment of deposition, geometry, and associated footwall alteration, the orebody is classified as a volcanic-hosted massive sulphide deposit. However, it has several characteristics which are unusual for typical VHMS deposits, including high concentrations of precious metals, association with a more typically epithermal element suite (Sb-Hg-As), low temperatures of formation, and dominantly clastic sulphide-sulphosalt stratiform ore. Stratiform mineralization is hosted in marine mudstone at the contact between underlying rhyolites and overlying basalts which form the uppermost unit of the Lower to Middle Jurassic Hazelton Group.

Mineralization at Eskay Creek is divided into a number of sub-zones distinguished by varying mineralogies, textures, host-rocks, and ore grades. The bulk of the ore is hosted in the stratiform 21B zone comprising mainly bedded sulphide-sulphosalt clasts with localized replacement by Pb-rich sulphosalts and stibnite. At the same stratigraphic horizon as the 21B zone are the NEX zone (the north extension of the 21B zone), the 21A zone (characterized by As-Sb-Hg sulphides), and the barite-rich mudstone-hosted portion of the 21C Zone. The "hanging wall" (HW) zone occurs in mudstone stratigraphically above the 21B zone, as a localized body of base-metal-rich, relatively precious metal-poor, massive sulphide. Stockwork-vein and finely disseminated, discordant mineralization occurs in the footwall rhyolite in the 21C, Pumphouse and 109 zones. The Pumphouse and 21C zones are characterized by very finely disseminated sulphides in sericitically altered rhyolite. The 109 zone comprises quartz veins with lesser sphalerite, galena, pyrite, chalcopyrite and electrum associated with abundant carbonaceous material.

Exploration in and around the mine since 1995 has focused on definition of known zones and expanded drilling in poorly understood areas. This strategy resulted in successful expansion of mineable reserves in the 21B zone, delineation of the 109 zone, and identification of the NEX and 21C zones. The deposit currently has a higher reserve base than at mine opening.

Initially, production and reserves included only ore in the 21B zone, which is crushed, blended and shipped directly to smelters in Eastern Canada and Japan. With the construction of a 150 tonne per day gravity-flotation mill in 1997, millable ore from the NEX and 109 zones was added to the reserve.

The epithermal element suite associated with the 21 zone and the high precious metal content of the ore may be explained by hydrothermal deposition in a relatively shallow water environment. Textural variability in the clastic ore may reflect a variety of depositional mechanisms related to sedimentary and/or hydrothermal eruptive processes.

Wednesday, March 3, 1999 at the Georgia Hotel, 12 noon

RESERVATIONS ARE REQUIRED

Please fax your reservation to the MEG reservation committee at 775-0313 no later than Monday, 10:00 AM, March 1, 1999.

Visit the BC and Yukon Chamber of Mines Web Page @ www.bc-mining-house.com for a listing of MEG talks and copies of abstracts

MEG Vancouver Mining Exploration Group

ESKAY CREEK — MEG (Mar 3/99) Schroeter

Geochron

1) 200–180 Ma: volc. – veins + por
2) 170–180 Ma: Eskay Ck. fmn. — 175 Ma – rhy in FW
3) Cret.: deform, folding

Sed. Features

- + facies variation
  - grading (vertical, lateral)
- + load features
  - flame structures
- + rip up clasts of mudstone (+ rhy. frags) within ore
- laterally outwards ⇒ finer layers, thinner
- → sul. dropped off into northward-trending trough
- – stibnite replacement at later stage

- 109 zone – amorph. carbon in rhy
  - VG in qtz veins in rhy
- 21C – extremely hi gr. sul. in intense sericitized rhy
- NEX – more massive sul. – crosscut by stringer of cpy (rel. to younger HW min.)
- HW – more classic VMS (high Fe) – Ant + Post, x cut cpy

- very low temp of form: 120–210°C (fluid inclusions)
- clastic sul. ore reworked
- sulphides rounds, angular or broken up by hydrothermal activity
- dep. of mudstone – waning – new system = HW zone

SLIDES

1) Zones on prop (plan)
2) X-sec. look W (Long. sec.)
3) Sec. A–A' (21 zone)
4) Sec. B–B' good for all zones incl. 21C + HW
5) Sec'n C–C' NEX, HW
6) HW zone
7) Staged model

Q. US $140–150/oz Au-Equiv

Q. Min in HW? Clasts in basalts – no feeder style!

Q. Expl'n potential

Q. Arsenopy. (very rare)

Q. Increase thruput thru mill? – yes

PRODUCTION (Dates)

- 1800 t/d from ore 365,000 t mill
- 265 t/d direct (165 t/d)
- + 4 oz to smelter
- – blending of high/low grade, penalty elements

Open pit – Production 1998 – Feb 97 – level

ESKAY CREEK — MEG (Mar. 13/99) Schroeter

Geochron

1) 200–180 Ma: volc. – veins + por
2) 170–180 Ma: Eskay Ck. fmn
3) Cret. : Defmn, folding

175 Ma – rhy in FW

Sed. Features

- * facies variation
  - grading (vertical/lateral)
- * load/slump features
- * rip up clasts of mudstone (+ rhy. frags) within ore.

laterally outwards ⇒ finer, thinner layers

→ sul. dep/shed off into northward-trending trough

– stibnite replacement at later stage.

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109 Zone – amorphous carbon in rhy.
– VG in qtz veins in rhy.

21C – extremely fn.gr. sul. in intense sericitized rhy.

NEX – more massive sul. – crosscut by stringer of cpy (rel. to younger HW min.)

HW – more classic VMS (Kuroko) fn.gr. py + Zn + Pb + cut cpy.

SLIDES

Time

- ✓ ① Zones on prop (plan)
- ✓ ③ X-sec. look W (Long. Sec.)
- ✓ ② Sec. A–A' (21 zones)
- ④ Sec. B–B' (good for all zones) – incl. 21C + HW
- ✓ ⑤ Secn C–C' NEW, HW
- ✓ ⑥ HW Zone
- ⑦ (Staged) model

- very low temp of fmn: 120–210 °C (fluid inclusions)
- clastic sul. ore (reworked)
- sulphides, mounds on seafloor – broken up by hydrothermal activity
- dep. of mudstone – waning – new system = HW zone.

PRODUCTION (Daily)

~800,000 t direct 565,000 t – mill
265 tpd – direct (165 tpd)

* 9 oz Au mdrilled
[illegible] grade/ penalty elements

Thurs. – Feb 22
Apr. – Brian [illegible]
Mar 10 – Mexico

Q. US$140–150/oz Au Equiv

Q. Altn in HW? (hosted in basalts) – no feeder style!

Q. Expl'n potential

Q. Arsenopy. (very rare)

Q. Increase thruput thru mi[ll] – yes