Drill Log Review, 1986–1999

Summary

Volume I is a 1998 placer reserve and resource report for Gold Hill Mining Company, prepared by Donald L. Stevens, Ph.D. It is a compiled evaluation that rests on the drill logs in Volume II.

Do the logs cover our claims? Yes. The report's claim schedule ties both of today's blocks to the drilling by recording number:

- **Federal claims.** Serials AA20174–AA54323 match the current BLM serials exactly.
- **State claims.** GHM #1–32, ADL 596402–596432, are an exact match.
- **Location.** Everything sits in T20S R2E, Fairbanks Meridian.

The drill maps confirm it (Section 7). On the 1998 site map (Plate 1), the White Creek drill lines sit on named federal claims in today's block. On Cambior's 1992 drill maps (Maps 2–3), the drill grid falls in Sections 8, 9 and 10, which are the sections of the GHM state claims.

Main findings

- **White Creek (federal claims).** About 92 drill holes support historical proven and probable reserves of 27,300 oz at 0.037 oz/cy. They also support about 14,200 oz indicated and 19,900 oz inferred on ground in today's package. Another 31,000 oz sat on leased Coiner ground that is not ours. Twinned holes suggest the 1990 drilling understates grade by half or more.
- **The richest gravel.** It is a deep, bedrock-hugging horizon near the confluence, with 5-ft intercepts up to 0.76 oz/cy. Its gold resembles the gold of Cambior's Channel A.
- **Valdez Creek (state claims).** These cover the upstream extension of Channel A, the paleochannel that produced 422,743 oz for Cambior in 1984–94. Cambior drilled 539 holes here. Cambior-era estimates run to about 271,000–336,000 oz raw, but the report does not classify them because no economic study was made.

Volume II (drill logs), reviewed 31 Oct 2026. Seven of the nine high-grade White Creek intervals in the report match the original logs; DH 124 does not, and the DH 82 log is missing. About 60 Cambior holes on the state claims show one continuous pay channel. It runs about 1,900 ft east–west on three drill lines, 300–450 ft wide, on bedrock 145–245 ft deep. The best intercepts are 35 ft at about 0.41 oz/bcy, 30 ft at about 0.32 and 35 ft at 0.165 (Section 8).

All figures are historical (SME 1991). They are not current NI 43-101 or S-K 1300 resources. Section 9 sets out what a qualified person would need to verify.

1. Source and provenance

Volume I is a 1998 placer resource and reserve report written for Gold Hill Mining Company by an independent Alaskan geologist. It is a compiled evaluation, not raw field logs; the raw drill logs are in Volume II.

Item	Detail
Title	*Placer Gold Resources & Reserves, Gold Hill Mining Company, Valdez Creek Area, Alaska – Volume I*
Date	16 December 1998 (authorised 21 September 1998)
Prepared for	Mr W. R. McDonald, Gold Hill Mining Company, Washington, Connecticut
Prepared by	Donald L. Stevens, Ph.D., Stevens Exploration Management Corp., Anchorage
Reporting standard	SME 1991 *Guide for Reporting Exploration Information, Resources and Reserves*
Data sources	Rowallan Mine Partnership (Joe Malatesta); Bob Coiner; Stevens' earlier reports and fieldwork; published data; Cambior Alaska Inc. data supplied through WGM, Inc.
Volume I appendices	A: author's affidavit · B: author's résumé · C: SME guide · D: claims owned or leased by Gold Hill Mining · E: White Creek evaluation-block calculations · F: White Creek cross-sections
Volume II (not yet reviewed)	G: White Creek drill logs · H: Valdez Creek–GHM claims drill logs · Maps 2 & 3: Valdez Creek drill-hole locations with claim boundaries
Map in pocket	Plate 1: site map of drill holes and evaluation blocks (the large maps now being scanned)

The author worked on the district from 1980 as a consultant to Denali Mining and to the Rowallan Mine Partnership, so much of the report rests on his first-hand fieldwork.

2. Do the logs cover our claims?

Yes. The claim schedule in Appendix D ties the report directly to both of today's claim blocks by recording number, and the legal description matches.

Test	1998 report (Volume I)	Claims today	Result
Owner	Gold Hill Mining Company (W. R. McDonald)	Redemption Mining LLC (formerly Gold Hill Mining) and SMF Mining LLC	Same ownership line
Legal description	T20S, R2E, Sections 1, 2, 3, 10, 11, 12 and 14, Fairbanks Meridian; Healy A-1 quadrangle	T20S, R2E, Fairbanks Meridian	Match
Federal placer claims	27 claims owned by Gold Hill Mining, serials AA20174 to AA54323: White Creek #1–3 and #5, Hot Air Bench #1–5, Northern Lights #1–6, Blue Sky #1–12. Rusty Association #6 (AA27451) is also named as owned in the conclusions	28 claims, BLM AKAA 020174 to AKAA 054323	First and last serials match exactly; 27 + Rusty #6 = 28 (owners confirm Rusty #6 is in today's block)
State claims	GHM #1–32 (no #20), ADL 596402–596432, located 12 Oct 1998, recorded 14 Dec 1998	31 claims, ADL 596402–596432, "G H M 1–32"	Exact match
Recording district	Talkeetna	Talkeetna	Match

Which logs fall on which block:

- **Federal claims (White Creek, Hot Air Bench, Blue Sky, Northern Lights, Rusty #6).** These hold the White Creek drilling: holes DH 26–DH 137 used in the reserve estimate, plus the 1986 Blue Sky holes. The White Gold claims (Bob and Doris Coiner), which Gold Hill only leased, carry part of the same drilling (DH 80–98 and DH 125). They are not part of today's block.
- **State claims (GHM #1–32).** These were staked in 1998 over the unmined Valdez Creek ground downstream of the Rusty Association claims, where Cambior drilled about 539 holes on 27 lines. Those logs are in Volume II (Appendix H) and on Maps 2 and 3.

Appendix D also lists ground Gold Hill held in 1998 that is not in today's package: 59 lode claims (Blue Sky Hard Rock, B & B Hard Rock and Lode) and leased placer claims (White Gold, Rusty Association #5 and #7–10, Lucky Wish, North Star, GG). Results from those claims should not be quoted as ours.

The scanned maps back this up claim by claim; see Section 7.

3. Drilling programmes

Two separate drill databases cover the claims. White Creek (federal claims) has about 92 usable reverse-circulation holes, which carry the 1998 estimate. Valdez Creek (state claims) has 539 Cambior holes, which were not estimated in 1998.

