



## Harmony Gold Mining Co.Ltd



**Hidden Valley Gold-Silver Deposit**  
**Hamata Gold Deposit**

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## Harmony Gold Mining Co.Ltd





# Hidden Valley Project

**Hidden Valley-Kaveroi Deposit**  
 31Mt @ 3.12g/tAu 3.20Moz Au 56Moz Ag resource  
 19Mt @ 2.91g/tAu 1.75Moz Au 29.5Moz Ag reserve

**Hamata Deposit**  
 4.6Mt @ 3.40g/tAu 506,000oz Au resource  
 2.7Mt @ 3.30g/tAu 290,000oz Au reserve

## Objectives

Establish annual production of  
 300,000oz Au and 60,000oz Au-equivalent silver



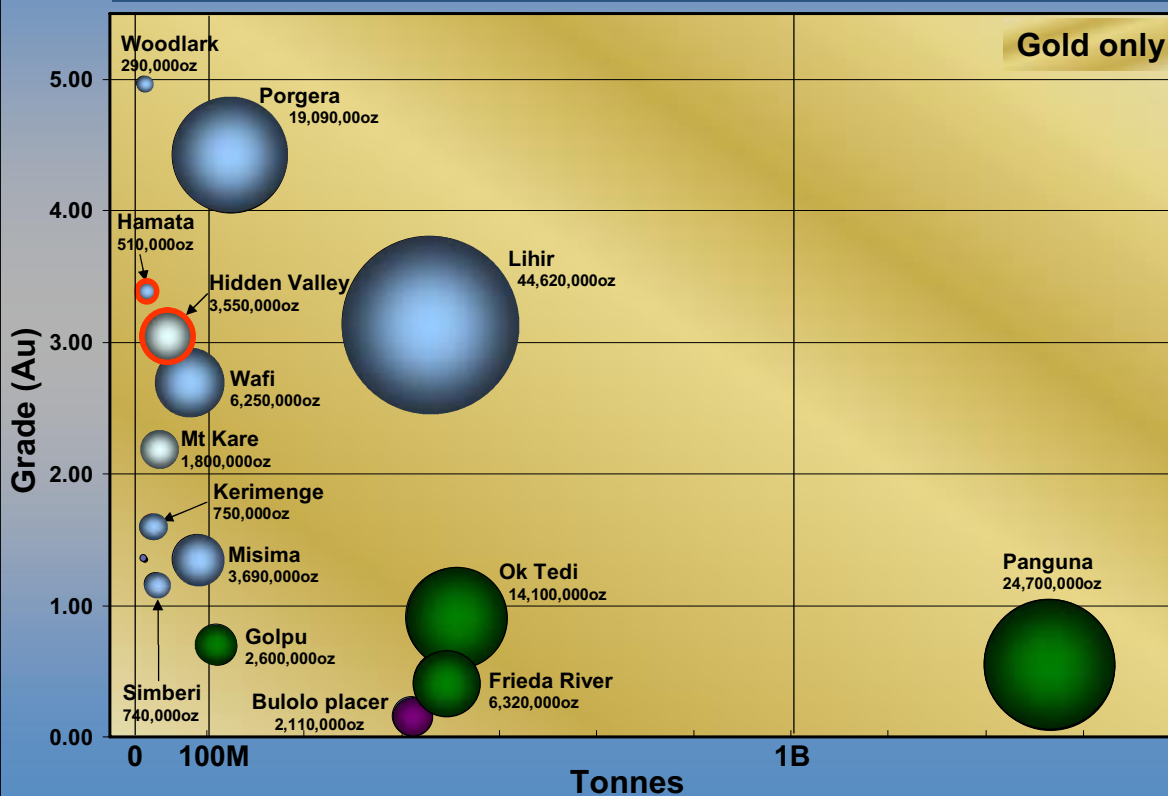


## Comparison of Selected Gold Deposits in PNG

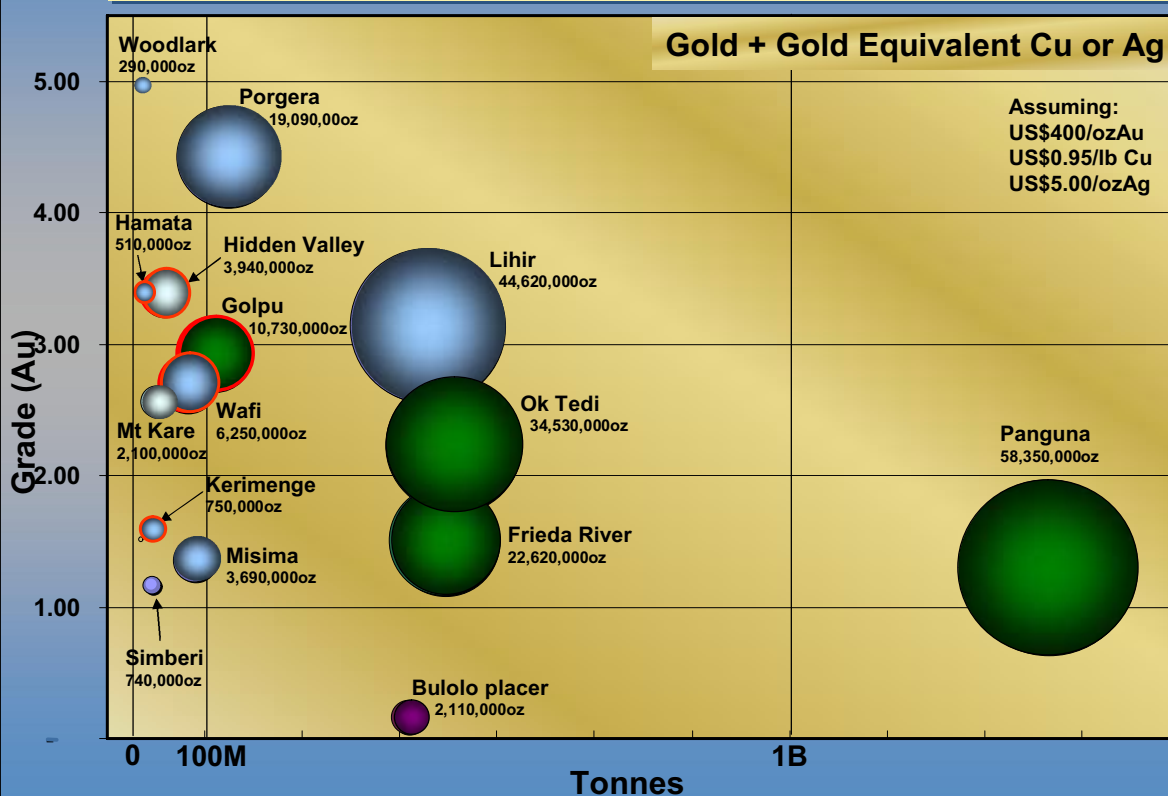
Deposit	M Tonnes	Au		Ag		Cu		Tonnes Au Equiv
		Grade	M Oz	Grade	M Oz	Grade	B lbs	
Panguna	1,397	0.55	24.70			0.46	14.17	1,815
Lihir	442	3.14	44.62					1,388
Ok Tedi	482	0.91	14.10			0.85	9.03	1,074
Frieda River	468	0.42	6.32			0.70	7.22	705
Porgera	134	4.43	19.09					594
Golpu	114	0.71	2.60			1.43	3.59	334
Wafi	72	2.70	6.25					194
Hidden Valley	36.2	3.05	3.55	55.0	31.55			123
Misima	85.0	1.35	3.69					115
Bulolo River	413.7 <sup>(207m<sup>3</sup>)</sup>	0.16	2.11					66
Mt. Kare	25.5	2.20	1.80	29.0	23.78			65
Kainantu	1.2	28.00	1.08					34
Kerimenge	14.6	1.60	0.75					23
Simberi	19.7	1.17	0.74					23
Edie Creek	2.7	8.40	0.73					23
Tolukuma	1.5	13.77	0.66					20
Hamata	4.6	3.40	0.51					16
Woodlark	1.8	4.97	0.29					9
Imwauna	1.0	6.10	0.19	12.0	0.38			6
Weioke	1.7	1.36	0.07	12.3	0.67			3



