



GBS GOLD AUSTRALIA PTY LTD

**ANNUAL EXPLORATION REPORT
EL23583
FOR PERIOD ENDING 15 JULY 2009
'PINE CREEK'
BURNSIDE PROJECT NT**

**Pine Creek SD5208 1:250,000
Pine Creek 5270 1:100,000**

**Title Holders:
Buffalo Creek Mines Pty Ltd 50%
Territory Goldfields NL 50%**

Distribution:

- **DRDPIFR Darwin, NT**
- **GBS Gold Australia P/L, Darwin**
- **Union Reef Mine Site Pine Creek, NT**

GBS Report No: [PC/BJV/09-29](#)

**Zia U. Bajwah
August 2009**

SUMMARY

Exploration Licence (EL) 23583 is one of the significant tenements within GBS Gold Australia's portfolio. It is situated approximately 220 km SE of Darwin NT and around 2 km south of the Pine Creek Township. EL 23583 was granted on 16 July 2003 to Buffalo Creek Mines Pty Ltd (50%) and Territory Goldfields NL (50%) which are the subsidiaries of GBS Gold Australia. It comprises two blocks that cover approximately 6.67 km².

The tenement overlies the Burrell Creek Formation of the Finnis River Group. The Mount Bonnie Formation sediments crop out further north of the Licence, but are constrained within a fold ('Enterprise fold') that plunges south through EL 23583. Meta-sediments in the project area are intruded by the Table Top, Allamby Springs, and McCarthy's Granites and are responsible for the development of contact aureole which contains most of the gold mineralisation.

During the reporting period, GBS Gold Australia was declared under voluntary receivership, and all exploration and mining projects were placed under 'Care and Maintenance'. The tenement has a prospective geology and may contain significant gold resources similar to that of adjacent gold deposits such as Enterprise, Czarina and Gandy's Hill. During the reporting period, only a peripheral review of the tenement was undertaken and work completed included reconnaissance visit, technical review, planning for up-coming field season and report writing.

In 2009-10 reporting year, project area will be explored for gold and base metals mineralisation. For this purpose, selected parts of the tenement will undergo soil/rock chip sampling along with geological mapping. If encouraging results received, some RAB/RC drilling may also take place.

TABLE OF CONTENTS

SUMMARY	2
1.0 INTRODUCTION	4
2.0 LOCATION AND ACCESS	4
3.0 TENEMENT STATUS AND OWNERSHIP	4
4.0 GEOLOGICAL SETTING	6
4.1 Gold Mineralisation and Potential	8
5.0 PREVIOUS EXPLORATION	10
6.0 EXPLORATION ACTIVITY DURING THE YEAR ENDING 15 JULY 2009	11
7.0 PLANNED EXPLORATION FOR 2008/09	12
8.0 REFERENCES	12

List of Figures

Figure 1; Tenement Location Map

Figure 2: Geological setting of the project area

Figure 3: Rock chip samples within EL 23583

List of Appendices

Appendix 1: Exploration expenditure for EL23583

1.0 INTRODUCTION

EL 23583 is located south-west of the Pine Creek Township, and has a strategic significance within GBS Gold Australia's tenement portfolio. Due to its similar geological setting to those gold deposits present in the immediate vicinity, it has significant potential to host similar type of gold deposits.