Programme	Operator / driller	Ground	Holes	Method and sample treatment
1986	Rowallan Mine Partnership	Blue Sky claims (federal)	26 RC holes on 2 N–S lines (3,577.5 ft on p. 30; 3,775.5 ft on p. 42)	Nodwell-mounted RC, 5-ft samples, EZ Panner, hand panning and amalgamation. The author calls the recovery "seriously flawed" for fine gold

Programme	Operator / driller	Ground	Holes	Method and sample treatment
1987	Rowallan; Penn-Jersey Drilling (Wasilla)	White Creek claims, 400 ft × 2,400 ft south from the confluence	20 holes on 4 lines, 50–100 ft spacing (DH 26–48 on White Creek)	RC to cyclone, 5-gal buckets, measured volumes, geologist logs. Trommel, Pro-Pulse YT-12 jig, Gold Hound wheel, amalgamation. 15% swell factor
1987	Ashton Mining	White Creek	Several churn holes (locations unknown)	Inexperienced driller, bailer “of questionable design”. Results of uncertain use
1990–91	WGM Inc. for Caprock Corp.; USMX	White Creek, Rusty #6 and Coiner’s White Gold claims	DH 49–138	RC with a Denver Gold Saver (trommel and plastic sluice, known to lose fine gold). 25% swell factor. Low-volume intervals upgraded up to 1.5×
1984–92	Cambior / Valdez Creek Mining Co.	Ground now covered by the 31 GHM state claims	539 holes on 27 lines, average depth over 150 ft	Closest spacing (50-ft holes on 250-ft lines) next to Cambior’s last pit, widening upstream. Logs are in Volume II, Appendix H

Twinned holes show the 1990 data understate grade. Five 1987 holes were drilled close to 1990 holes (Table 1). Every 1987 hole returned more than double the gold of its 1990 twin:

1987 hole (jig)	oz/cy	1990 twin (Gold Saver)	oz/cy	1987 higher by
DH 40	0.029	DH 52	0.012	137%

1987 hole (jig)	oz/cy	1990 twin (Gold Saver)	oz/cy	1987 higher by
DH 37	0.032	DH 51	0.015	113%
DH 39	0.034	DH 50	0.004	883%
DH 33	0.021	DH 54	0.010	116%
DH 26	0.031	DH 124	0.008	299%

74 of the 86 White Creek evaluation blocks rest entirely on 1990 holes. The author therefore concludes that jig-class recovery should return at least twice the 1990 values. Rowallan's 1994–98 mining also suggested the drilling undervalued the ground, especially on and just above bedrock.

How the blocks were built (Appendix E). Each hole defines one evaluation block, elongated along the direction of stream transport. The block volume is width × length × full hole depth, in bank cubic yards. Only 5-ft intervals above a 0.01 oz/cy cut-off are counted, and the grade is then averaged over the whole column from surface to end of hole. These are diluted whole-column mining grades, not pay-streak grades. Hole depths increase down White Creek, from 45–83 ft on lines C–E to 97–170 ft on lines F–J near the confluence.

4. Geology

The claims hold glacially derived placer gold, shed from lode sources on Gold Hill and Lucky Hill. It sits in two settings: buried bedrock paleochannels on Valdez Creek, and reworked fluvial and glacial gravels on White Creek.

Bedrock. The claims lie in the pelitic sequence of the western Clearwater Mountains. That sequence is argillite and spotted phyllite near Valdez Creek, grading north into biotite schist and gneiss, and overlies Triassic Amphitheatre Group metabasalts to the south. The structural grain strikes about N75°E. High-angle faults trend N70–80°E and N70–80°W, and an east–west fault south of Valdez Creek helped localise the gold lodes (Smith 1981).

Lode sources next to the claims. Gold Hill sits immediately east of White Creek:

- The Yellowhorn and Accident prospects are on Gold Hill's north slope. They are a 4-ft quartz and mineralised-schist zone striking N75°E, with channel samples of 0.01–0.04 oz/ton, and fine gold pans from soil across the slope.

- The Lucky Top vein is above Lucky Gulch, which produced the district's largest nuggets (52 oz and 43 oz).
- Canalaska Resources RC drilling on Lucky and Gold Hill cut up to 70 ft at 0.475 oz/ton.

Glacial history. There were four glaciations: pre-Illinoian, Illinoian, Wisconsin and Holocene (Reger & Bundtzen 1990). Most of the lower-valley placer gold was probably freed from the Gold Hill–Lucky Hill lodes during the Illinoian and first held in till. Interglacial streams then concentrated it.

Valdez Creek paleochannels. At least three superimposed gold-bearing paleochannels are cut into bedrock: Tammany (found 1904), Channel A (found by drilling in 1981) and Channel B (1984). Their key features:

- They are narrow and V-shaped, up to 10 m deep.
- Gold is concentrated in the lowest 1.6–3 m, in a lag of granitic boulders and in fractured bedrock.
- Nuggets average about 0.1 oz. 72.6% of the gold is 0.97–5.14 mm and 22.8% is finer than 0.97 mm.
- Fineness is consistently about 852.
- Glacial overburden is up to 300 ft thick.

Cambior mined Channel A. Reger & Bundtzen map a known up-channel extension at its upstream end, in the ground the GHM state claims now cover.

White Creek gravels. Every sediment on the Gold Hill ground carries some fine gold. The best grades are in the highest-energy fluvial gravels:

- **Upper and middle pay streaks.** These are fluvial reworkings of glacial outwash and moraine. The gold is fresh and angular and has not travelled far from Gold Hill.
- **Lowest pay gravels.** The gold here resembles Channel A gold in size, shape and texture. The author calls the possibility that Channel A extends up to and beyond White Creek "very significant" and recommends drilling to test it. These gravels match the deep intercepts on lines F–J (Section 5).
- **Hot Air Bench.** This is a medial-moraine wedge where the White Creek and Valdez Creek glaciers met. Gold Hill is its source.
- **Last Chance Creek.** It produced very coarse, angular, quartz-bearing gold. Its source and trend are unknown.

Concentrates. These contain garnet, hornblende, magnetite and pyrite. White Creek concentrates also contain hessite, native bismuth, arsenic and base-metal sulphides, which have not been seen in Channel A. This difference could be used to tell the two gold sources apart in future sampling.

5. Gold: grades, channels and the 1998 estimate

In 1998 the White Creek estimate came to about 27,300 oz in proven and probable reserves plus 65,000 oz in resources. About 31,000 oz of that sits on Coiner ground leased by Gold Hill, not on today's claims. Valdez Creek was left out of the estimate, but Cambior-era figures for that ground run to six figures in raw ounces.

White Creek and Rusty #6 (federal claims)

This is Stevens' 1998 estimate (Tables 2–4). It uses SME 1991 categories, a 0.01 oz/cy cut-off, gold at $300–350/oz and a mining cost of $3.26/cy.