## Comparison of Selected Gold Deposits in PNG

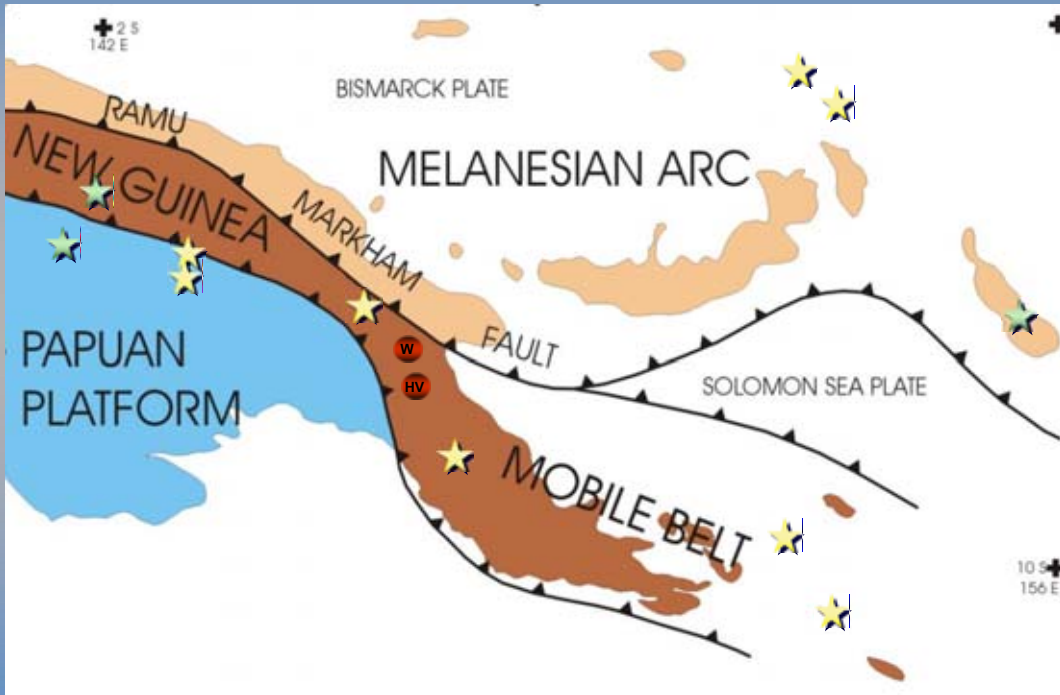


## Comparison of Selected Gold Deposits in PNG

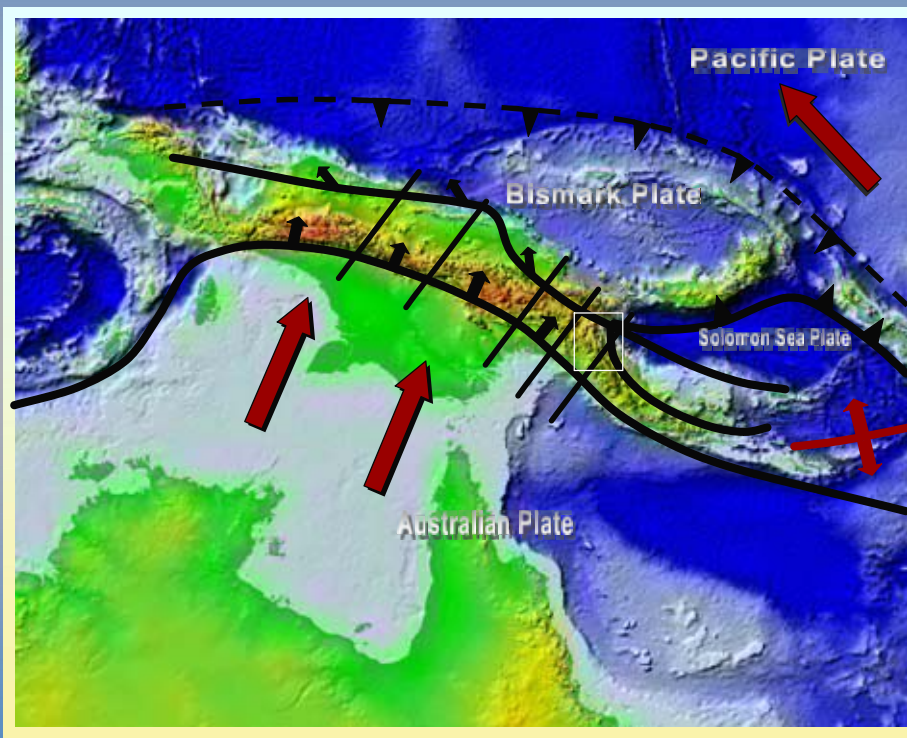


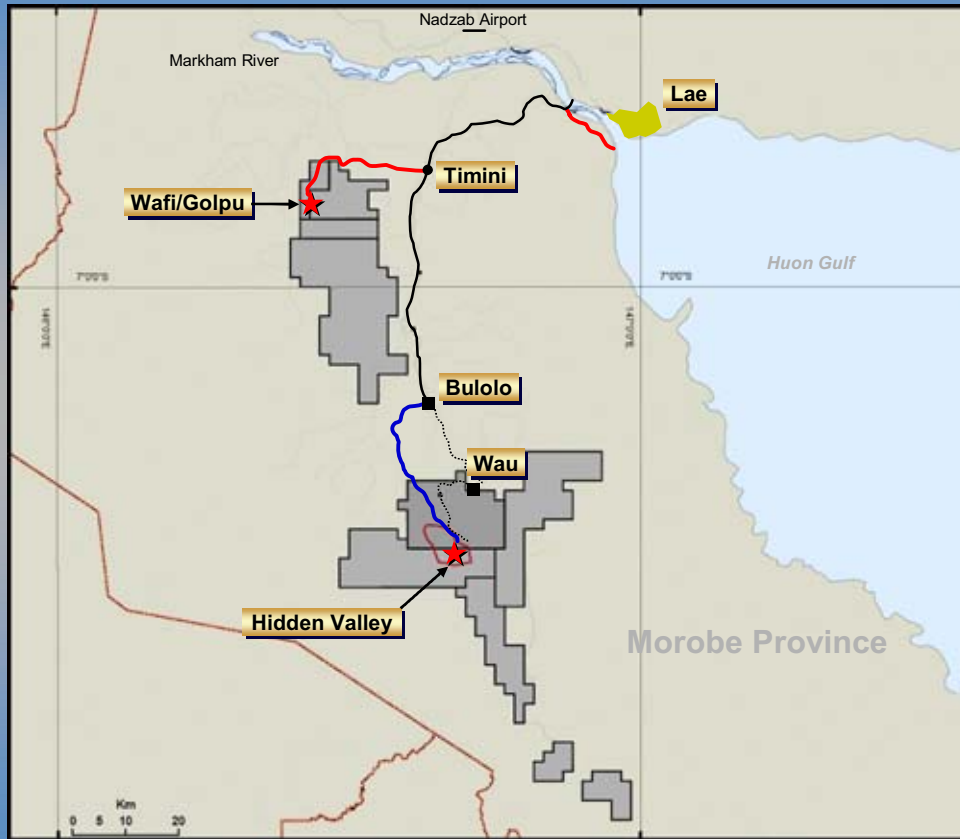


### Tectonic Setting

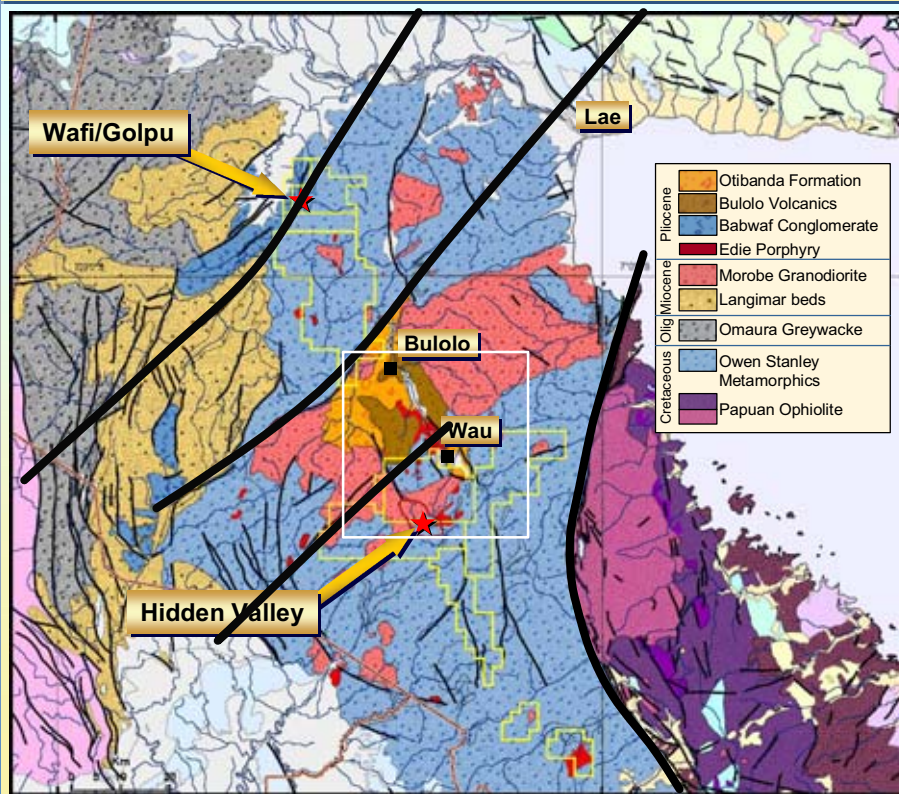


### Tectonic Setting



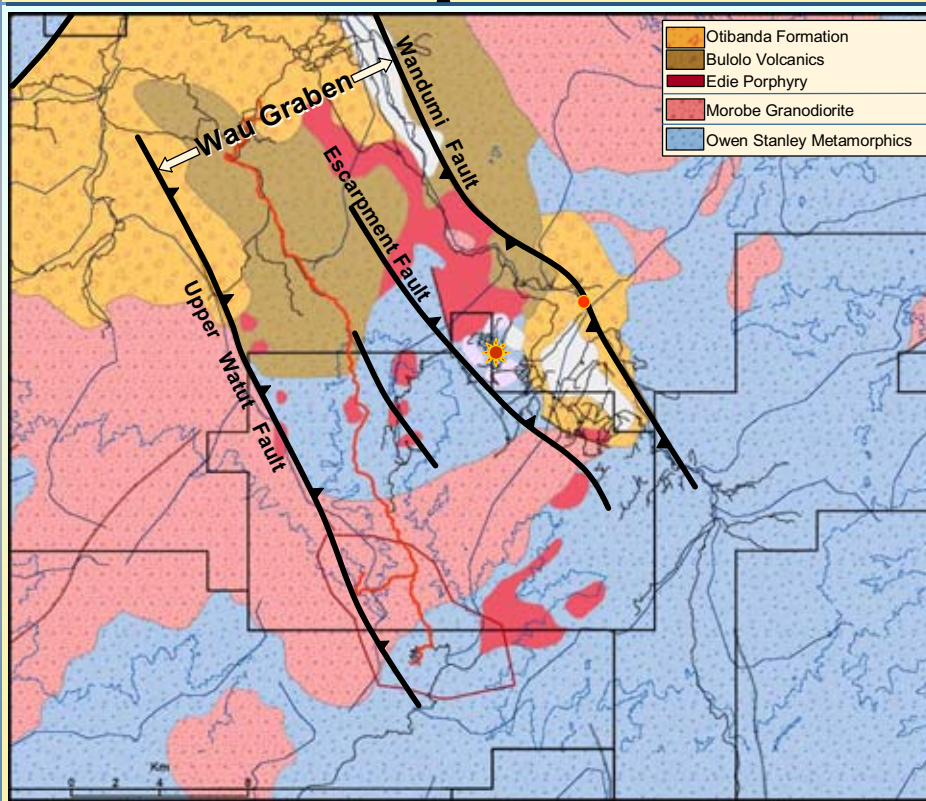


## Regional Geology

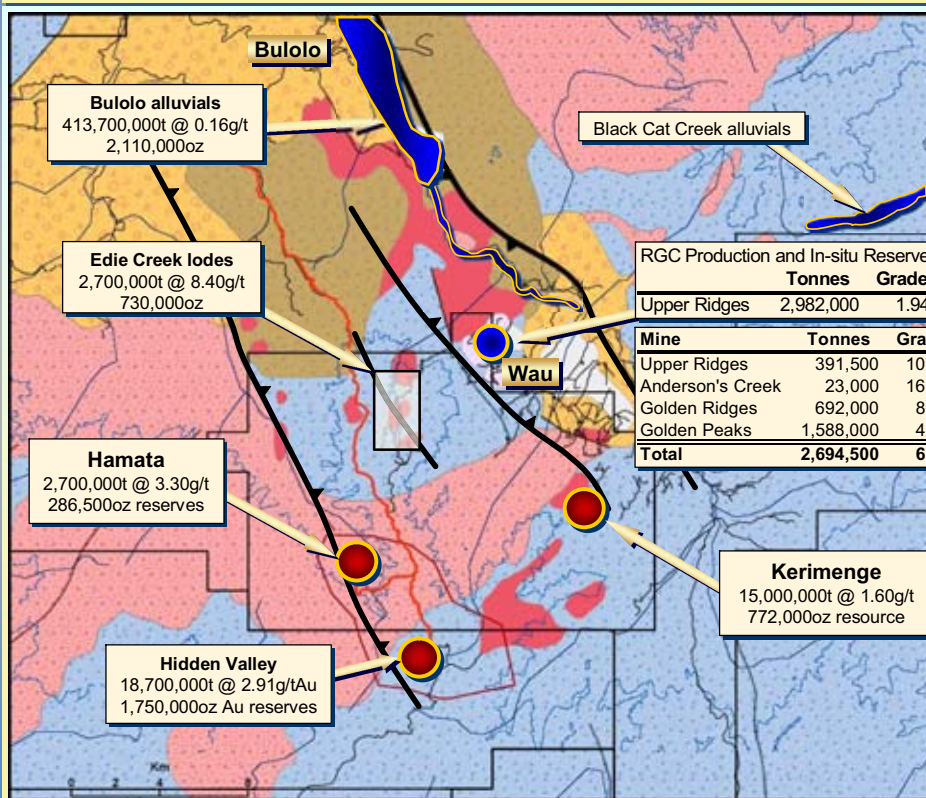




## Local Geology



## Gold Endowment



RGC Production and In-situ Reserves 1986-1989			
	Tonnes	Grade	Oz Au
Upper Ridges	2,982,000	1.94	186,440
Mine			
Mine	Tonnes	Grade	Oz Au
Upper Ridges	391,500	10.41	131,000
Anderson's Creek	23,000	16.00	11,800
Golden Ridges	692,000	8.08	179,800
Golden Peaks	1,588,000	4.66	237,900
<b>Total</b>	<b>2,694,500</b>	<b>6.47</b>	<b>560,500</b>

**Bulolo alluvials**  
413,700,000t @ 0.16g/t  
2,110,000oz

**Edie Creek lodes**  
2,700,000t @ 8.40g/t  
730,000oz

**Hamata**  
2,700,000t @ 3.30g/t  
286,500oz reserves

**Hidden Valley**  
18,700,000t @ 2.91g/tAu  
1,750,000oz Au reserves

**Black Cat Creek alluvials**

**Kerimenge**  
15,000,000t @ 1.60g/t  
772,000oz resource



