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## EXPLORATION CONFIRMS POTENTIAL FOR COPPER/GOLD PORPHYRY SYSTEM AT WEST DELTA PROSPECT

Hillgrove Resources Limited (ASX: HGO) advises that reconnaissance fieldwork for the Bird's Head Project has confirmed the presence of significant copper and gold mineralisation within two prospects in the Delta Target Area, in north-western West Papua, Indonesia.

Highlights from the field work include:

- **Confirmation that the large copper signature from soil sampling is due to porphyry style mineralisation.**
- **Confirmation of the presence of both disseminated and vein-hosted copper/gold mineralisation within altered intrusive, along with assay values of low to medium grade range, as expected for porphyry style mineralisation. Peak assays include 5.7g/t gold and 3.7% copper (not same sample).**
- **Confirmation of the presence of a structural corridor which strikes for at least 4km and hosts medium to high grade gold/copper mineralisation. Peak assays include 33.5g/t gold and 8.6% copper (not same sample).**

Medium to high grade gold and copper mineralisation has been identified along a structural corridor that extends south from the Kali Sute Prospect over 4km. This area corresponds with the best gold results from historical channel sampling and mainly occurs within a pyrite altered syenite dyke emplaced within a regional fault and subsequently brecciated.

Low to medium grade gold and copper mineralisation has been confirmed within the West Delta Prospect area in an interpreted upper zone of a porphyry system. Mapping of this area has confirmed the presence of a remnant argillic alteration cap along with disseminated and vein hosted copper/gold mineralisation.

The main focus for the Bird's Head Project in the coming months will be the commencement of detailed mapping and channel/trench sampling of the West Delta Prospect and to conduct a heliborne radiometrics/magnetics survey over the general Delta area with a view to define targets for early drilling.

Reconnaissance work will also continue to the south of West Delta at the Southern Porphyry Prospect which also has a significant geochemical signature and similar alteration as suggested by the large degree of erosion which appears to be a localised feature.

David Archer, the Managing Director of Hillgrove Resources said today "The Papua New Guinea-West Papua fold belts host four of the world's top 20 largest known gold-rich porphyry deposits. Our work at West Delta has highlighted many of the key characteristics one would associate with a porphyry system. Target definition followed by drill testing is now our major priority."

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## Introduction

The Bird's Head Project (Hillgrove 80% economic interest) is located in north-western West Papua in the Indonesian province of Papua Barat (Figure 1). The regional centre of Sorong, located approximately 130km to the southwest of the area, is supported by regular commercial air and sea services.

The license covers 181,500 hectares within the administrative districts of Tamrau and Manokwari. The lease area is sparsely populated and covers areas ranging from the coast through to moderate elevations of around 2,500m within 40km of the coast.

## Project Update

### Completion of Due Diligence for Delta Area

Hillgrove, in association with its Indonesian partner PT Akram Resources, has now completed the due diligence phase for the Delta Area. This involved field verification of the location of historical drillholes and sample sites and reconnaissance mapping and sampling of Kali Sute and West Delta Prospects.

At the start of this process it became readily apparent that due to the highly active erosional environment some of the old channel sampling sites had been covered by scree, but on the positive side, new exposures of bedrock are now present which provide excellent fresh faces to map and sample.

The current theory is that the abundant erosional surfaces have occurred preferentially along clay alteration (argillic) zones within a monzonite intrusive and in some cases show copper mineralisation (Photo 1).

**Photo 1. Exposed Rock face showing abundant copper mineralisation (green malachite) at West Delta Prospect (assays pending)**



The land slippages are highly concentrated within the Delta area and can be observed in the satellite (Quickbird) image used as the backdrop for Figures 2, 5 and 6.

Reconnaissance mapping and sampling has confirmed the presence of two main mineralisation styles for the Delta area.

### **Porphyry Style Copper-Gold Mineralisation**

The large geochemical copper signature from ridge and spur soil sampling for the West Delta Prospect (see Figure 2) has been interpreted as structural remobilisation of copper and gold along breccia pipes and faults within the upper levels of a porphyry system.

Photo 2 shows an example of porphyry style mineralisation found at West Delta.