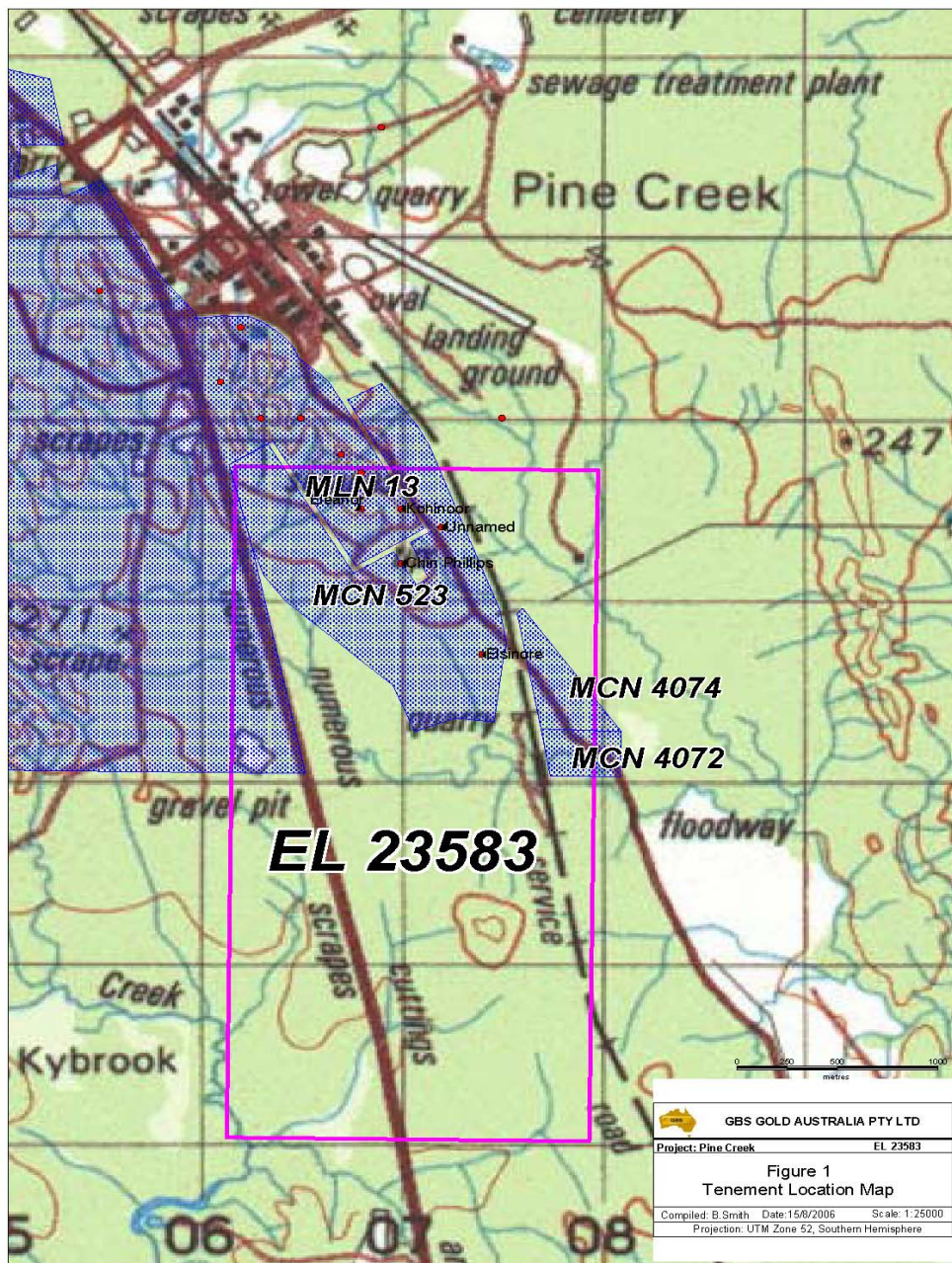
2.0 LOCATION AND ACCESS

EL 23583 is situated approximately 220 km SE of Darwin NT, and around 2 km south of the Pine Creek township. The Stuart Highway transects the tenement south of Pine Creek (Figure 1). Topography in the southern block of the EL is subdued and colluvial cover is extensive. Access to the tenement may be gained via Stuart Highway and then by four wheels tracks within the tenements. During wet season, access within the tenement is difficult due to inundation by creek system in the area.