Category (SME 1991)	Volume (bank cy)	Grade (oz/cy, whole column)	Gold (fine oz)	On Coiner's leased ground	On today's claims
Proven reserve (blocks 36–40, line C)	68,847	0.0375	2,584	–	2,584
Probable reserve (blocks 39, 128, 117, 43, 44, 121, 106)	666,842	0.0371	24,727	–	24,727
Indicated resource (7 blocks)	700,516	0.0308	21,608	7,430 (blocks 96, 93, 82)	14,178
Inferred resource (35 blocks)	3,905,776	0.0111	43,432	23,542 (lines A–B, blocks A and B)	19,890*

* Plate 1 places inferred blocks A and B (21,433 oz) on Coiner's White Gold claims, so they are counted with the leased ground. Blocks C and D (626 oz) are on federal ground and are included here.

Table 4 restates these totals with small differences (2,581 / 24,739 / 21,575 / 43,354 oz). All grades are based mostly on the 1990 holes, which the twin-hole test suggests understate grade by half or more.

The channels in the logs. The block sheets show three distinct gold horizons on White Creek:

Horizon	Where (lines, depth)	Typical intercepts (5-ft samples)	Reading
Shallow fluvial pay streak	Line C, surface to 57 ft	DH 36: 0.03–0.13 oz/cy almost continuously to 55 ft; DH 38: 0.08–0.13 oz/cy from 30 to 57 ft	Proven blocks, partly mined by Caprock and Rowallan
Mid-depth pay streak	Lines D–G, 35–85 ft	DH 128: 0.115 at 35–40 ft; DH 117: 0.146 at 45–50 ft; DH 106: 0.231 at 75–80 ft	Probable blocks; follows White Creek down to the confluence
Deep, bedrock-hugging gravel	Lines F–J, 60–135 ft	DH 121: 0.63 and 0.763 at 70–80 ft; DH 43: 0.667 at 75–80 ft; DH 29: 0.477 at 80–85 ft; DH 124: 0.302 at 65–70 ft; DH 45: 0.06–0.10 from 75 to 95 ft and 0.368 at 115–120 ft; DH 137: 0.266 at 60–65 ft	The highest grades in the database. These are the “lowest pay gravels” whose gold resembles Channel A gold

The deep horizon carries most of the ounces (blocks 121, 43, 45, 29, 31 and 137). It deepens toward Valdez Creek, consistent with a channel graded to the Channel A base level. That makes it the main target for a buyer.

Valdez Creek (GHM state claims)

Stevens assigned no SME reserves or resources here, because no mining plan or economic study existed. He did quote the Cambior-era estimates. These are historical estimates, not current resources, and need a qualified person’s verification before any use:

Source	Category as reported	Volume (cy)	Grade (oz/cy, pay section only)	Raw gold (oz)
WGM 1986 (sections ASP4–7)	Possible and inferred	1,487,432	0.105–0.311	270,866

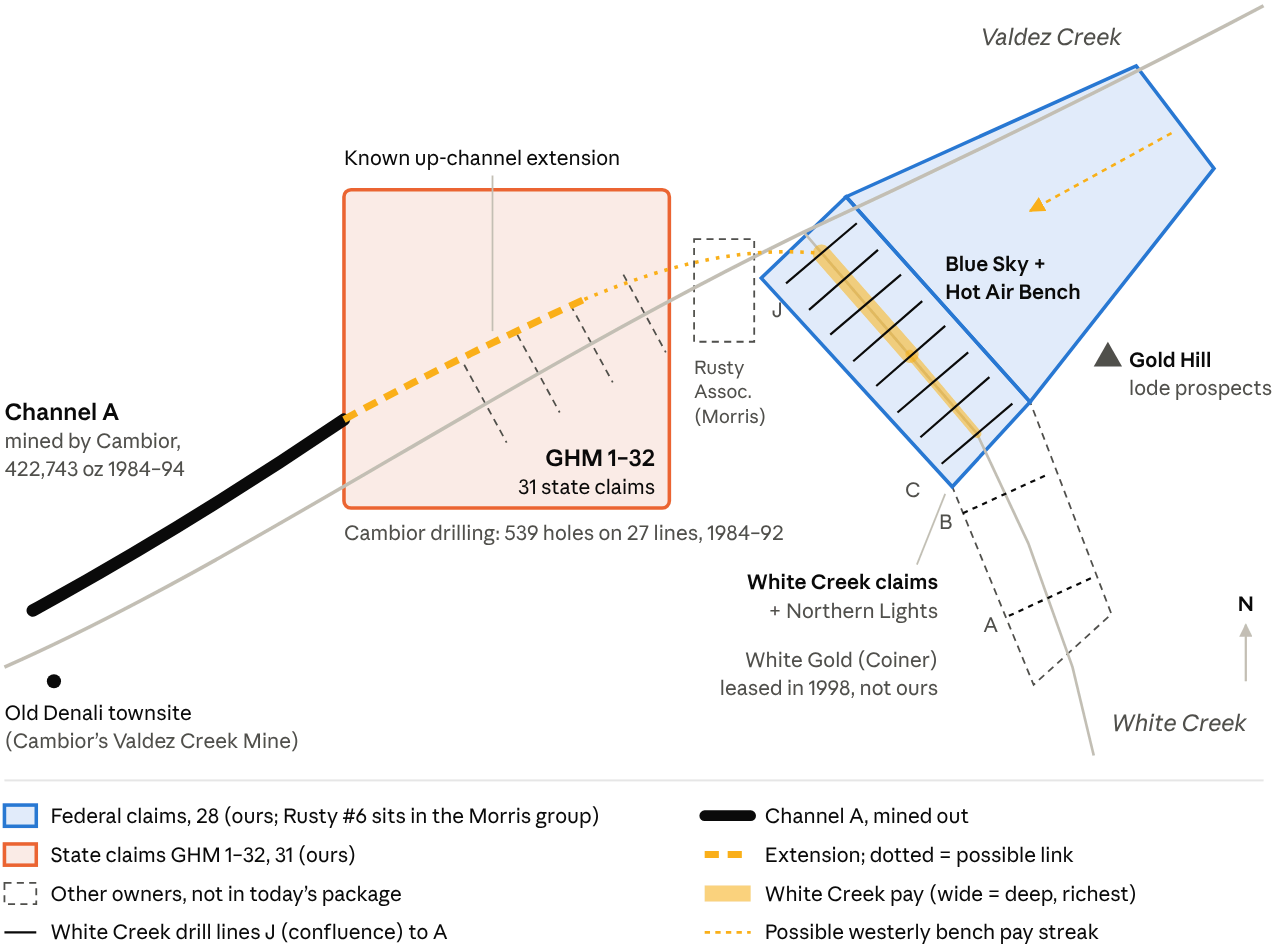
Source	Category as reported	Volume (cy)	Grade (oz/cy, pay section only)	Raw gold (oz)
Valdez Creek Mining Co. newsletter 1990, “above MD line”	Proven / probable / possible	5,145,501	0.077–0.121	504,958
Same, less one-third assumed mined (Stevens)	Measured / indicated / inferred	3,429,989	0.077–0.121	336,064

These grades cover the pay section only, with no overburden. They are not comparable with the whole-column White Creek grades. Cambior’s ground lies under up to 300 ft of glacial overburden. The report also does not show that all of the “above MD line” ground falls inside the GHM claims; Maps 2 and 3 in Volume II should settle this.