**Edie Creek**

**Bulolo dredges**



## HVK Gold Resource

### RESOURCE

	Measured+Indicated			Inferred			Total		
	Tonnes	Grade (Au g/t)	Ounces	Tonnes	Grade (Au g/t)	Ounces	Tonnes	Grade (Au g/t)	Ounces
HV	15,108,000	3.32	1,611,492	2,146,000	3.50	241,484	17,254,000	3.34	1,852,976
K	6,550,000	2.85	600,174	7,746,000	2.84	707,273	14,296,000	2.84	1,307,447
<b>Total</b>	<b>21,658,000</b>	<b>3.18</b>	<b>2,211,666</b>	<b>9,892,000</b>	<b>2.98</b>	<b>948,757</b>	<b>31,550,000</b>	<b>3.12</b>	<b>3,160,423</b>

### RESERVE

	Proved			Probable			Total		
	Tonnes	Grade (Aug/t)	Ounces	Tonnes	Grade (Aug/t)	Ounces	Tonnes	Grade (Aug/t)	Ounces
HV+K	1,100,000	3.10	110,000	17,600,000	2.90	1,640,000	18,700,000	2.91	1,750,000





## HVK Silver Resource

### RESOURCE

	Measured+Indicated			Inferred			Total		
	Tonnes	Grade (Ag g/t)	Ounces	Tonnes	Grade (Ag g/t)	Ounces	Tonnes	Grade (Ag g/t)	Ounces
HV	15,108,000	50.79	24,670,058	2,146,000	49.30	3,401,479	17,254,000	50.60	28,071,537
K	6,550,000	59.50	12,529,952	7,746,000	60.70	15,116,712	14,296,000	60.15	27,646,665
<b>Total</b>	<b>21,658,000</b>	<b>53.42</b>	<b>37,200,010</b>	<b>9,892,000</b>	<b>58.23</b>	<b>18,518,191</b>	<b>31,550,000</b>	<b>54.93</b>	<b>55,718,201</b>