**Photo 2. Porphyry copper mineralisation in strongly weathered altered intrusive rock (assays pending)**



Figure 3 shows the current geological interpretation for alteration zones at West Delta Prospect. The area denoted as “Green Cliffs” is shown in Photo 1. The clay zone within the centre of the mapped area has been interpreted as a remnant argillic cap in the upper levels of a porphyry system.

The cross section in Figure 4 represents the current interpretative model based on field observations.

### **Mesothermal Breccia Gold-Copper Mineralisation**

Reconnaissance mapping and sampling has also confirmed the presence of a structural corridor that seems to host the majority of the high grade gold intercepts reported in historical channel sampling.

The corridor trends NNE at about 30 degrees and was first identified through desktop work based on geochemical trends and structural interpretation of landsat imagery. This has now been verified in the field and it appears that a pyrite altered syenite dyke has been

emplaced along a regional fault, or set of faults, and has become the preferential brecciated host for medium to high grade copper and gold mineralisation.

Another field observation has been that there is a high grade copper and gold area at Kali Sute Prospect where the dyke/ intrudes thru monzonite.

Significant assay results from the due diligence program are shown in Table 1 and Figures 5 and 6.

## **About Hillgrove**

Hillgrove is an Australian mining company listed on the Australian Securities Exchange (ASX: HGO) focused on developing its Indonesian, South Australian and Queensland base and precious metals projects. The Company is targeting the discovery of world class epithermal gold and porphyry copper/gold deposits in Eastern Indonesia.

Hillgrove's flagship development is the Kanmantoo Copper Gold Project, located less than 60km from Adelaide in South Australia. Kanmantoo currently hosts a Mineral Resource of 32.2Mt (2.3MT Measured, 22.5MT Indicated and 7.4MT Inferred) grading 0.9% copper and 0.20g/t gold, containing 292,200 tonnes of copper, 191,100 ounces of gold and 3,313,600 ounces of silver. With production targeted for the first quarter of 2011, Kanmantoo will be a 2Mt p.a. open-cut mine producing approximately 17,000 tonnes of copper in concentrate and 8,000 ounces of gold per annum.

*The information in this report that relates to Exploration Results is based on information compiled by Mr. Adam Freeman, who is a Member of The Australasian Institute of Geoscientists. Mr. Freeman is a Geology manager for Hillgrove Resources and has sufficient relevant experience to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Freeman consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The information in this report that relates to Mineral Resource estimates is based on information compiled by Mr Paul Payne, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Payne is a full-time employee of Runge Limited and has sufficient relevant experience to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Payne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

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**Table 1. Significant Rock Chip Results from Delta Area**

Sample No	Sample Type	UTM East	UTM North	Gold Av (g/t)	Silver (g/t)	Copper (%)
120	RO	234,714	9,955,633	33.55	36	7.0
222	RO	236,212	9,959,018	26.83	12	5.2
11	RF	237,084	9,958,322	14.66	4.2	0.0
419	RO	235,683	9,956,328	8.63	12.7	0.0
5	RO	236,204	9,959,010	7.73	6.6	2.3
7	RF	236,387	9,959,140	6.90	7.8	8.6
560	RO	234,402	9,956,838	5.72	10.2	0.0
4	RO	236,197	9,959,020	4.86	1.1	1.9
3	RF	236,247	9,959,082	4.10	10.4	3.4
438	RO	234,862	9,955,488	3.64	72.8	0.9
223	RO	236,182	9,959,032	3.54	2.8	1.4
220	RO	236,218	9,959,016	3.53	4.6	2.0
221	RO	236,219	9,959,019	3.52	3.8	3.8
139	RO	234,081	9,956,487	3.32	98.3	3.7
6	RF	236,335	9,959,098	3.20	4.6	2.1
288	RO	234,847	9,955,700	3.16	47.4	0.1
164	RO	235,858	9,957,410	3.15	4.4	0.0
406	RF	233,432	9,956,408	3.01	13.8	1.3
233	RCH	236,213	9,958,098	2.62	6.2	0.0
297	RF	234,562	9,956,938	2.54	23.5	2.9
162	RO	235,789	9,957,393	1.63	11.2	0.1
576	RF	233,605	9,956,640	1.26	14.5	0.0
166	RF	236,220	9,958,803	1.11	15.2	2.5
632	RCH	233,846	9,955,233	0.66	7.2	2.6
562	RF	233,895	9,956,608	0.50	4.8	0.8
628	RCH	233,851	9,955,232	0.49	12.7	4.6
287	RO	234,865	9,955,690	0.44	6.9	0.8
270	RO	234,993	9,956,114	0.43	9.9	1.0
278	RCH	234,920	9,956,083	0.41	20.1	0.8
276	RO	234,910	9,956,094	0.32	12.6	1.3
290	RO	235,012	9,955,808	0.27	76.7	6.2
291	RO	234,950	9,955,862	0.25	12.4	1.6
546	RO	234,954	9,957,531	0.21	7.9	0.8
545	RO	234,934	9,957,501	0.18	19.7	2.4
282	RCH	234,815	9,956,085	0.17	11	0.6
410	RO	233,608	9,956,144	0.17	6.2	0.7
553	RF	233,938	9,956,757	0.14	36.1	0.4
630	RCH	233,849	9,955,232	0.14	5.4	1.3
619	RCH	234,204	9,956,762	0.13	3.9	0.6
551	RO	234,782	9,957,409	0.10	17.4	2.4
234	RO	234,975	9,956,134	0.09	13.4	0.8