6. Map: channels over the combined claim blocks

Channel A's extension enters the state block; White Creek pay is federal ground

Schematic after the 1998 report, Figures 5 and 8 · north up · not to scale



Channels and drill lines over the combined claim blocks (schematic)

The state claims cover the upstream end of Cambior's mined Channel A, where Reger & Bundtzen map a known up-channel extension. The federal claims hold the drilled White Creek pay streaks (lines C–J), the deep Channel A-type gravel near the confluence, and the untested bench target north of Gold Hill. This drawing is schematic, built from the report's small-scale Figures 5 and 8. Section 7 now adds the scanned drill maps (Plate 1 and Maps 2–3), which show the actual hole positions.

7. The drill maps (Plate 1, Maps 2–3)

The three large maps tie both drill databases to named claims and to the township grid. They confirm that the White Creek holes sit on today's federal claims and the Cambior holes on today's state claims.

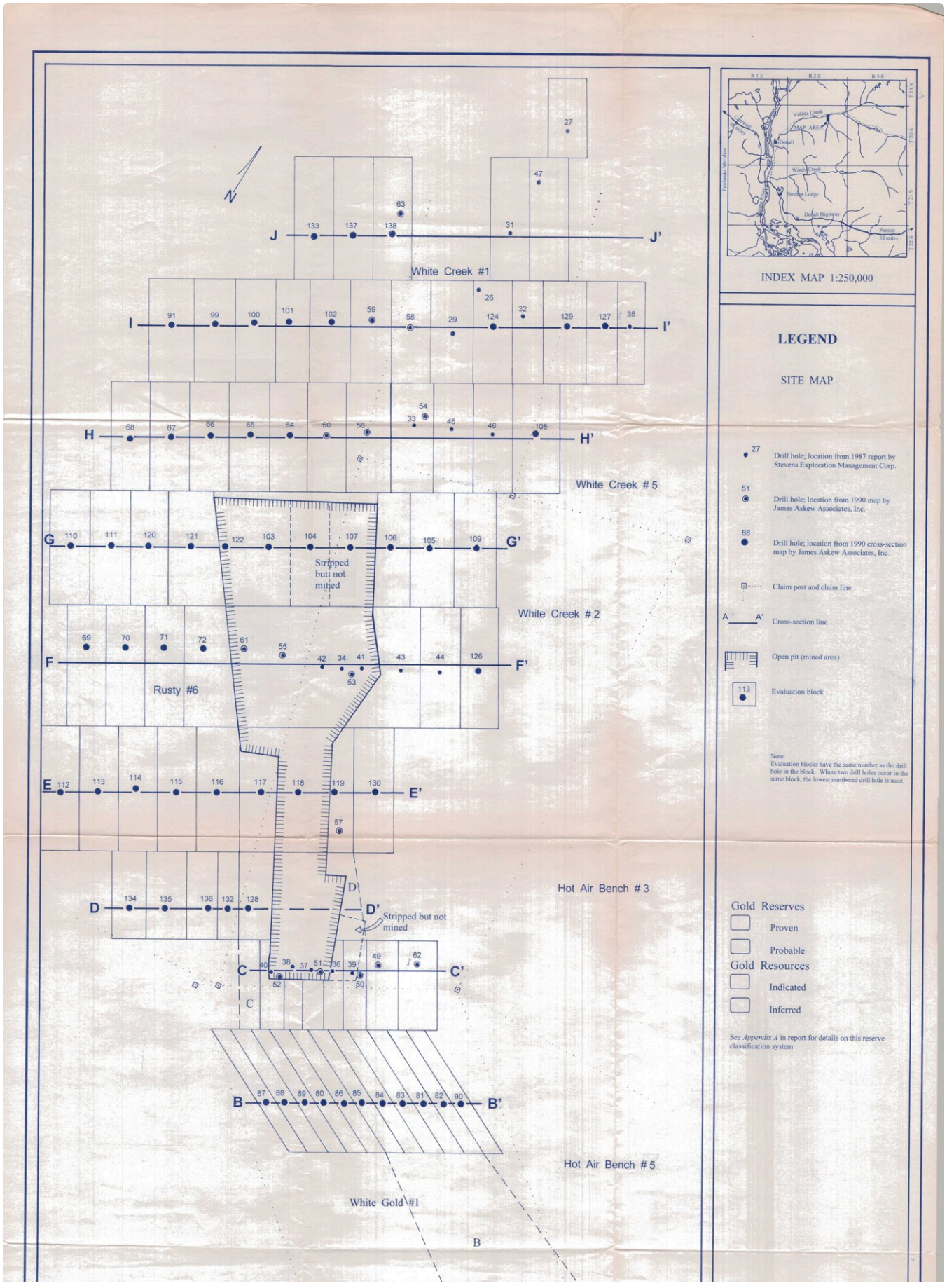
Map	Made by, date, scale	What it shows	What it confirms
Plate 1 – Site map of drill holes and evaluation blocks	Stevens Exploration Management Corp. for Gold Hill Mining Co., Nov 1998, 1″ = 100 ft	About 100 White Creek holes on lines A–J (symbols for the 1987 report, the 1990 map and the 1990 cross-sections), claim posts and lines, the open pit, "stripped but not mined" ground, and the evaluation blocks	Lines C–J lie on White Creek #1, #2 and #5, Rusty #6, and Hot Air Bench #3 and #5, all in today's federal block (AKAA 53502, 53503, 20174, 27451, 45706, 54174). Lines A–B and inferred blocks A and B lie on White Gold #1, #2 and #8, Coiner's leased ground
Map 3 – Drill hole locations with claim boundaries (west sheet)	Cambior Alaska Inc., Valdez Creek Mine, drafted 21 Aug 1992, 1″ = 100 ft	Lines ASP4 to ASP6 (AA, BA, AN1, CA–CD, ASP5, DA–DJ) on the mine grid, 20,000–24,000 E and 13,500–16,000 N. Lines are about 250 ft apart, with holes 25–50 ft apart along each line	Dense drilling across about 4,000 ft of valley, directly upstream of the mined ground (the hatched "SD 1 (FRAC.)" strip at the west edge)

