

**Report on Platinum, Palladium and Gold assays from
the Bull River Copper-Silver-Gold Prospect,
Southeastern British Columbia**

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Background

The Bull River Mining Property has been the focus of ongoing exploration by the Stanfield Group of Companies since 1976. Results of a geological audit, carried out by Ministry geologists to verify gold, silver and copper grades reported by the Companies were published in Geological Fieldwork 1999 (Höy, Smyth and Lett, 2000) and were reported to the Companies in 1999.

The Companies retained a consulting company (Morton Limited Partnership) since August 20, 1999 to monitor their ongoing sampling and assaying program. On March 17, 2000 the Companies reported to the Ministry and to the British Columbia Securities Commission significant platinum values of up to 72 grams/tonne from the property. They reported that new assay results obtained from AuRic Metallurgical Laboratories, Salt Lake City, Utah infer a contiguous pod of 2.8 million tons of the following grades:

Inferred from Chemical Assays

Grade: 0.222 ounces per ton (7.611 grams/tonne) gold and 0.102 ounces per ton (3.497 grams/tonne) platinum

Inferred from Fire Assays

Grade: 0.173 ounces per ton (5.931 grams/tonne) gold and 0.113 ounces per ton (3.874 grams/tonne) platinum

Consultants to the Companies (de Souza *et al*, 2000) released a paper on “The Pre-Feasibility Standing of the Gallowai Bul River Mine Project” at a mining conference in Cranbrook, British Columbia on May 5th 2000. This paper contained previously unpublished company data and publicly reported for the first time a platinum grade of 0.12 ounces per ton (4.11 grams per tonne) for a newly defined pod of “2,800,000 tonnes inferred”. In addition the paper also reported a 44% downgrade of the gold grade previously reported by the Companies for the Bull River Deposit from the 0.35 oz/ton gold to 0.195 oz/ton gold for this mineralized pod.

This report describes results of a re-analysis for platinum, palladium and gold of samples from four drill holes and from underground mineralized zones collected by Ministry geologists in 1999. Five of the samples are from sulphide rich veins exposed underground on Level 3 and Level 5 and are believed to be from the same veins from which the companies reported high gold and platinum values. The samples are described in Table 1.

Sample Preparation

The Ministry samples were crushed, split and pulverized in the Ministry's Victoria laboratory. Batches of samples were prepared for assay at commercial laboratories. The batches included blind duplicate pulverized samples and Canada Centre for Mineral and Energy Technology (CANMET) certified standards.

Analytical Procedures

A batch (A) of twelve pulverized samples, a blind duplicate sample and the CANMET standard PTC-1a were sent to Activation Laboratories, Ancaster, Ontario for platinum, palladium and gold assay by fire assay followed by inductively coupled plasma optical emission spectroscopy finish. This is an accepted industry assay method for platinum and gold. A second batch (B) of twenty five samples was later sent to Activation Laboratories for platinum, palladium and gold assay. This batch included CANMET standards PTC-1a and SU-1a, blind duplicate pulverized samples and a quartz blank. Eight samples plus the two CANMET standards were also sent to a second laboratory, Bondar Clegg, Vancouver, British Columbia for check assays. Additional check assays on selected samples and on the standard SU-1a were carried out by Activation Laboratories.

Results

Gold, platinum and palladium assay results are shown in Table 2. The published values for the CANMET standard PTC-1a (a sulphide ore concentrate containing 13.51% copper and 10.03% nickel) are 1.31 grams/tonne gold, 2.72 grams/tonne platinum and 4.48 grams/tonne palladium. The platinum assay result reported by Activation Laboratories for the CANMET standard PTC-1a in the first batch of samples was lower than the published value by 0.323 grams/tonne, but within 0.008 grams/tonne of the published value in the second batch. The platinum assay results reported by Bondar Clegg for PTC-1a were within 0.009 grams/tonne of the reported value. The platinum assay result reported by Activation Laboratories for the CANMET standard SU-1a (a sulphide ore containing 0.410 g/t platinum, 0.370 g/t palladium, 0.967% copper and 1.233% nickel) in the second sample batch was 0.122 grams/tonne lower than the published value. The Bondar Clegg platinum assay for SU-1a was 0.057 grams/tonne higher than the published value. Samples with reported detectable platinum and palladium, and the CANMET standard SU-1a were reassayed by Activation Laboratories. Results are listed in Table 3. Only trace levels of platinum up to 0.008 grams/tonne were detected in the reassayed Ministry samples. Palladium values for the standard SU-1a reported by both laboratories are within 0.060 grams/tonne of the published value.