### RESERVE

	Proved			Probable			Total		
	Tonnes	Grade (Ag g/t)	Ounces	Tonnes	Grade (Ag g/t)	Ounces	Tonnes	Grade (Ag g/t)	Ounces
HV+K	1,100,000	51.00	1,803,657	17,600,000	49.00	27,726,810	18,700,000	49.12	29,530,467



## Hidden Valley Discovery

- **Discovered in 1984 by CRA**
- **-80mesh stream sediment assayed 8.4g/tAu**
- **Visible gold in pan concentrates**
- **Follow-up in 1985: altered granodiorite exposed in landslip**
- **Rock chip sampling returned 100m at 3.0g/tAu and 45g/tAg**
- **Diamond drilling commenced Dec 1985**
- **Feb 1986 drillhole HV-3 intersected 114m @ 3.0g/tAu and 52g/tAg**
- **By Dec 1987, 67 holes (18,790m) completed**



## Resource Evolution

- 332 diamond holes for 87,565m
- Drilled on nominal 50mx25m pattern
- No resource drilling since 2001
- 17 resource estimates since 1988
- Most recent published resource estimate by Abelle/Snowdens
- Total HV resource remained static since end of initial drilling
- 19 (5,410m) holes drilled by Abelle/Harmony 2003-2004
- By Dec 1987, 67 holes (18,790m) completed

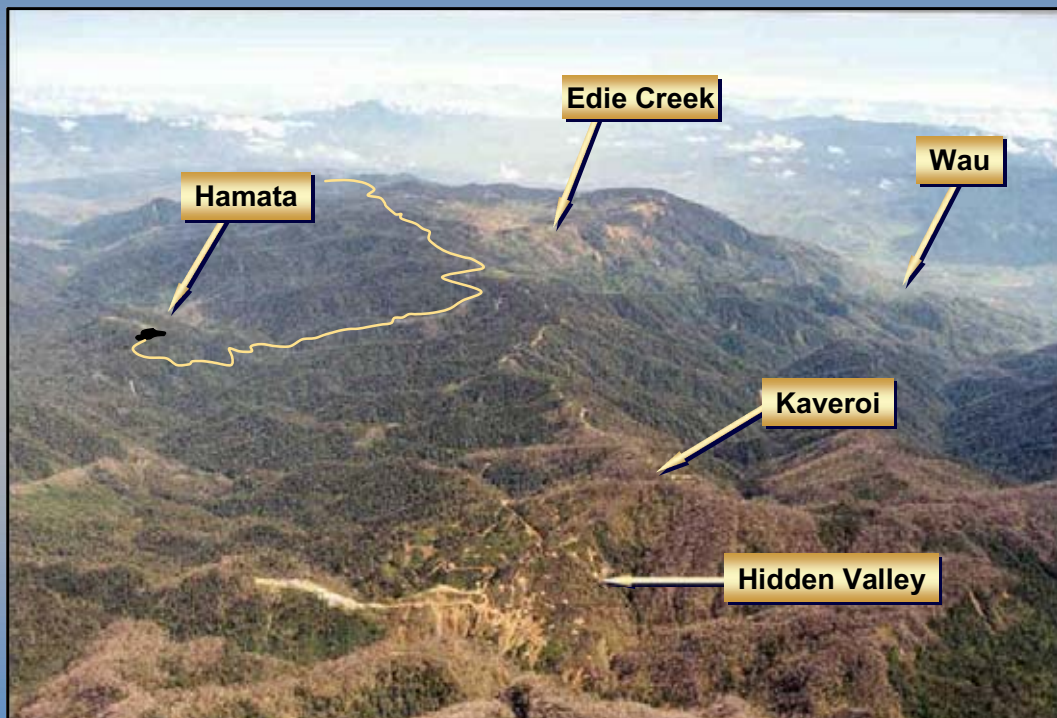
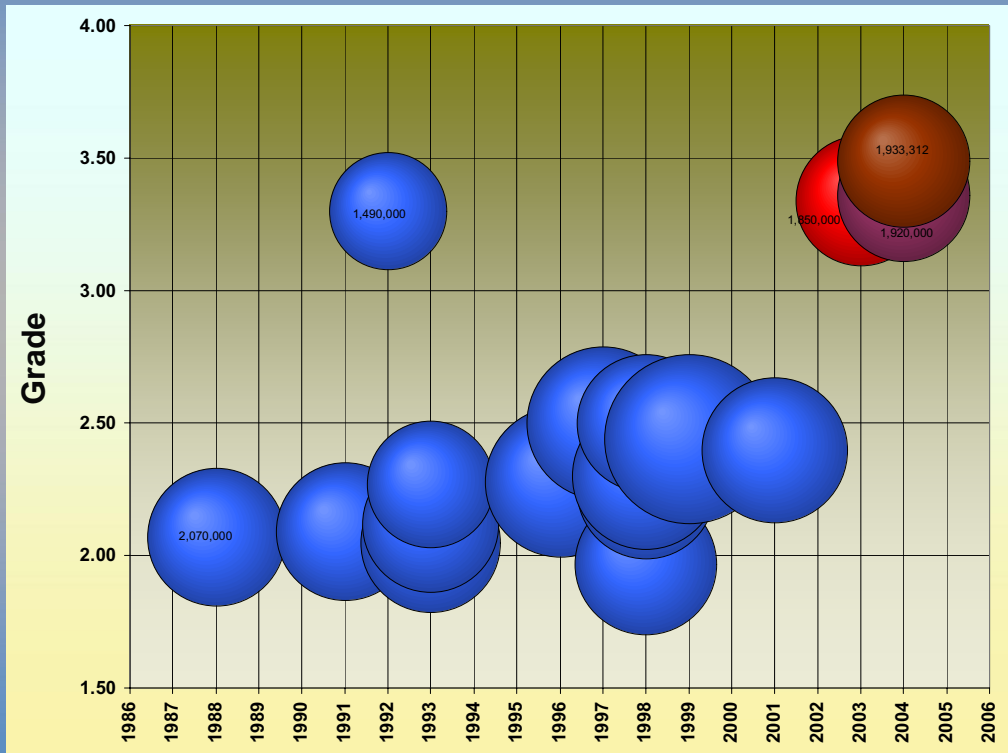