Sample No	Sample Type	UTM East	UTM North	Gold Av (g/t)	Silver (g/t)	Copper (%)
552	RO	234,758	9,957,375	0.09	5.2	0.9
633	RCH	233,844	9,955,233	0.08	4.3	0.8
299	RF	234,633	9,956,797	0.07	9.1	2.1
117	RO	234,892	9,957,397	0.06	9.3	1.0
542	RO	234,810	9,957,465	0.06	10.7	0.8
627	RCH	233,852	9,955,232	0.05	7.2	2.3
118	RO	234,713	9,955,643	0.04	6.6	0.7
547	RO	234,960	9,957,537	0.04	5.1	0.8
631	RCH	233,847	9,955,234	0.04	3.2	1.3
114	RO	235,109	9,957,514	0.03	5.1	0.8
296	RCH	234,565	9,956,998	0.03	8.8	1.6
115	RO	235,129	9,957,518	0.02	1.9	1.5
626	RCH	233,854	9,955,232	0.02	3.3	1.5

Note: Gold values are derived from an average of up to 5 repeats using fire assay method.  
 Silver and copper values are derived from a multi element sweep using ICP method.  
 Datum used for the Bird's Head Project is WGS 84 Zone 53.  
 RO = Rock Chip – Outcrop / RF = Rock Chip – Float / RCH = Rock Chip - Channel sample.

Figure 1. Location of Bird's Head Project, West Papua, Indonesia (Google Earth image)