The mean platinum content reported by CANMET for SU-1a is 0.41 grams/tonne. Results of eighty-five platinum assays on SU-1a by fire assay-instrumental finish at commercial laboratories reveal that values can range from 0.56 to 0.28 grams/tonne (Steger and Bowman, 1980). Differences in the platinum values reported by Bondar Clegg and Activation Laboratories for

SU-1a may reflect a variation introduced by the use of a small (15 gram) sample for the fire assay. A small sample is typically used by commercial laboratories to avoid incomplete recovery of platinum during fire assay because of high nickel content in samples.

The highest platinum concentration detected in the Ministry's samples was 0.019 grams/tonne. In contrast de Souza *et al.*, report a grade of 4.11 grams/tonne for a newly defined pod.

Conclusions

- Sample assay results from Activation Laboratories and from Bondar Clegg are in agreement with each other allowing for variation introduced by sampling and assaying.
- Both laboratories reported platinum values on the CANMET standard PTC-1a that are acceptable within expected analytical variation.
- The good correlation between results from the two laboratories and the fact they accurately reported the CANMET standard PTC-1a strongly indicate the results reported here reflect the platinum and gold values in the samples assayed.
- The platinum, palladium and gold assay results obtained by the Ministry are substantially lower than those obtained by the Companies from AuRic Laboratories.

References

- Höy, T., Smyth and Lett, (2000): Bull River Copper-Silver-Gold Prospect, Purcell Supergroup, Southeastern British Columbia, *in Geological Fieldwork 1999, B.C. Ministry of Energy and Mines*, Geological Survey Branch, Paper 2000-1.
- de Souza, P.D, Morton, J.D., Dixon, J. and Anderson, D. (2000): The pre-feasibility standing of the Gallowai Bul River Mine project near Cranbrook, Fort Steel Mining Division, British Columbia. Paper presented at the New ideas for the New Millennium meeting, Cranbrook, British Columbia, May 4-7, 2000.
- Steger, H.F. and Bowman, W.S. (1980): SU-1a: A certified nickel-copper-cobalt reference ore. CANMET Report 80-9E.

Table 2. Gold, platinum and palladium assays in grams per tonne (g/t) for Bull River samples

Sample	Activation Laboratories				Bondar Clegg		
	Batch A	Batch B			Au	Pt	Pd
	Pt	Au	Pt	Pd			
98L3-2: 91.1 -91.7 m	0.013	0.403	<0.005	<0.004			
98L3-2: 100-100.4 m	<0.005	0.498	0.019	0.085			
98L3-2: 98.6 - 99.0 m	<0.005	0.062	<0.005	<0.004			
98L3-2: 100.9 -102.0 m	<0.005	5.212	<0.005	<0.004			
BR-UG-1: Level 3, west wall		0.682	<0.005	0.007			
BR-UG-2: Level 3, Stn 189, -3 m		0.134	<0.005	<0.004			
BR-UG-3: Level 3, Stn 189, -5 m		1.168	<0.005	<0.004			
BR-UG-4: Level 3, Crosscut		0.255	<0.005	<0.004			
BR-UG-5: Level 5, Crosscut		0.651	<0.005	<0.004			
BRU 99-11: 51.2 - 51.8 m	0.009	0.008	<0.005	<0.004	<0.001	<0.005	0.003
BRU 99-11: 51.8 - 52.6 m	0.007	0.055	<0.005	<0.004	0.032	0.005	0.003
BRU 99-11: 52.6 - 53.4 m	<0.005	0.140	<0.005	<0.004	0.118	0.009	0.012
BRU 99-11: 53.4 - 54.0 m		0.013	<0.005	<0.004	0.006	0.006	0.003
BRU 99-11: 81.5 - 82.0 m	<0.005	0.389	<0.005	<0.004	0.392	0.011	0.009
BRU 99-11: 82.0 - 82.5 m	<0.005	0.192	<0.005	0.004			
BRU 99-11: 83.1- 83.7 m	<0.005	0.561	<0.005	0.004	0.468	0.008	0.009
BRU 99-11: 84.7 - 85.2 m	<0.005	0.007	<0.005	0.005			
BRU 99-16: 37.3 - 37.8 m		0.005	0.005	0.004			
BRU 99-16: 37.8 - 38.5 m		0.092	<0.005	<0.004			
BRU 99-16: 38.9 - 39.4 m		0.070	<0.005	0.004			
BRU 99-16: 39.4 - 39.8 m		0.009	<0.005	0.004			
BRU 99-16: 122.8 - 123.1 m		0.061	<0.005	0.004			
Quality Control Results							
Quartz Blank		0.007	<0.005	<0.004			
CANMET Standard PTC 1a	2.397	1.542	2.712	4.356	1.220	2.729	4.073
CANMET Standard PTC 1a (Published Values)	2.720	1.310	2.720	4.480	1.310	2.720	4.480
CANMET Standard. SU 1a		0.144	0.288	0.363	0.123	0.467	0.313
CANMET Standard SU 1a (Published Values)		0.200	0.410	0.370	0.200	0.410	0.370
BR-UG-1: Level 3, west wall (Duplicate pulp sample)		0.799	<0.005	<0.004	0.771	0.008	0.004
BR-UG-1: Level 3, west wall (Duplicate crushed sample)		0.850	<0.005	<0.004	0.847	0.020	0.008