## HVK Resource History

Year	Company	Hidden Valley			Kaveroi			Total			No. Holes
		Mt	Grade	Au oz	Mt	Grade	Au oz	Mt	Grade	Au oz	
1988	Askew	31.10	2.07	2,070,000							99
1991	CRA	30.70	2.09	2,060,000	14.70	2.10	990,000	45.40	2.09	3,060,000	
1992	CRA	14.00	3.30	1,490,000							
1993	CRA	32.10	2.05	2,120,000							
1993	CRA	29.50	2.12	2,010,000							
1993	CRA	24.30	2.27	1,770,000							
1996	CRA	33.90	2.28	2,480,000							114
1997	AGF	31.30	2.50	2,520,000							114
1998	AGF/Snowden	34.60	1.97	2,190,000	17.10	2.11	1,160,000	51.70	2.02	3,350,000	130
1998	Aurora/SRK	28.50	2.25	2,060,000							150
1998	Aurora/SRK	32.10	2.30	2,370,000	14.00	2.32	1,040,000	46.10	2.31	3,420,000	
1998	Aurora/SRK	26.00	2.50	2,090,000							
1999	Aurora	40.10	2.44	3,150,000				40.10	2.44	3,150,000	
2001	Aurora/Kvaerner	29.74	2.40	2,290,000	24.56	2.00	1,580,000	54.30	2.22	3,870,000	
2003	Abelle/Snowden	17.25	3.34	1,850,000	14.30	2.84	1,310,000	31.55	3.11	3,160,000	
2004	Harmony	17.74	3.36	1,920,000	11.76	2.82	1,070,000	29.50	3.14	2,980,000	
2004	Snowden IK	17.23	3.49	1,933,312	14.26	2.97	1,361,369	31.49	3.25	3,294,680	