Figure 2. Historical Soil Geochemistry by Copper

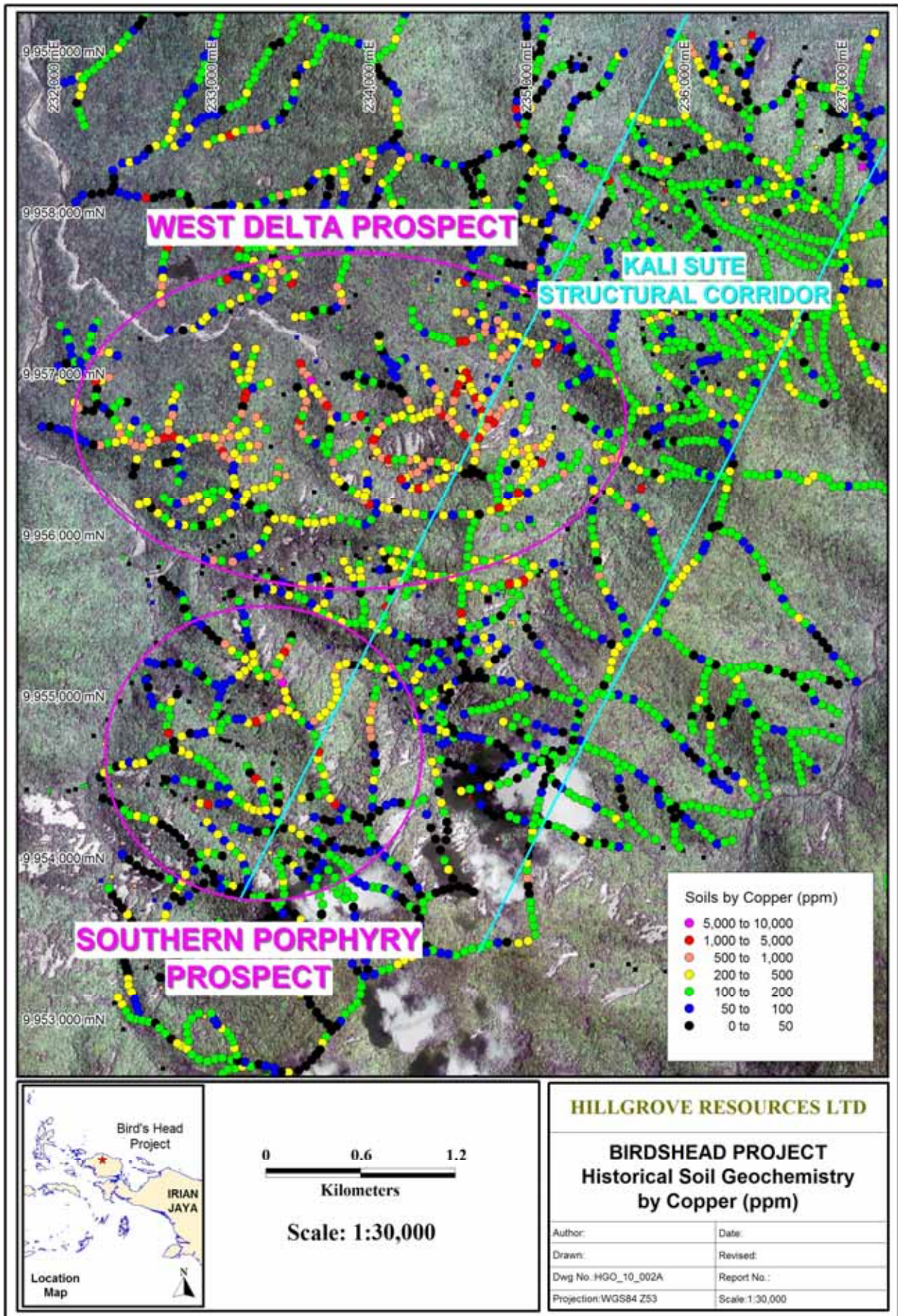
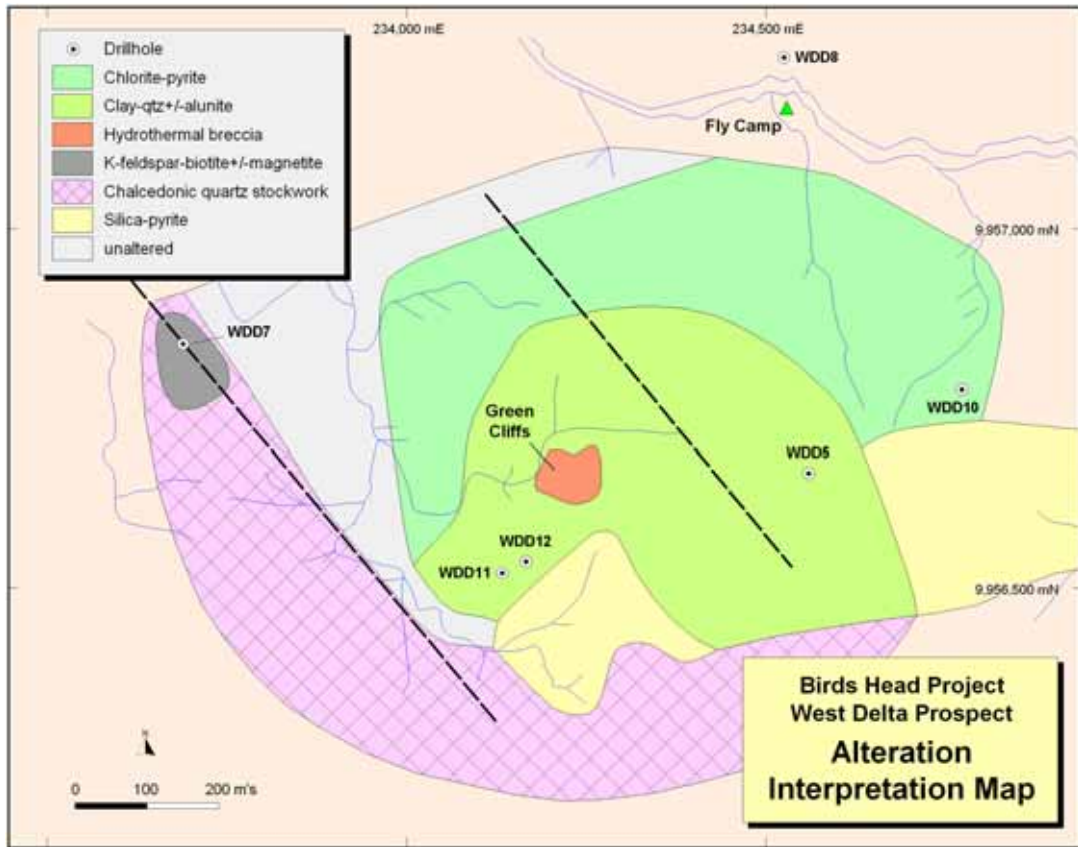