Table 1. Description of Selected Samples, Bull River Deposit

Drill core	Location (depth)	Sample type	Description
BRU-99-11	51.2 - 51.8 m	0.6 m split core	massive argillite, cut by thin qtz-cc veinlets
BRU-99-11	51.8 - 52.6 m	0.8 m split core	vein breccia, with cp, po in qtz-sid gangue
BRU-99-11	52.6 - 53.4 m	0.8 m split core	semi-massive po + cp in qtz-sid gangue; brecciated
BRU-99-11	53.4 - 54.0 m	0.6 m split core	massive siltstone, with thin qtz-sid + po, cp veinlets
BRU-99-11	81.5 - 82.0 m	0.5 m split core	massive cp-po with qtz-carb gangue
BRU-99-11	82.0 - 82.5 m	0.5 m split core	massive cp-po with qtz-carb gangue; late sid veinlets
BRU-99-11	83.1 - 83.7 m	0.6 m split core	semi-massive po + cp in qtz-sid gangue
BRU-99-11	84.7 - 85.2 m	0.5 m split core	sericite-altered siltstone, cut by thin cp veinlets
BRU99-16	37.3 - 37.8 m	0.5 m split core	altered quartzite?, cut by qtz-carb veinlets
BRU99-16	37.8 - 38.5 m	0.7 m split core	massive qtz-sid vein, with po and cp
BRU99-16	38.9 - 39.4 m	0.5 m split core	brecciated vein with cp, cut by carb veinlets
BRU99-16	39.4 - 39.8 m	0.4 m split core	argillaceous quartzite, with minor blebs of po
BRU99-16	122.8 - 123.1 m	0.3 m split core	qtz vein cut by po-cp veinlets
98L3-2	91.1 - 91.7 m	0.6 m split core	massive qtz vein, with patchy cp-po
98L3-2	100 - 100.4 m	0.4 m split core	massive cp, minor po in brecciated qtz vein
98L3-2	98.6 - 99 m	0.4 m split core	argillaceous siltstone, with minor qtz-carb-cp veinlets
98L3-2	100.9 - 102.0 m	1.1 m split core	massive cp, minor po; barite and qtz gangue
Underground samples			
BR-UG-1	Level 3, west wall	grab	semi-massive, brecciated po-cp-carb vein
BR-UG-2	Level 3, Stn 189, -3m	grab	semi-massive, brecciated po-cp-carb vein
BR-UG-3	Level 3, Stn 189, -5m	grab	semi-massive, brecciated po-cp-carb vein
BR-UG-4	Level 3, Crosscut	grab	semi-massive, brecciated po-cp-carb vein
BR-UG-5	Level 5, Crosscut	grab	semi-massive, brecciated po-cp-carb vein

Abbreviations: qtz - quartz; cc - calcite; cp - chalcopyrite; po - pyrrhotite; sid - siderite; do - dolomite; carb - carbonate

Table 3. Activation Laboratories recheck assay results in grams per tonne (g/t) of Bull River samples with detectable platinum and palladium values

Sample	Batch A	Batch B		Recheck Assay		Duplicate recheck assay	
	Pt	Pt	Pd	Pt	Pd	Pt	Pd
98L3-2: 91.1 - 91.7 m	0.013	<0.005	<0.004	<0.005	0.004	Not assayed	Not assayed
98L3-2: 100 - 100.4 m	<0.005	0.019	0.085	<0.005	<0.004	Not assayed	Not assayed
BRU 99-11: 81.5 - 82.0 m	<0.005	<0.005	<0.004	0.008	0.012	0.006	0.012
CANMET Standard. SU 1a		0.288	0.363	0.569	0.346	0.298	0.354
CANMET Standard SU 1a (Published Values)		0.410	0.370	0.410	0.370	0.410	0.370