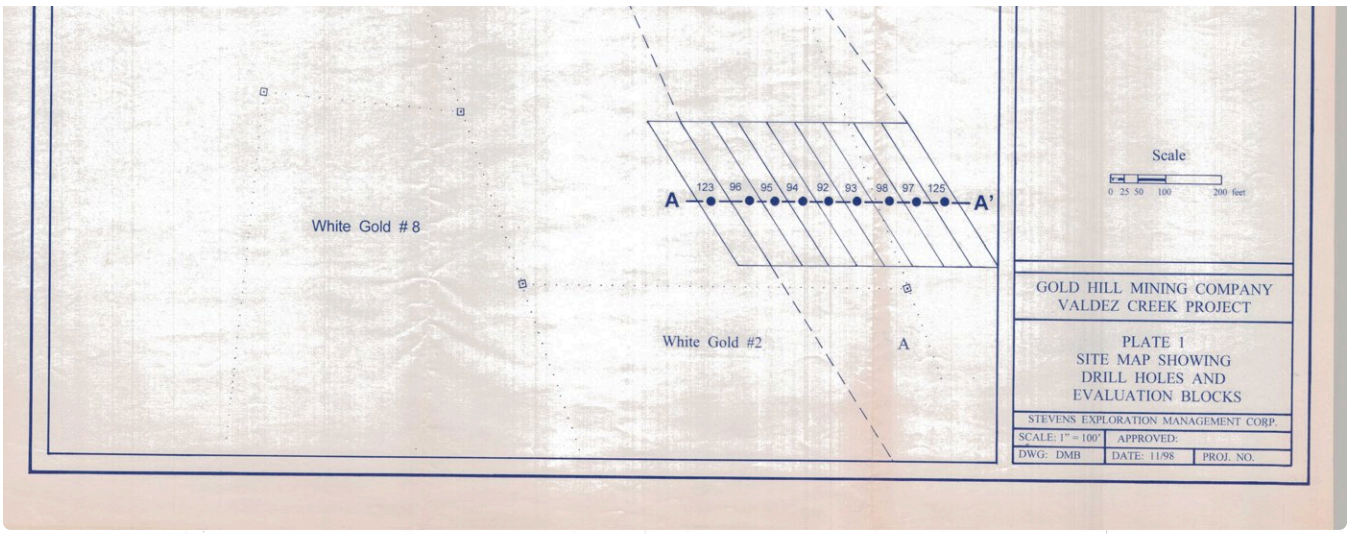
Map	Made by, date, scale	What it shows	What it confirms
Map 2 – same series (east sheet)	Same	Lines ASP6+500 to ASP7+2000 (EA, FA–FE, ASP7, GB–GE), 250–500 ft apart, 24,000–27,700 E	The drilling thins upstream, as the report says. The last line, ASP7+2000, ends at the “MO claims” (Morris’s Rusty Association), matching the report’s note that the uppermost line is just downstream of the Morris claims

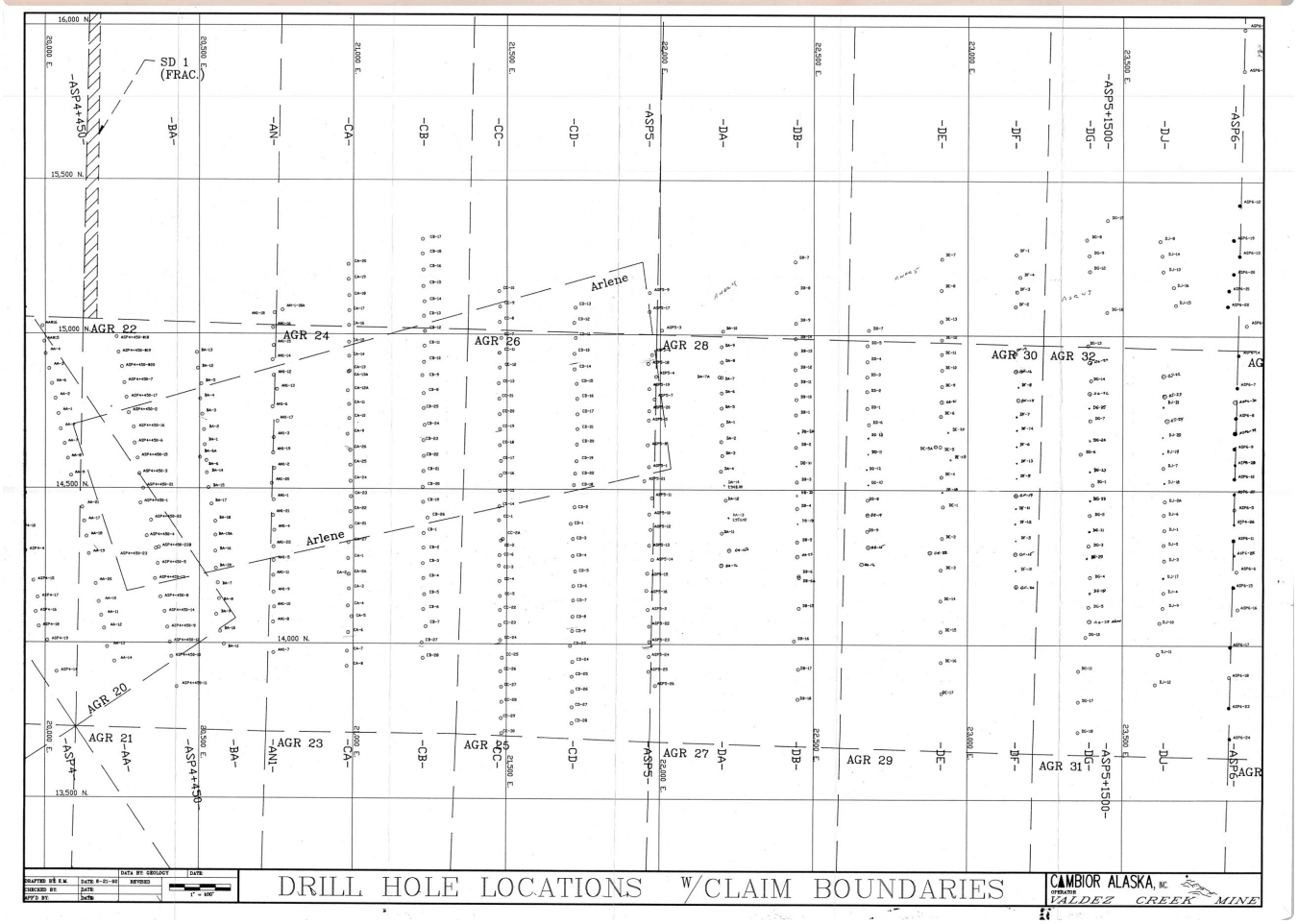
Tie to the township grid. Map 2 marks the common corner of Sections 3, 4, 9 and 10 (T20S R2E) at about 26,700 E / 15,550 N on the mine grid. A section is 5,280 ft across, so the drilled grid (20,000–27,700 E, 13,500–16,000 N) falls in Sections 8, 9 and 10, along the south line of Section 4. These are the sections listed for GHM 1–32. The claim names on the Cambior sheets (AGR 20–42, PUP 7, 8 and 12–14, SD 1) are Cambior’s own; the ground was restaked as GHM 1–32 in 1998.