3.0 TENEMENT STATUS AND OWNERSHIP

EL 23583 was granted on 16 July 2003 and expires on 15 July 2009. It comprises two blocks that cover approximately 6.67 sq. km (Figure 1). A waiver from reduction was requested in June 2006, partly because to relinquish the southern block would remove >50% of the licence area. Relinquishing the northern block would affect exploration on extensions to mineralisation in the surrounding MCN's. EL 23583 was granted in equal

Figure 1: Tenement Location Map



shares to Buffalo Creek Mines Pty Ltd (50%) and Territory Goldfields NL (50%), which were part of the Burnside JV. The Burnside JV was a JV between Harmony Gold (50%) and Northern Gold NL (50%). During 2005, GBS successfully made a takeover for Northern Gold NL, and has reached an agreement to purchase Harmony's 50% share of the Burnside project. On 16 July 2009, EL 23583 was renewed for another two years and will expire on 15 July 2011. GBS Gold has 100% of the Burnside Project as of 1st April 2006. Underlying cadastre is mixed; the dominant landholder is Bonrook Station (Franz Weber; PPL 710), with smaller parcels of Crown Lease \ (Perpetual) around the Chin Phillips mineral occurrence, and a Crown Lease (Term) covering the railway corridor. The Pine Creek Mango Plantation P/L holds a pastoral lease (PL 5096) in the NE part of the licence.