Figure 3. Alteration Interpretation Map for West Delta Prospect



Note: Historical drilling conducted by Normandy Anglo Asian

Figure 4. Interpretative Cross Section for West Delta Prospect

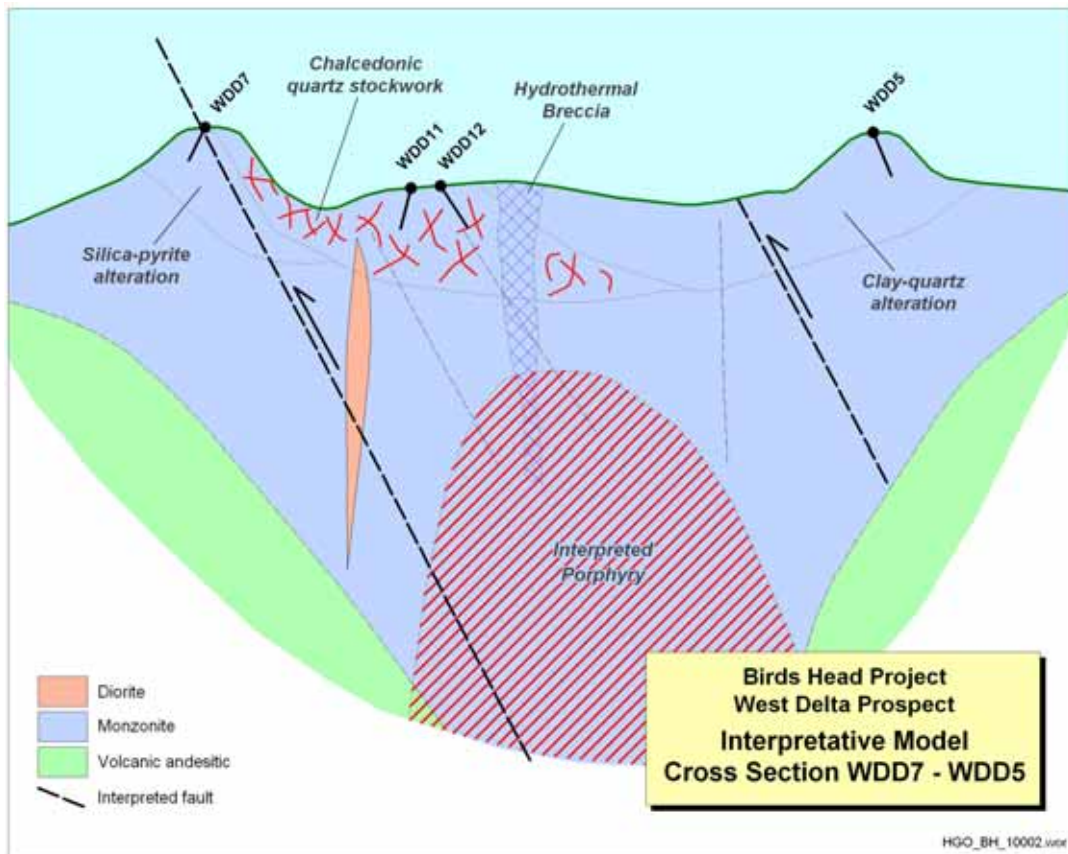


Figure 5. Rock Chip Geochemistry by Gold (g/t)