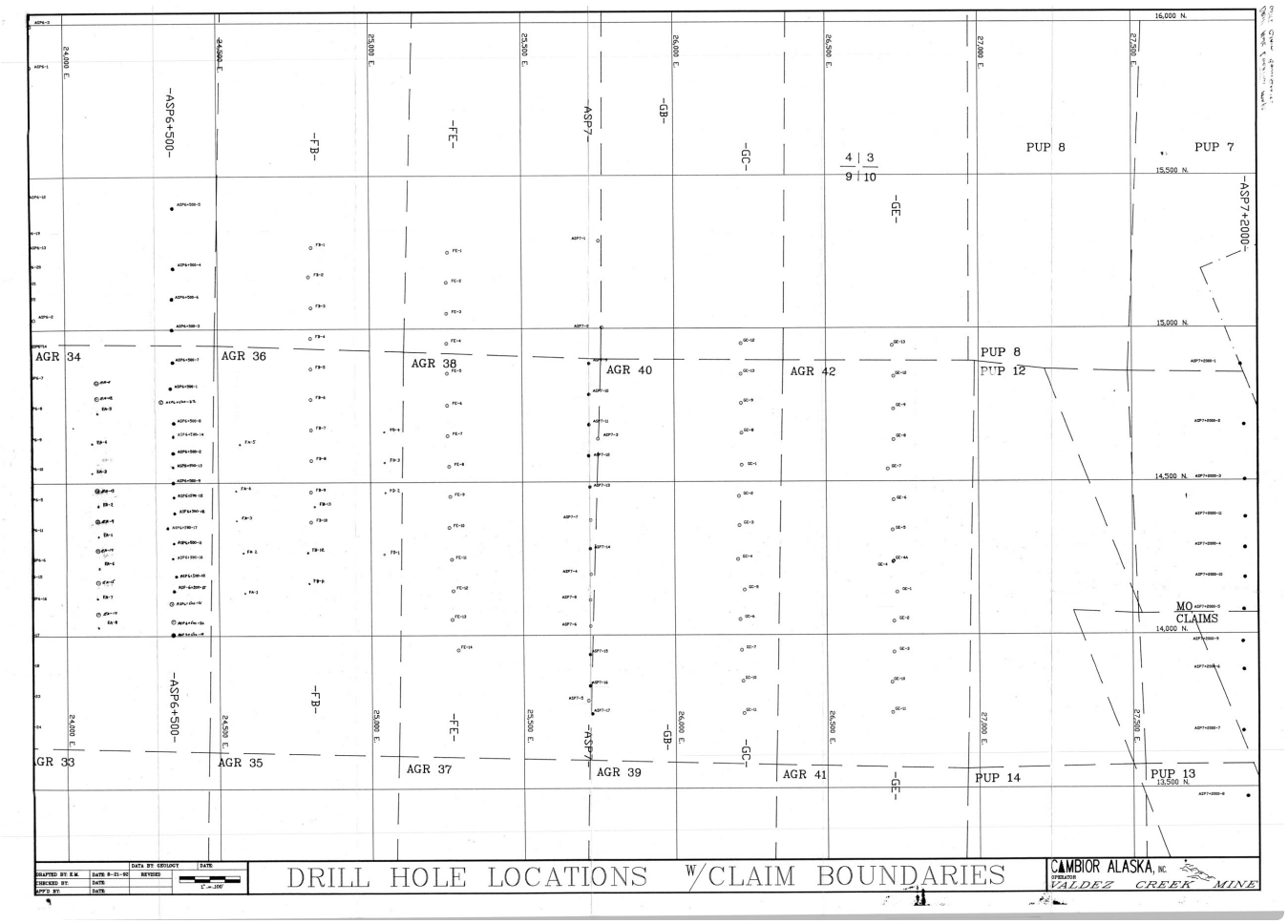
What the sheets add. About 7,700 ft (1.5 miles) of the valley was drilled, more densely downstream. On several lines (AN1, ASP5, ASP6, ASP6+500, ASP7, ASP7+2000) some holes are drawn as filled dots and joined by a solid bar. These probably mark the holes that cut pay gravel, and so the channel width on each line. The sheets carry no legend for this, so it should be checked against the Volume II logs. A dashed line labelled “Arlene” crosses lines BA to ASP5, probably a claim or survey line. A few hand notes (“AGR 43” and others) are not legible.

Plate 1 and the resource split. Plate 1 places inferred blocks A and B (21,433 oz) south of line B, on Coiner’s White Gold claims, so they are not part of today’s package. Blocks C and D (626 oz) lie on federal ground. Section 5 has been corrected to match. The legend boxes for proven, probable, indicated and inferred blocks come out blank in this scan. If the original is coloured, a colour scan would show each block’s category on the map.


J
J'
White Creek #1
I
I'
H
H'
White Creek # 5
G
G'
Stripped but not mined
White Creek # 2
F
F'
Rusty #6
E
E'
Hot Air Bench # 3
D
D'
Stripped but not mined
C
C'
B
B'
Hot Air Bench # 5
White Gold #1
INDEX MAP 1:250,000
LEGEND
SITE MAP
Drill hole; location from 1987 report by Stevens Exploration Management Corp.
Drill hole; location from 1990 map by James Askew Associates, Inc.
Drill hole; location from 1990 cross-section map by James Askew Associates, Inc.
Claim post and claim line
Cross-section line
Open pit (mined area)
Evaluation block
Note:
Evaluation blocks have the same number as the drill hole in the block. Where two drill holes occur in the same block, the lowest numbered drill hole is used.
Gold Reserves
Proven
Probable
Gold Resources
Indicated
Inferred
See Appendix A in report for details on this reserve classification system


White Gold # 8
White Gold #2
A
A'
123
96
95
94
92
93
98
97
125
Scale
0 25 50 100 200 feet
GOLD HILL MINING COMPANY
VALDEZ CREEK PROJECT
PLATE 1
SITE MAP SHOWING
DRILL HOLES AND
EVALUATION BLOCKS
STEVENS EXPLORATION MANAGEMENT CORP.
SCALE: 1" = 100'
APPROVED:
DWG: DMB
DATE: 11/98
PROJ. NO.