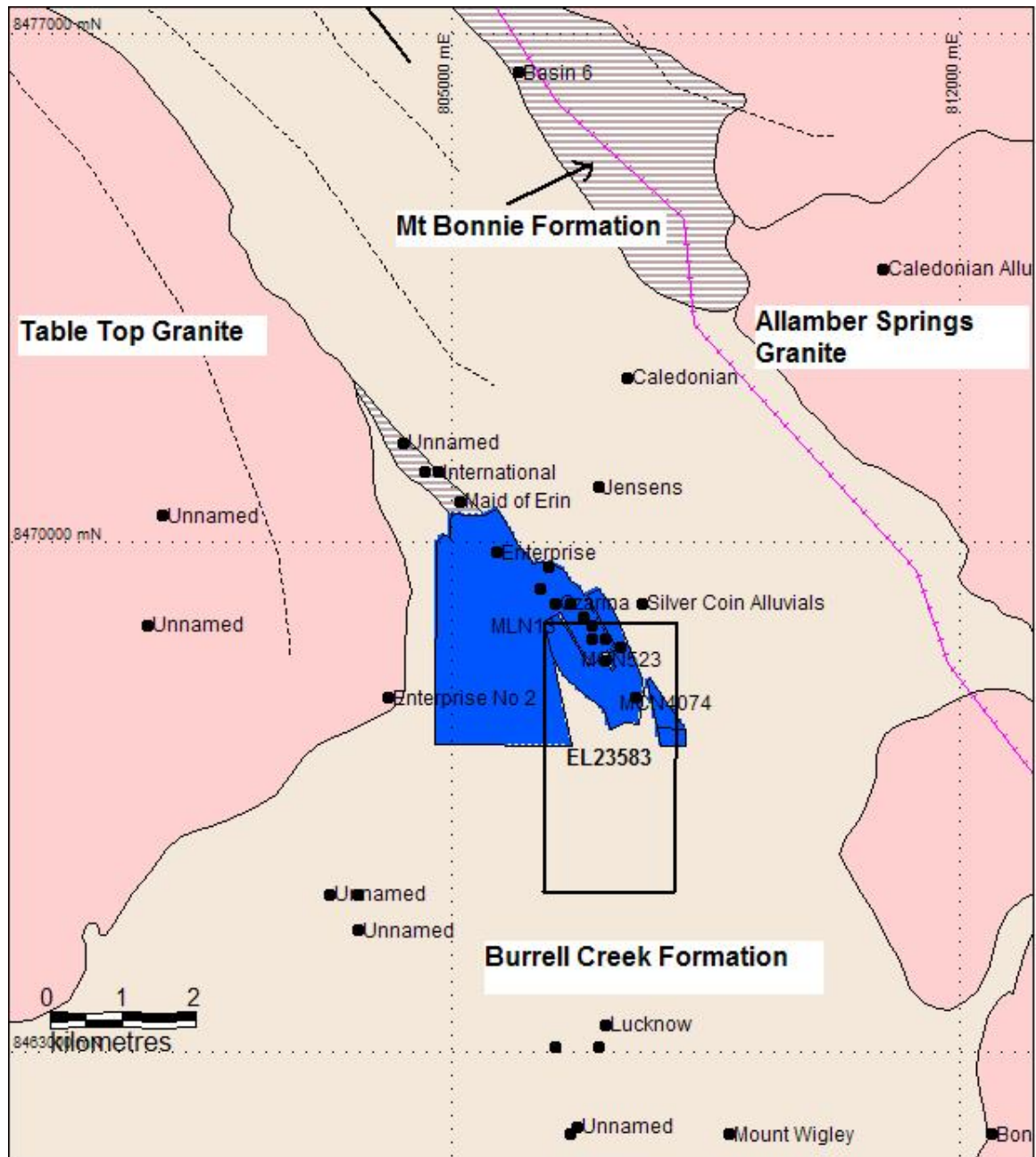
4.0 GEOLOGICAL SETTING

Regional geology is outlined in many publications, notably Ahmad *et al.* (1994), and Needham, Needham and Stuart-Smith (1984), and Needham *et al.* (1988). The tenements are within the Pine Creek Orogen, a folded sequence of Palaeoproterozoic pelitic and psammitic sediments, with interlayered cherty tuff units. Mafic sills of the Zamu Dolerite (~1.87Ga) intruded lower formations of the South Alligator Group.

Geology of the project area is presented in Figure 2. The tenement overlies the Burrell Creek Formation of the Finnis River Group. The Mount Bonnie Formation sediments crop out further north of the Licence, but are constrained within a fold ('Enterprise fold') that plunges south through EL 23583. Meta-sediments in the project area are intruded by the Table Top, Allamby Springs, McCarthys Granites and are responsible for the development of contact aureole, which contains most of the gold mineralisation. During ascent and emplacement, granite magma experienced differentiation and fractionation which subsequently led to the emanation of hydrothermal fluids, responsible for gold and

other mineralisation in the adjacent meta-sediments Bajwah (1994). The Pine Creek shear zone also runs through the project area, known for its potential for gold mineralisation

Figure 2: Geological setting of the project area



in the region. Unpublished gravity data by the Northern Territory Geological Survey show that meta-sediments are underlain by granite at a depth of 1-2 km.