# HVK Resource History

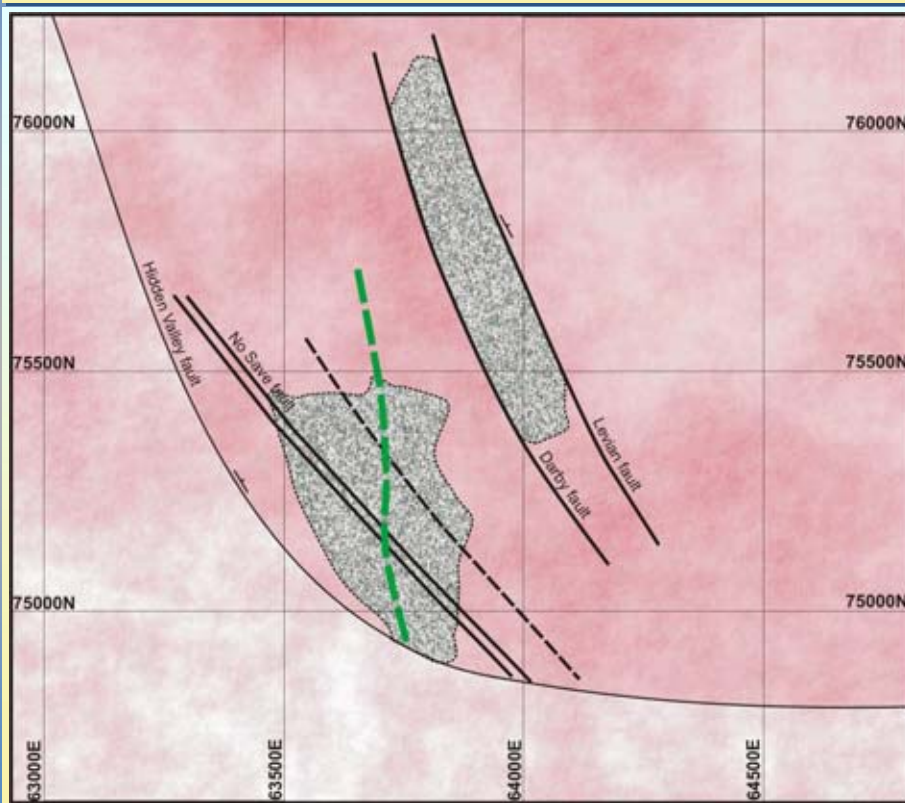




# Hidden Valley Deposit

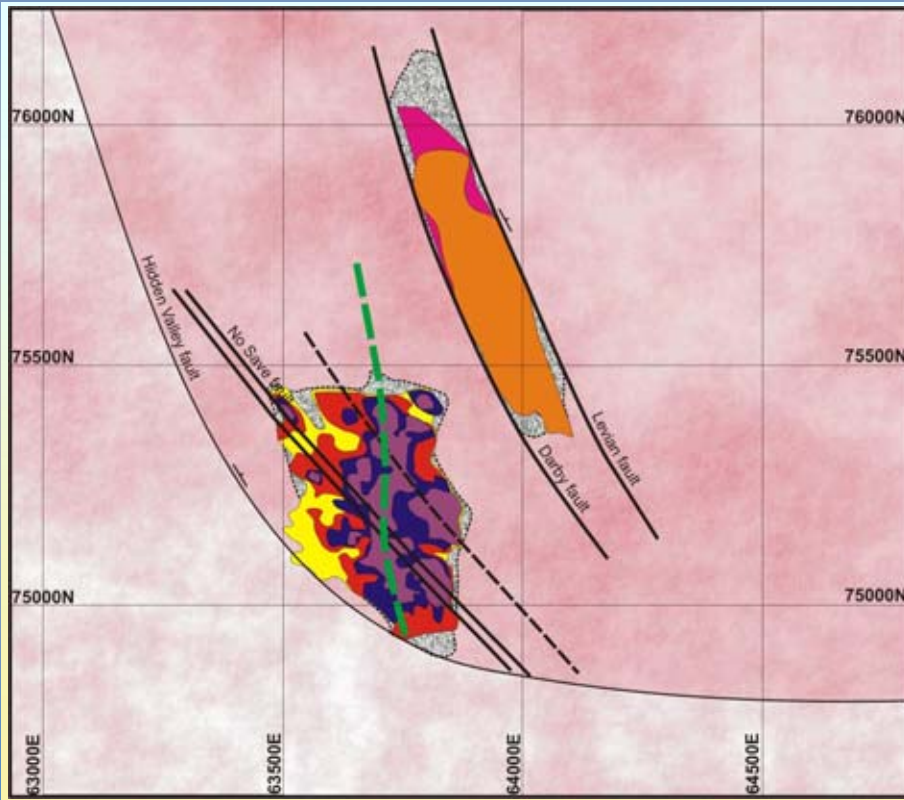


# Hidden Valley-Kaveroi Geology Plan

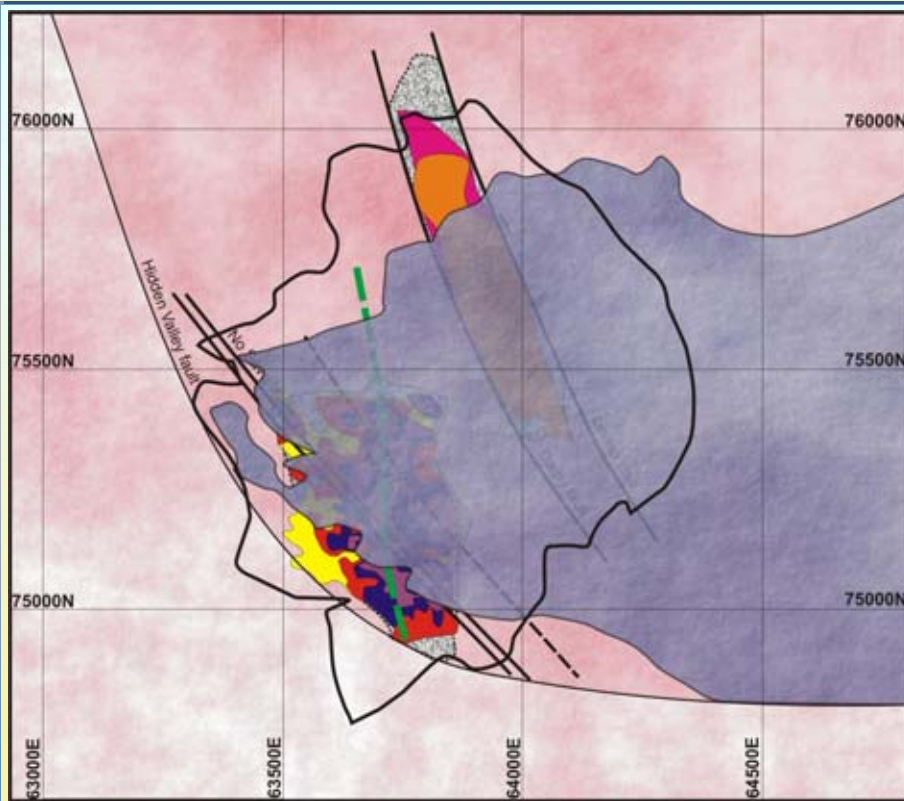




# Hidden Valley-Kaveroi Geology Plan

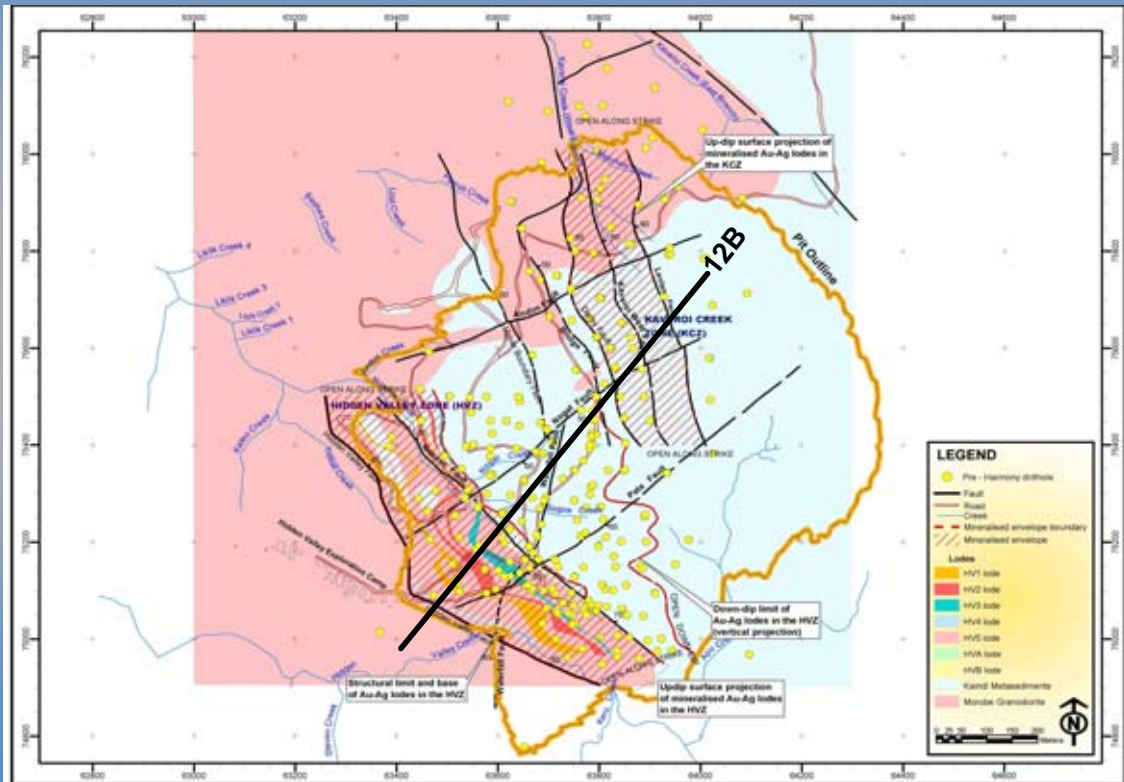


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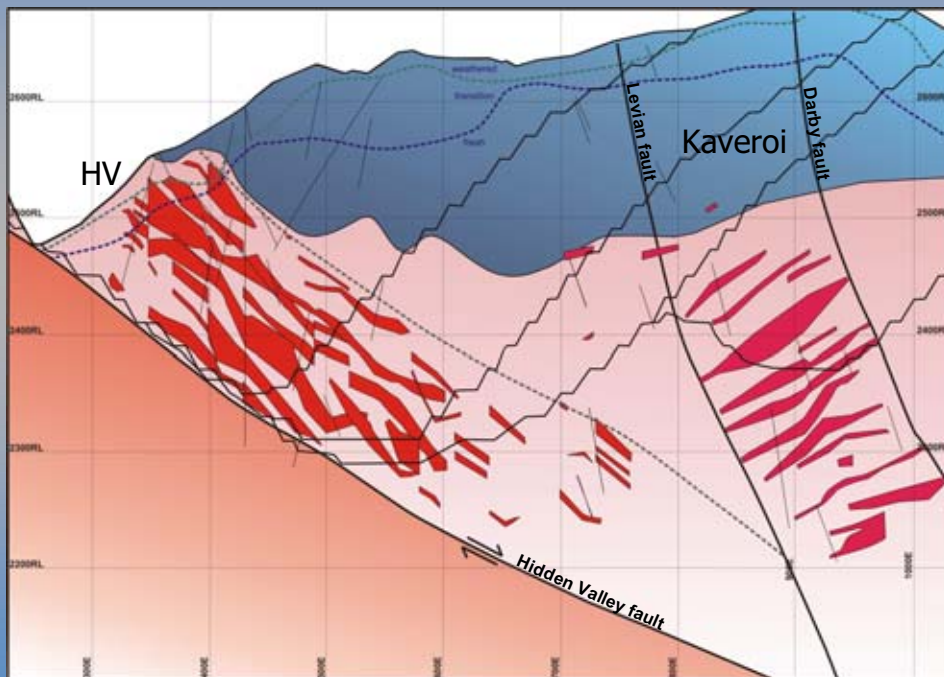


# HV-K Plan



# HV Cross-section 12

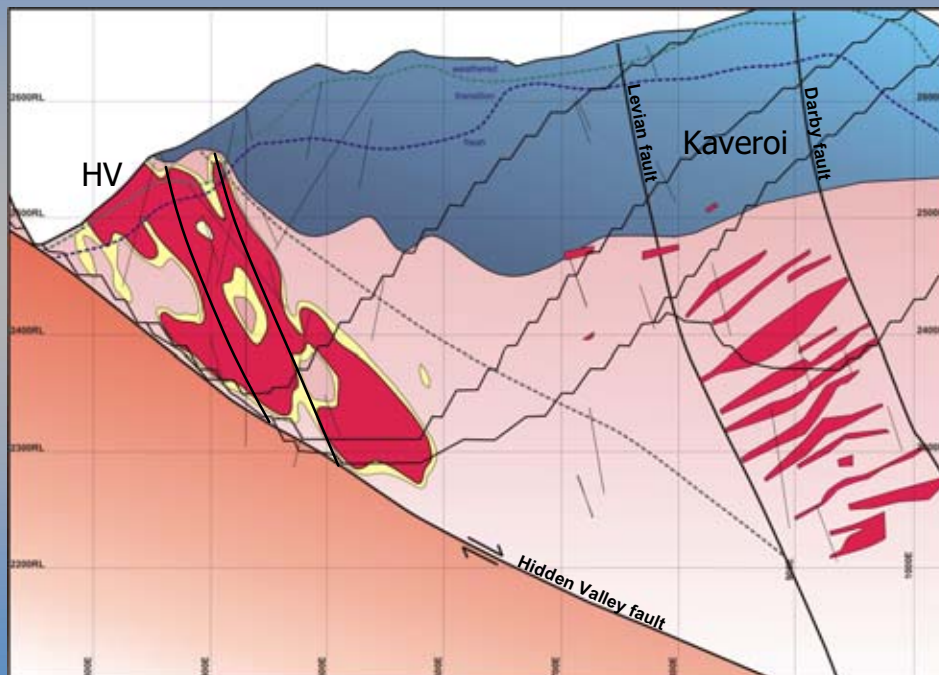
Lodes interpreted at 1.00g/tAu cut-off





## HV Cross-section 12

2m Au composites of entire dataset isosurfaced at 0.85g/t cut-off