SD 1
(FRAC.)
AGR 22
AGR 24
AGR 26
AGR 28
AGR 30
AGR 32
AGR 20
AGR 21
AGR 23
AGR 25
AGR 27
AGR 29
AGR 31
Arlene
DRILL HOLE LOCATIONS W/CLAIM BOUNDARIES
CAMBIOR ALASKA, INC.
VALDEZ CREEK MINE



8. Volume II: what the drill logs confirm

The logs back the 1998 report and show a continuous pay channel running east–west for at least 1,900 ft across the GHM state claims. The richest White Creek intervals check out against the original sheets, with one exception (DH 124).

Volume II (364 scanned pages) contains two sets of logs:

- **Appendix G, White Creek:** DH 1–DH 138. These are the 1986 Rowallan holes on Blue Sky (DH 1–25), the 1987 Stevens holes (DH 26–48, typed logs, Pro-Pulse jig, fineness 850) and the 1990 WGM/Caprock holes (DH 49–138, handwritten).
- **Appendix H, Valdez Creek:** about 60 Cambior and Valdez Creek Mining Co. holes from 1988–92 on four lines: ASP6, ASP6+500, ASP7 and ASP7+2000. These are only the upstream lines on today's state claims, not all 539 holes in the 1998 report. Many holes have a computer "grade sheet" with the pay interval marked by hand.

High-grade intervals checked against the logs

Hole	Interval (ft)	1998 report (App. E)	Original log	Result
DH 96	85–90	1.2 oz/cy	1.204 oz/cy (1,224 mg), last sample above bedrock	Confirmed
DH 121	70–80	0.63 and 0.763	0.629 and 0.763 (1,708 and 5,940 mg)	Confirmed
DH 43	75–80	0.667	20,839 mg per cy = 0.670	Confirmed
DH 29	80–85	0.477	0.479	Confirmed
DH 45	115–120	0.368	11,478 mg per cy = 0.369, on bedrock at 117 ft	Confirmed
DH 65	90–95	0.31	0.310	Confirmed
DH 137	60–65	0.266	0.266	Confirmed
DH 124	65–70	0.302	Highest value in the log is 0.106	**Not confirmed**
DH 82	80–85	0.712	Log not found in the scan	Not checked

The logs also show one high interval the report summary does not mention: DH 42 (1987, Line B) ran 0.479 oz/cy at 50–55 ft.

Cambior holes: which ones hit pay

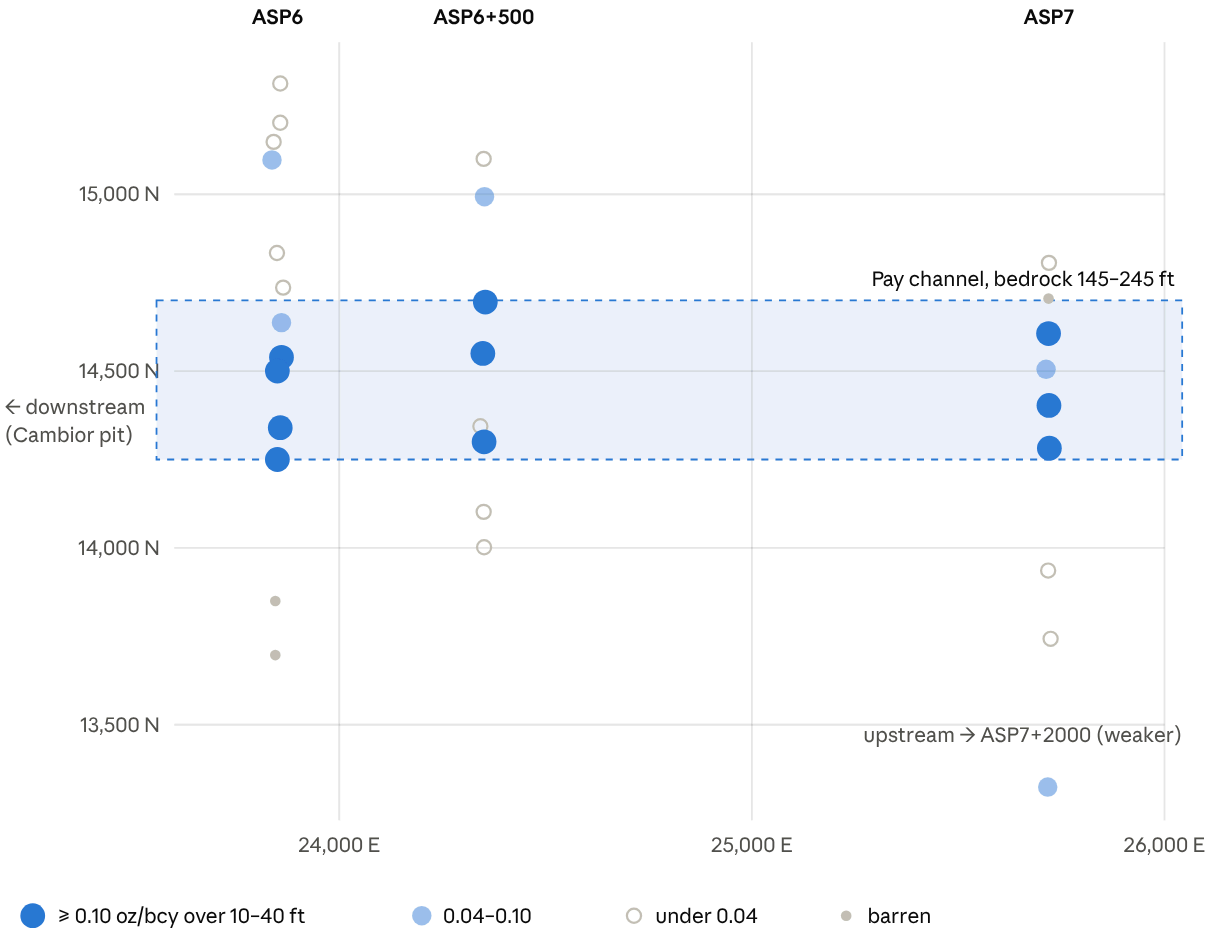
Line (approx. easting)	Holes with pay (pay-section grade, oz/bcy)	Depth to bedrock	Reading
ASP6 (23,850 E)	ASP6-27: 35 ft at about 0.41, incl. 5 ft at 2.58 on bedrock · ASP6-11: about 30 ft at 0.17 · ASP6-15: 5 ft at 0.44 on bedrock · ASP6-10: 10 ft at 0.13	200–245 ft	Channel centre about 14,250–14,550 N