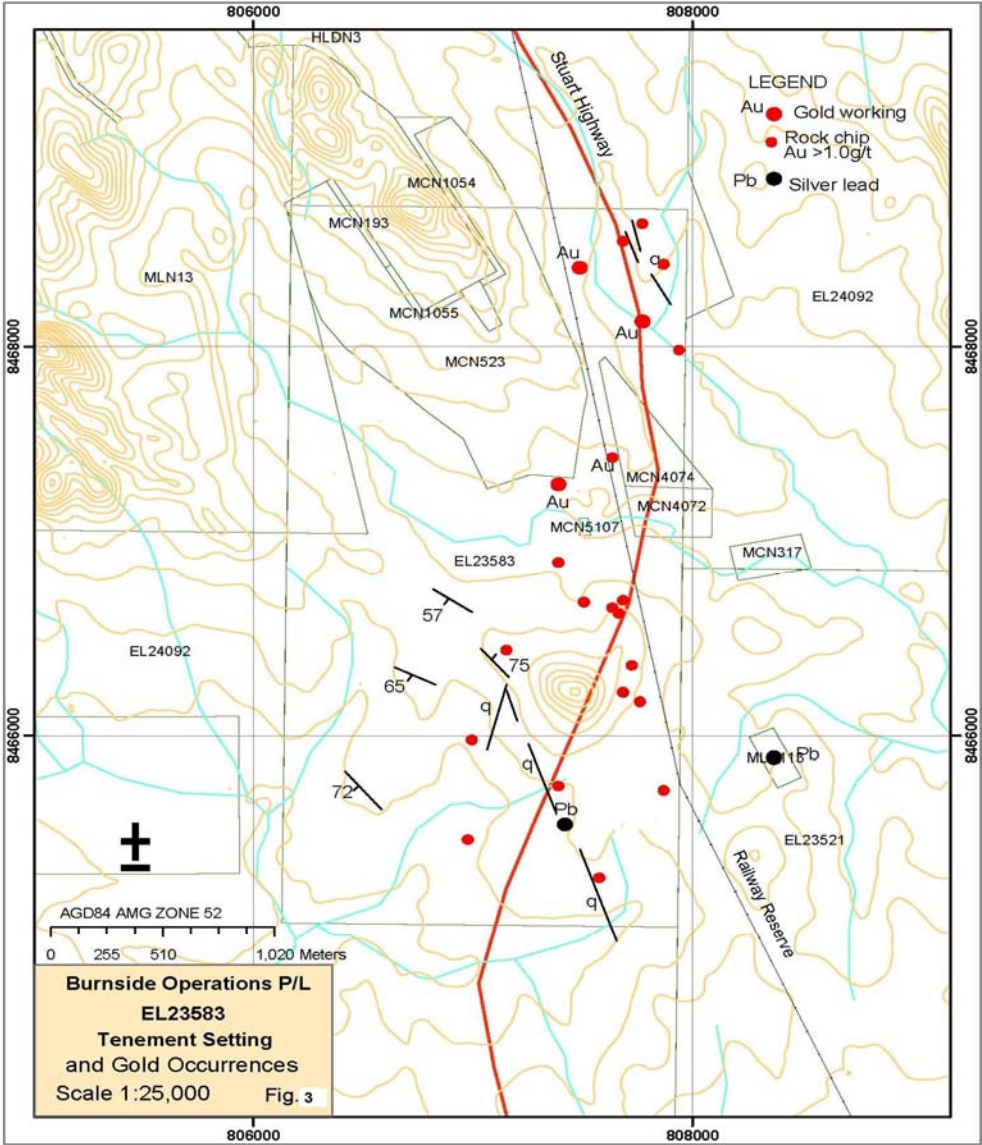
At Koohinoor, 45° SW-dipping thrust faults have superimposed slices of western fold limbs over the eastern limbs, and have also been the focus of mineralisation. The more southerly block covers a sequence of Burrell Creek Formation sediments that dip south westwards at an average of 65 degrees. Quartz veining in the eastern half of the tenement, striking generally 340 degrees, is sporadically mineralised by either argentiferous galena or gold. The Lucknow Lead Mine is located outside the tenement towards south and is one of the more prominent prospects developed by shallow workings. Other small pits and shafts are on gold bearing sectors of quartz veins. Gold mineralisation within the area occurs within quartz-sulphide veins or their alteration haloes, either as free gold which accounts for 2% to 50% of the total gold content, or with sulphides. Sulphide minerals include pyrite, pyrrhotite, arsenopyrite, marcasite, chalcopyrite, galena, sphalerite, bismuthinite, tetrahedrite, and covellite, with rare native copper and bismuth. Veins are either radial (discordant), which includes ladder veins; north-trending sheeted veins that dip shallowly to the east at 35° - 45°, and later N-trending veins that are near vertical.

4.1 Gold Mineralisation and Potential

The project area contains geological setting such as the folded Burrell Creek Formation which is intruded by the Palaeoproterozoic I-type, fractionated granites. The Pine Creek Shear Zone transects the project area and this setting is known to host much of the gold mineralisation in the Pine Creek Orogen. Figure 2 also shows that surrounding area contains significant gold deposits such as Enterprise, International, Kohinoor, and Elsinore, indicating significant potential of the project area for gold. This is further supported by the presence south-plunging anticlinal fold, within the tenement, which contains conspicuous quartz vein systems, characterised by the presence of gold and/or base metals.