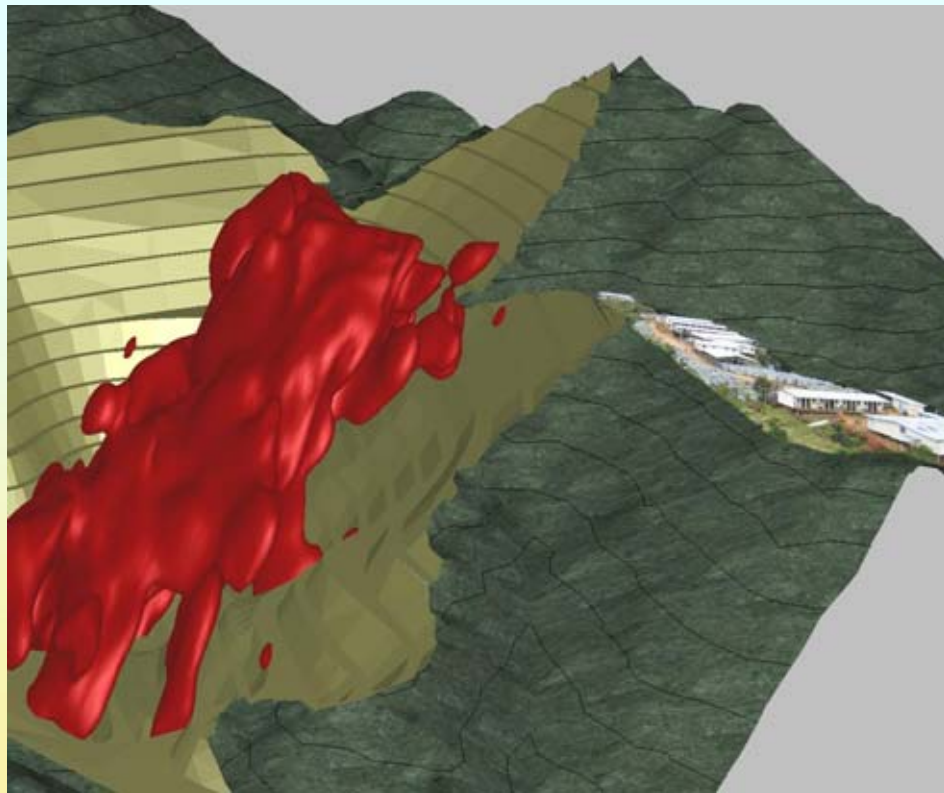
## HV Mineralisation

- Gold is hosted by a structurally controlled stockwork
- Three main vein suites
- Late stage carbonate veins (+base metal sulphides) contain gold and silver mineralisation
- Gold is free milling, recoveries between 91 and 95%
- 30 to 60% gravity recovery in oxide and transitional





## HV Mineralisation



## Hamata Gold Deposit

### RESOURCE

	Measured+Indicated			Inferred			Total		
	Tonnes	Grade (Au g/t)	Ounces	Tonnes	Grade (Au g/t)	Ounces	Tonnes	Grade (Au g/t)	Ounces
	3,697,500	3.45	410,127	925,000	3.22	95,761	4,622,500	3.40	505,888