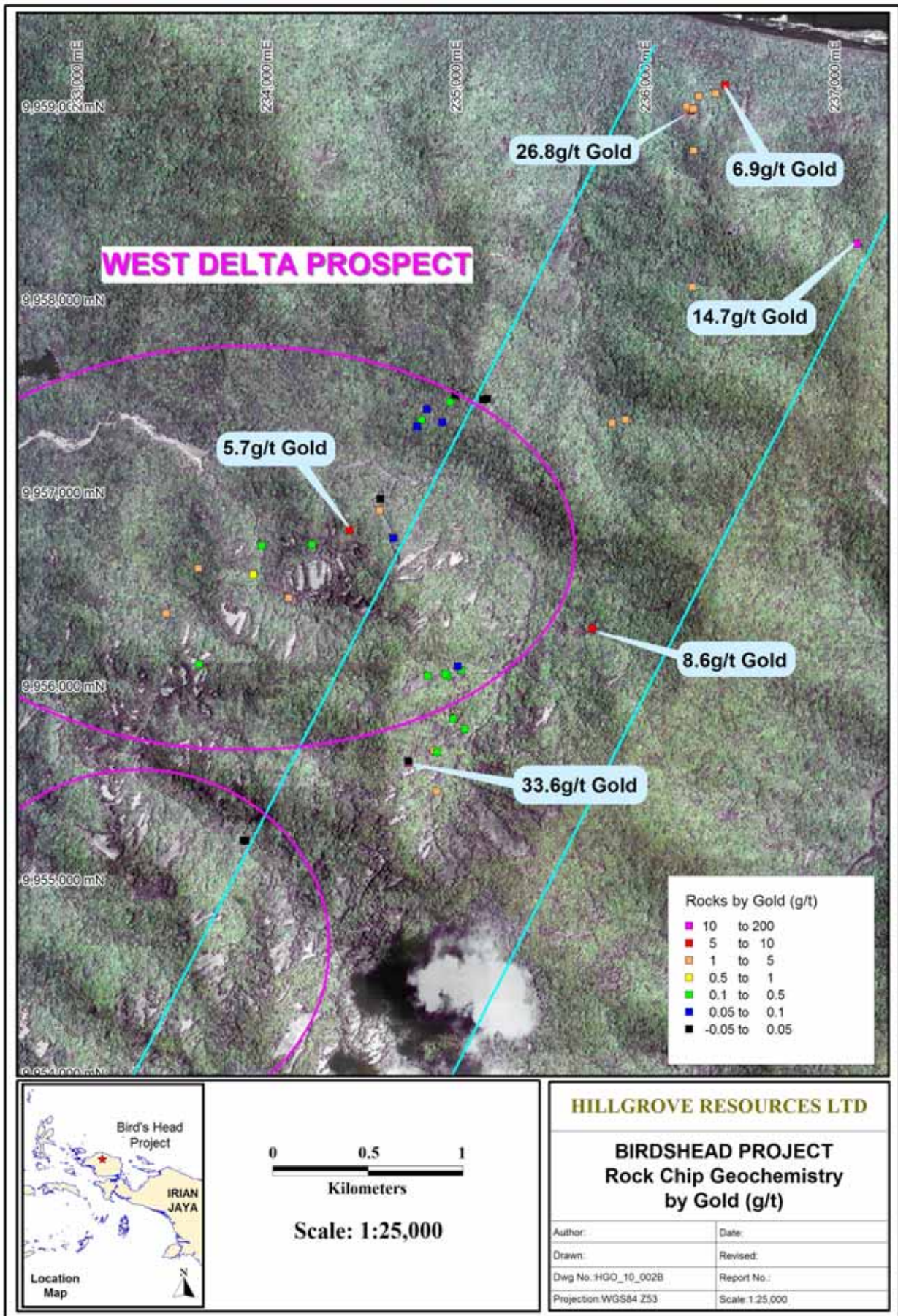


Figure 6. Rock Chip Geochemistry by Copper (%)