Figure 3 depicts the gold and base metal anomalies in the eastern part of the tenement, derived from previous exploration program. These results indicate that gold and base

Figure 3: Rock chip samples within EL 23583



metals mineralisation present in many of the deposits/prospects located in the north, may well extend into EL 23583. However, due to the presence of Stuart Highway and Darwin-Adelaide Rail corridor (Figure 3) may impose some restriction in the eastern part of the tenement.

5.0 PREVIOUS EXPLORATION

Part of the work done on EL 23583 for this year is a literature review, and the results are in the section below. Historically, this area has been covered by mining leases (MLN's and MCN's) which do not usually have comprehensive records of exploration work carried out. In this review, results are limited to those found from historic exploration licences.

EL 4398 covered 30 blocks over the whole Pine Creek area, including both blocks of EL 23583. Circular Quay Holdings explored the ground for 2 years in the early 1980's. Gold exploration focussed on Copperfield workings (outside EL23583 area), with results 'generally disappointing' and also not thorough due to the short period of tenure.

EL 4907 was held by Pine Creek Goldfields for 4 years from 1988. The licence consisted of 6 blocks, of which the upper NW block covered the southern block of EL 23583. A ground magnetic survey in the first year was unsuccessful due to noise. Quartz veining was identified during mapping, and soil sampling delineated an anomaly corresponding to a NE-trending fault surrounded by quartz veining. Follow up costeaning intersected siltstones and greywackes with minimal quartz veining and numerous small faults. A maximum value of 3.22g/t Au came from costean sampling, but most of the assays were low. RAB and RC drilling did not highlight economic mineralisation.

Dominion Mining held **EL 8060** for 2 years from late 1993. EL 8060 consisted of 4 blocks, and the NW block of EL8060 covered the southern block of EL 23583. Dominion carried out data compilation, which outlined favourable structures associated with anomalous base metal values, and also carried out RAB drilling, which also intersected base metal anomalism (outside the area of EL23583). Dominion only carried out one year of exploration before divesting its NT assets during 1995. Northern Gold acquired EL 8060 from Dominion, and work was limited to acquisition of SPOT imagery over the area. A programme of deeper angled RAB drilling was planned to test the base metal geochemical anomalies but this was not carried out. Gold mineralisation was either below detection levels, or contaminated by alluvial workings.

During 2005-06, a literature survey of previous exploration programs was undertaken. Shaw (2004) gave an appraisal of EL 23583, noting that most of the gold and base metal anomalism as defined by previous rock chip sampling resides within the eastern half of the exploration licence (Figure 3). This anomalous eastern sector broadly coincides with the route of the Stuart Highway and its reserve and/or the railway reserve occupied by the new Darwin to Adelaide Railway. The Burnside JV focused work on the priority main mining centre at Pine Creek with proportionately less work extending onto the EL. The technical review indicated that the northern block is well placed to contain any economic extensions to mineralisation south of MCN523. The southern block of the EL is shown to contain anomalous quartz vein trends but many of these are inconveniently close to either the Stuart Highway or the Darwin-Adelaide railway. Future exploration in these areas is of a lower priority than the main mining centre to the north. Work done during Year 3 of tenure consisted of a historic data compilation. The results of previous work are outlined in the previous section ('Previous Work'). Work done included checking:

- a) historic tenure in MapInfo, using a MapInfo file supplied by DPIFM (containing exploration tenure, but not mining tenure)
- b) checking NTGS datasets, such as COREDAT, MODAT, Explorer 3
- c) checking open file company reports submitted for previous tenure covering EL23583.

6.0 EXPLORATION ACTIVITY YEAR ENDING 15 JULY 2009

In the reporting year 2008-09, company resources focused on the development of Chinese South (Big Pit), Toms Gully, Cosmo Deep and Maud Creek projects with a budget of tens of million dollars. Chinese South came on-line in April and Toms Gully commenced production in July 2008. At the same time significant progress was made in developing Maud Creek deposit with the targeted production of over 75 000 ounces of gold per year. For this purpose, construction of a specialised circuit developed by GEOCOAT® technology at Union Reefs treatment facility was under consideration. This technology would have the ability to process refractory ore with up to 90% gold recovery. However, on 15 September 2008, GBS Gold Australia was declared under

voluntary receivership, and all exploration and mining projects were placed under 'Care and Maintenance'.