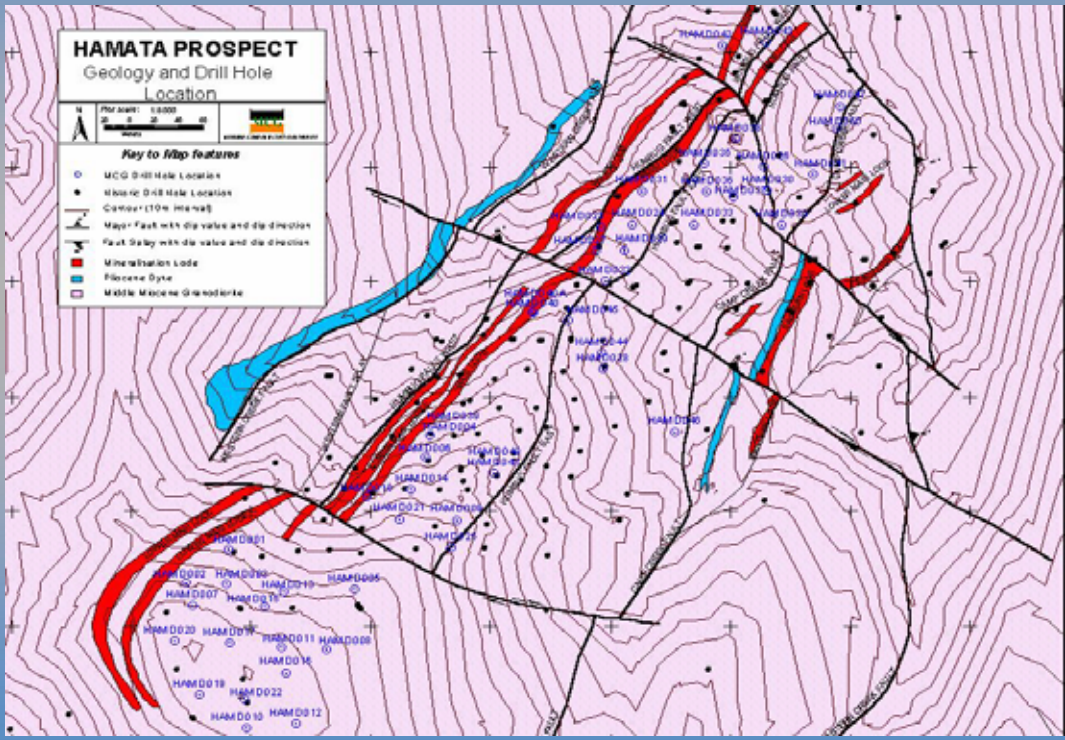
### RESERVE

	Proved			Probable			Total		
	Tonnes	Grade (Aug/t)	Ounces	Tonnes	Grade (Aug/t)	Ounces	Tonnes	Grade (Aug/t)	Ounces
<b>Total</b>	<b>900,000</b>	<b>3.10</b>	<b>89,701</b>	<b>1,800,000</b>	<b>3.40</b>	<b>196,763</b>	<b>2,700,000</b>	<b>3.30</b>	<b>286,463</b>

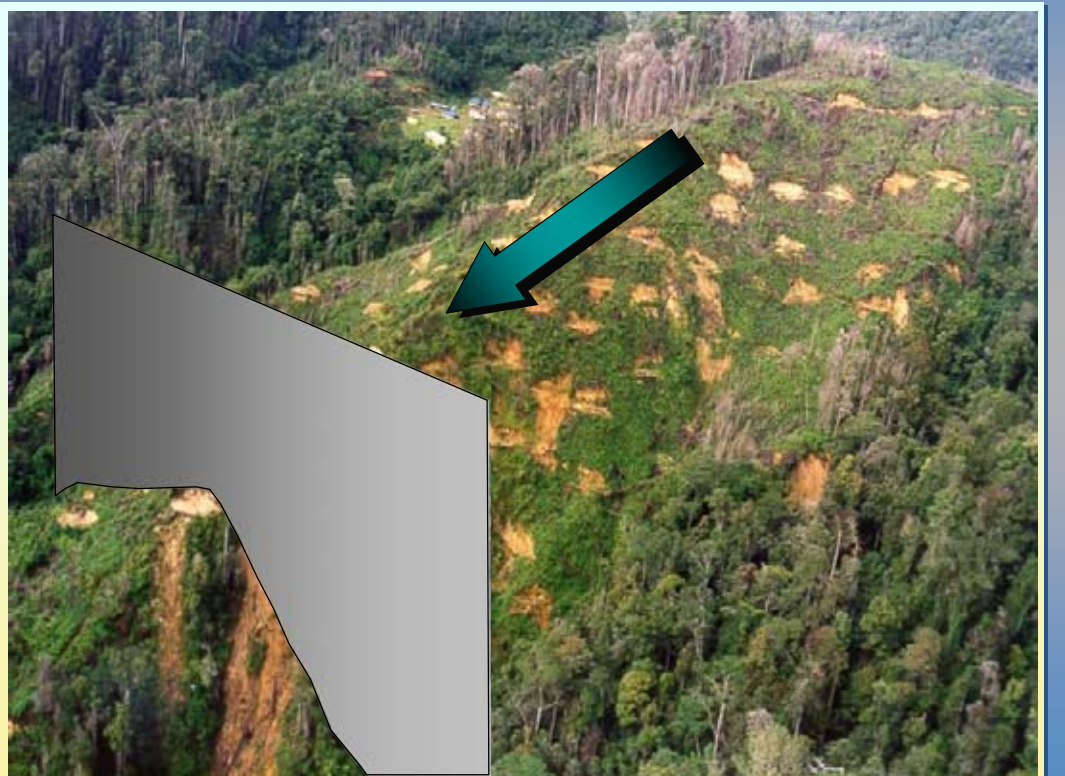




# Hamata Deposit

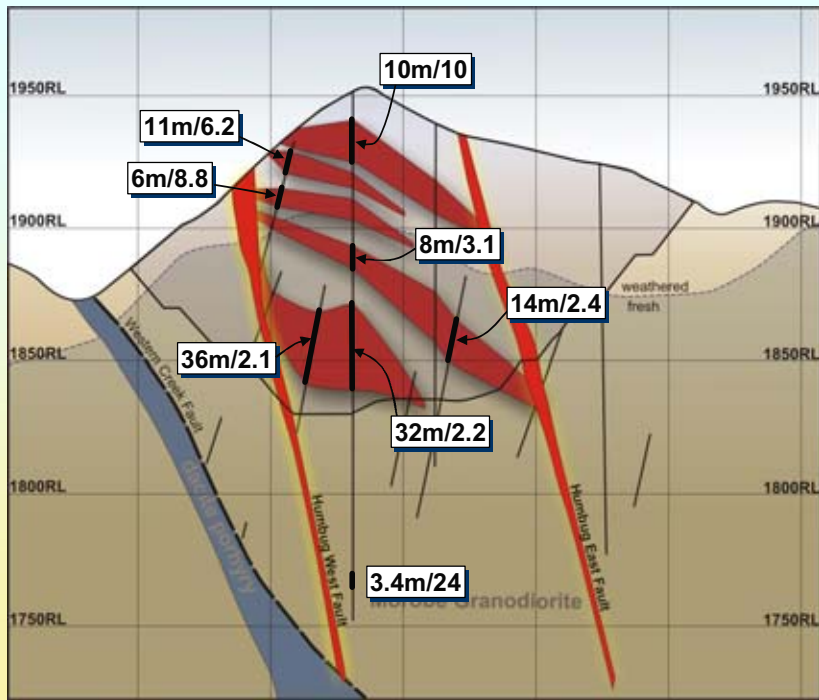


# Hamata Deposit





# Hamata True Section 20B



# Hamata Long Section