Line (approx. easting)	Holes with pay (pay-section grade, oz/bcy)	Depth to bedrock	Reading
ASP6+500 (24,350 E)	ASP6+500-13: 30 ft at about 0.32, incl. 5 ft at 1.67 · ASP6+500-9: 20 ft at 0.21, incl. 5 ft at 2.26 · ASP6+500-2: about 40 ft at 0.18 · ASP6+500-8: 25 ft at 0.128	170–215 ft	Channel centre about 14,300–14,700 N
ASP7 (25,720 E)	ASP7-13: 35 ft at 0.165 · ASP7-14: 15 ft at 0.114 · ASP7-11: 10 ft at 0.10 · ASP7-12: 20 ft at 0.05	145–210 ft	Channel centre about 14,280–14,610 N
ASP7+2000 (about 27,700 E, next to the Morris claims)	Best are 10 ft at about 0.13 (hole 9) and 10 ft at 0.08 (hole 3); the rest are weak	Shallower	Pay thins upstream

Pay-section grades count only the gold-bearing gravel on bedrock, not the 150–200 ft of overburden above it. Single 5-ft samples of 1.7–2.6 oz are nugget effects and should be cut before any estimate.

Pay holes line up in one east-west channel across the state claims

Cambior mine grid (ft), from the Volume II logs and 1992 drill maps · north up · to scale



Pay-section grades on bedrock; positions from log headers or map, ±50 ft where estimated

Cambior holes by pay grade, plan view (to scale)

On all three lines the pay holes fall in the same 300–450 ft wide band near 14,250–14,700 N, so the channel runs about 1,900 ft east–west through the GHM claims.

The filled dots on the Cambior maps do not mean pay. On the ASP6 line, every hole with a log in Volume II is drawn as a filled dot, including barren holes (ASP6-12, -19, -23 and -24). Holes without logs (ASP6-5, -6, -16, -18 and -30) are open circles. So a filled dot marks a logged hole, and pay has to be read from the logs, as in the table above.

June 1999 holes

Gold Hill Mining drilled 14 holes (DH 140–153) on White Creek in June 1999. They came after the 1998 report and are not in Volume II; the figures here come from the 1999 logs in the sales cheat sheet. Line A+600 averaged 0.024 oz per bank cy and line B+300 averaged

0.006, whole column, with bedrock at 36–80 ft and fineness 0.85.

The lines are named from Stevens' 1987 Lines A and B, which are lines C–D and F in the 1998 report. So A+600 sits 600 ft from the proven blocks on line C. Its grade is close to the 1998 whole-column block grades of 0.03–0.05, which suggests the White Creek pay continues 600 ft beyond the 1998 blocks. Which direction the offset runs is not stated on the logs. This needs checking before it is quoted.

9. For a qualified person: data quality, gaps and what to verify

The 1998 figures are historical estimates under SME 1991. They are not current NI 43-101 or S-K 1300 resources and should be quoted only as historical. Turning them into current resources needs the following steps.

Strengths

- The report is signed by an experienced district geologist (D. L. Stevens, Ph.D., consultant on the property since 1980), and Appendix A carries his affidavit.
- The White Creek pay was confirmed by production: Caprock produced about 9,000 oz in 1991–92, and Rowallan about 500–700 oz a year in 1994–98. The proven blocks rest on mining reconciliation.
- The twin-hole data (Table 1) suggest the bulk of the drilling understates grade by about half or more.
- The 539-hole Cambior database on the state ground was drilled by a major operator for mine planning.

Weaknesses and gaps

- **Hole locations.** Only about 100 White Creek holes are plotted. Coiner lines A–B were placed from field recollection, ±100 ft. Lateral positions were shifted to fit the 1987 map. The mined area was surveyed by string meter and compass. Plate 1 and Maps 2–3 give hole positions on local grids only; no holes have surveyed coordinates.
- **Mixed sample processing.** Jig, Gold Saver and pan recoveries, and 15% versus 25% swell factors, are mixed in one estimate. The 1990 practice of upgrading low-volume intervals up to 1.5× is non-standard.
- **Whole-column grades.** Grades are averaged from surface to end of hole above a 0.01 oz/cy cut-off, so pay thickness and stripping ratio are not separated.
- **Gold price and costs.** The estimate assumes $300–350/oz and a 1998 cost of $3.26/cy, which need a full update.

- **Valdez Creek grades.** These are Cambior-era classifications by drill spacing alone, with pay-section-only grades, an assumed one-third mined, and no recalculation. The "above MD line" area is not shown to lie inside the GHM claims.
- **Missing material.** The Appendix F cross-sections are missing from this scan (only the divider page is present). Volume II has only about 60 of the 539 Cambior holes; the rest are not in the material reviewed. The DH 82 log is missing from the scan, and DH 124 does not match the report (Section 8).
- **Land status.** The report notes that state claims staked on state-selected land before Tentative Approval are "at the locator's risk". The GHM claims were staked in October 1998, so their status should be confirmed with DNR.
- **Report errors.** These include a footage discrepancy (3,577.5 versus 3,775.5 ft), small total mismatches between Tables 2–3 and Table 4, and a 1993 grade printed as "0.87 oz/cy" (probably 0.087).

Recommended verification, in order

1. Georeference Plate 1 and Maps 2–3 (now scanned at 300 dpi) using the Section 3/4/9/10 corner on Map 2 and the claim posts on Plate 1, and digitise every hole.
2. Review the Volume II logs (Appendices G and H). Build a single drill database of collar, depth, interval, gold, processing method and program.
3. Confirm current land status: BLM serials and maintenance-fee status for all 28 federal claims (owners confirm Rusty Association #6, AA27451, is one of them), and DNR status for ADL 596402–596432.
4. Twin 5–10 of the 1990 holes on lines F–J with a modern RC or sonic rig and full-recovery processing, and take a bulk sample.
5. Recompute the White Creek blocks at a current gold price and cost. Re-estimate the Valdez Creek channel from the 539 Cambior holes as pay plus overburden.
6. Commission an independent NI 43-101 or S-K 1300 technical report.