GBS Gold regards EL 23583 highly due to its strategic significance in providing mill feed in the long run. The tenement has very prospective geology and may contain significant gold resources similar to that of adjacent gold deposits such as Enterprise, Czarina and Gandy's Hill. It is expected that similar style of gold mineralisation will continue in EL 23583, which surrounds the existing gold deposits. During the reporting period, only a peripheral review of the tenement was undertaken and work completed during the reporting period included:

- Reconnaissance visit
- Technical review of the tenement
- Planning for up-coming field season
- Report writing and tenement management activities.

This activity costed \$ 6490.00 during the year 2008-09 and details are given in Appendix 1.

7.0 PLANNED EXPLORATION FOR 2009-10

Currently, GBS Gold Australia is under voluntary administration, however, Forbes Manhattan, a Canadian investment bank through its subsidiary Crocodile Gold Australia, has announced to acquire all GBS Gold Australia assets with the intention to commence gold production in an immediate future. Currently, registration of all assets against Crocodile Gold is underway, and it is expected that within a few weeks this process will be completed.

In 2009-10 reporting year, project area will be explored for gold and base metals mineralisation. For this purpose, area identified during this review will undergo soil/rock chip sampling along with geological mapping. If encouraging results received, some RAB/RC drilling may also take place. A minimum budget of \$10 000.00 is proposed.

8.0 REFERENCES

- Ahmad, M., Wygralak, A.S., Ferenczi, P.A., and Bajwah, Z.U. 1993. Explanatory Notes and Mineral Deposit Data Sheets. *1:250,000 Metallogenic Map Series, Department of Mines and Energy, Northern Territory Geological Survey.*
- Bajwah, Z.U, 1994. A contribution of geology, petrology and geochemistry to the Cullen Batholith and related hydrothermal activity responsible for mineralisation, Pine Creek Geosyncline, Northern Territory. Northern Territory Geological Survey Report 8.
- Needham, R.S and Stuart-Smith, P.G., 1984. Geology of the Pine Creek Geosyncline, Northern Territory – 1:500,000 scale map. Bureau of Mineral Resources, Australia.
- Needham, R.S., Stuart-Smith, P.G., and Page, R.W., 1988. Tectonic evolution of the Pine Creek Inlier, Northern Territory. *Precambrian Research* 40/41, pp 543-564.
- Shaw, J., 2004. Annual Exploration Report Pine Creek Project Tenements Year Ending July 15th 2004. EL 23583, MLN13, 1130, MCN's 317, 523, 1054, 1055, 4072, 4074. Burnside Operations Pty Ltd (unpubl) Northern Territory Geological Survey Company Report CR2004-0382.

APPENDIX 1

NORTHERN TERRITORY EXPLORATION EXPENDITURE FOR MINERAL TENEMENT
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Section 1. Tenement type, number and operation name: (One licence only per form even if combined reporting has been approved)	
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Type	<i>Exploration Licence</i>
Number	<i>23583</i>
Operation Name (optional)	<i>Burnside Joint Venture</i>

Section 2. Period covered by this return:			
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Twelve-month period:		If Final Report:	
From	<i>16 July 2008</i>	From	
To	<i>15 July 2009</i>	To	
Covenant for the reporting period:		\$ 6000.00	

Section 3. Give title of accompanying technical report:	
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Title of Technical Report	ANNUAL EXPLORATION REPORT EL23583 FOR PERIOD ENDING 15 JULY 2009 'PINE CREEK' BURNSIDE PROJECT NT
Author	<i>Zia U. Bajwah</i>

Section 4. Locality of operation:	
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Geological Province	<i>Pine Creek Orogen</i>
Geographic Location	<i>Pine Creek</i>

