

Oct. 4/86  
CIM (Victoria)

HEDLEY  
92HSE14988888

Good aerial view

~~STARN MASSOT~~ - Rm Simpson - NICKEL PLATE Gold Mine

cut-off @ .05 oz/t Au based on \$300 US  
(increase reserves with increase in price)

Correlation  
Au - Bi - Co  
.01 % au Co  
20 ppm Bi

Proj. costs ~ \$125 US/oz Au produced

- optioned ex-placer's CANTY starn project

- back arc environment of deposition of sed. - prob. just east of main Nicola 'basin'

Age of host rocks - upper TRIASSIC  
- intruded by lower Jurassic intr. (~180 Ma)

Copperfield cgl. - stratigraphic marker - Morian gp.  
→ fresh mine in it; Stanbury near contact; Nickel Plate below

- 2 Phases of Def'm.  
- possible reactivation of major fault (~N-S) with Hedley intrusions within.

Altn - strong spatial assn. with Hedley intr.

Protolith - argillites, siltstones

alluvial  
Hedleyite - Bi  
Malgarite (Au, Bi)

- Min. depth of starn - 2.5 km - could be up to 5 km.  
(Univ. Washington studies - Meinhardt)

Structural traps - sills + small scale folds + 'crochetes'  
(intersections of sills + dykes)

- Prograde → Retrograde stages  
Gersdorffite - NiAsS  
Paragenesis: py → arsenic → py, Zn, Pb  
Au

OVER

Bulldog Zone - electrum-rich

(to south) <sup>most</sup>

→ will be <sup>1</sup> MGM major producers

Ag correl. best with cpy

+ py, po, cpy, arsenopy

<sup>mag.</sup>

(not mixed previously,  
due to cyanide consumption  
of cpy)

Source of Gold:

- magmatic from Hedley intrusions

NTS 92H/8, 82E/5

HEDLEY

MT-

6,429,723 tonnes 5.142

- Reserves - surface mineable ~~7,000,000 tons~~ @ ~~10%~~  
9/10~~th~~ Au with a ~~100~~ 9.1 ~~wt%~~, waste to ~~1.77%~~  
ore stripping ratio; using cut off of ~~10%~~  
plus ~~2,600,000 tons~~ av. ~~10%~~ 5.49 g/10<sup>6</sup> Au  
2,358,200 tonnes

Prod. 1897-1955 - Nickel Plate mine yielded  
49644680 gm, ~~448,000 g2 Au~~ from ~~3,273,000 tons~~  
with av. grade of 15.09 g/10<sup>6</sup> Au 2968611 tonnes

- TYPE - SKARN! - <sup>1st strat. bound</sup> ~ 190 Ma (Ni-cobalt equiv.?)  
- min. devel. above Sunnyside 1st (Norian age)  
→ marker horizon + spatial rel.?

Mineralogy - VG, bismuthinite, ZnS, cpx, py,  
pyrrarg., tetra, arsenopy, cobaltite,  
MoS<sub>2</sub>, PbS, electrum, gersdorffite, mag,  
niccolite + hedleyite (BiTe)

ACKNOW - Ron Simpson  
Gerry Kay ✓

## NICKEL PLATE (Hedley)

Homesake '92  
Annual Rpt.

- 1992 prod = 84,673 oz Au from 2 open pits
- mining from one of pits completed - ore reserve depleted
- "Following a review of the results of a JdH program, Homesake decided to proceed with expansion of the other pit - expected to extend the mine's life to 1997, with annual prod. of 80,000 oz Au.

# Statistical Summary

Homestake Mining Company and Subsidiaries

	Mine	Mine		Production						Reserves <sup>4</sup>			
		% Ownership <sup>1</sup>	Year	Production (oz.) <sup>1</sup>	Millfeed (million tons)	Grade (oz./ton)	Recovery (%)	Cash operating cost (\$/oz.) <sup>2</sup>	Total production cost (\$/oz.) <sup>3</sup>	Ore (million tons) <sup>1</sup>	Grade (oz./ton)	Ounces (millions)	
<b>Canada</b>	Williams	50	1992	248,460	1.3	0.205	95.4	\$186	\$238	17.6	0.174	3.1	
			1991	259,352	1.2	0.227	95	\$182	\$224	17.6	0.174	3.1	
			1990	297,064	1.3	0.249	95	\$170	\$213	18.7	0.171	3.2	
	David Bell	50	1992	105,256	0.3	0.426	95.4	\$156	\$203	3.5	0.321	1.1	
			1991	141,564	0.3	0.570	96	\$113	\$166	3.8	0.328	1.2	
			1990	159,049	0.3	0.637	97	\$118	\$163	3.8	0.363	1.4	
	Quarter Claim	25	1992	16,204	0.05	0.356	96.5	\$140	\$140	0.4	0.254	0.1	
			1991	18,585	0.05	0.447	97	\$105	\$105	0.5	0.308	0.2	
			1990	20,978	0.05	0.467	96	\$147	\$147	0.5	0.312	0.2	
	Nickel Plate	100	1992	84,673	1.4	0.073	84.9	\$295	\$365	5.9	0.076	0.4	
			1991	91,396	1.3	0.085	85	\$332	\$351	2.1	0.090	0.2	
			1990	76,296	1.3	0.073	84	\$393	\$393	3.0	0.081	0.2	
	Golden Bear	100	1992	58,224	0.1	0.450	88.9	\$293	\$302	0.2	0.515	0.1	
			50	1991	28,350	0.1	0.499	89.0	\$313	\$369	0.5	0.618	0.3
		50	1990	9,613	0.1	0.351	81.3	N/M	N/M	0.3	0.528	0.1	
	Snip	22	1992	30,558	N/M	0.923	91	\$145	\$200	0.2	0.831	0.1	
			20	1991	21,335	N/M	0.887	91	\$178	\$243	0.2	0.830	0.1
		20	1990	-	-	-	-	-	-	0.2	0.849	0.1	
	<b>Total Homestake<sup>5</sup></b>			1992	1,845,397	-	-	-	\$248	\$303	185.3	N/M	17.3
				1991	1,742,054	-	-	-	\$269	\$333	194.3	N/M	18.5
				1990	1,908,916	-	-	-	\$248	\$304	198.5	N/M	19.6
<b>Minority Interest</b>			1992	66,196	-	-	-	-	-	-	-	-	
			1991	59,241	-	-	-	-	-	-	-	-	
			1990	70,556	-	-	-	-	-	-	-	-	

N/M=Not meaningful.

<sup>1</sup> Homestake proportionate interest.

<sup>2</sup> Excludes depreciation, amortization and reclamation accruals.

<sup>3</sup> Excludes corporate, administrative, exploration and general expenses.

<sup>4</sup> Proven and probable.

<sup>5</sup> Includes production from closed operations not listed.

Other Costs (\$/oz.)	Year	Non-Cash Costs <sup>3</sup>		
		Corporate Administration	Exploration	Realized
	1992	\$55	\$25	\$15
	1991	\$64	\$26	\$26
	1990	\$56	\$26	\$26

Gold Price (\$/oz.)	Year	Realized
1991	\$376	
1990	\$392	