Section 5. Work program for the next twelve months:

Activities proposed (please mark with an "X"):		☒ Drilling and/or costeaning
☒ Literature review		☐ Airborne geophysics
☒ Geological mapping		☐ Ground geophysics
☒ Rock/soil/stream sediment sampling		☐ Other:

Estimated Cost: \$ 10000.00

Section 6. Summary of operations and expenditure:

Please include salaries, wages, consultants fees, field expenses, fuel and transport, administration and overheads under the appropriate headings below. Mark the work done for the appropriate subsections with an "X" or similar, except where indicated. Complete the right-hand columns to indicate the data supplied with the Technical Report.

Do not include the following as expenditure (if relevant, these may be

- | | | |
|--------------------------|------------------|----------------------------------|
| • Insurance | • Transfer costs | • Land Access Compensation |
| • Company Prospectus | • Title Search | • Meetings with Land Councils |
| • Rent & Department Fees | • Legal costs | • Payments to Traditional Owners |
| • Bond | • Advertising | • Fines |

Exploration Work type	Work Done (mark with an "X" or provide details)	Expenditure	Data and Format Supplied in the Technical Report	
			Digital	Hard copy
Office Studies				
Literature search				
Database compilation				
Computer modelling				
Reprocessing of data				
General research	X	1890.00	X	
Report preparation	X	1560.00	X	
Other (specify) Admin	x	590.00		
Subtotal		\$4040.00		
Airborne Exploration Surveys (state line kms)				
Aeromagnetics		kms		
Radiometrics		kms		
Electromagnetics		kms		
Gravity		kms		
Digital terrain modelling		kms		
Other (specify)		kms		
Subtotal		\$		
Remote Sensing				
Aerial photography				
LANDSAT				
SPOT				
MSS				
Other (specify)				
Subtotal		\$		
Ground Exploration Surveys				
Geological Mapping				
Regional				
Reconnaissance	X	2450.00		
Prospect				
Underground				
Costean				
Ground Geophysics				
Radiometrics				
Magnetics				
Gravity				
Digital terrain modelling				

Exploration Work type	Work Done (mark with an "X" or provide details)	Expenditure	Data and Format Supplied in the Technical Report	
			Digital	Hard copy
Electromagnetics				
SP/AP/EP				
IP				
AMT/CSAMT				
Resistivity				
Complex resistivity				
Seismic reflection				
Seismic refraction				
Well logging				
Geophysical interpretation				
Petrophysics				
Other (specify)				

Geochemical Surveying and Geochronology						
<i>(state number of samples)</i>						
Drill (cuttings, core, etc.)						
Stream sediment						
Soil						
Rock chip						
Laterite						
Water						
Biogeochemistry						
Isotope						
Whole rock						
Mineral analysis						
Laboratory analysis (type)						
Petrology						
Other (specify)						
Ground Exploration Subtotal				\$	2450.00	
Drilling (state number of holes & metres)						
Diamond		holes	metres			
Reverse circulation (RC)		holes	metres			
Rotary air blast (RAB)		holes	metres			
Air-core		holes	metres			
Auger		holes	metres			
Other (specify)		holes	metres			
Subtotal				\$		
Other Operations						
Costeaning/Trenching						
Bulk sampling						
Mill process testing						
Ore reserve estimation						
Underground development (describe)						
Mineral processing						
Other (specify)						
Subtotal				\$		
Access and Rehabilitation						
Track maintenance						
Rehabilitation						

Monitoring		
Other (specify)		
	Subtotal	\$
TOTAL EXPENDITURE		\$ 6490.00

Section 7. Comments on your exploration activities:

I certify that the information contained herein, is a true statement of the operations carried out and the monies expended on the above mentioned tenement during the period specified as required under the *Northern Territory Mining Act* and the Regulations thereunder.

☐ I have attached the Technical Report

1. Name: Zia U. Bajwah

Position: Geologist

Signature:

Date: 13-08-2009

2. Name:

Position:

Signature:

Date: