



## **GBS GOLD AUSTRALIA PTY LTD**

### **ANNUAL EXPLORATION REPORT EL 23517 FOR PERIOD ENDING 3 April 2008 WATTS CREEK**

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

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

**Titleholders: Geoffrey Robert Orridge (33.34%)  
Gary Anthony Clarke (33.33%)  
Michael Daniel Teelow (33.33%)**

#### **Distribution:**

- 1. DPIFM Darwin NT**
- 2. GBS Gold Australia Perth**
- 3. Burnside Operations P/L Brocks Creek**
- 4. Union Reefs, Pine Creek**

**GBS Report No: PC/BJV/08-09**

**Zia U. Bajwah  
May 2008**

## **SUMMARY**

EL 23517 is located approximately 160 km SE of Darwin, and 35 km NE of the Pine Creek township. Vehicle access is via tracks either from the west via Mt Wells, or east via the old Frances Creek mines. EL 23517 was granted on 4 April 2003 and will expire on 3 April 2009. It comprises 10 blocks that cover approximately 33.4 km<sup>2</sup>.

EL 23517 is situated west of the old Watts Creek alluvial goldfields where previous exploration has identified gold mineralisation during geochemical sampling and drilling programs. The tenement stratigraphy comprises basal Mt Partridge Group (Wildman Siltstone), South Alligator River (Koolpin Formation, Mount Bonnie Formation and Gerowie Tuff) and Finnis River Group (Burrell Creek Formation). The Zamu Dolerite is interlayered with meta-sediments.

During 2007/2008, a program of soil sampling was undertaken which involved collection of 778 samples. These were analysed for gold and base metals. Gold anomalous concentrations (-1 to 140 ppb) generally coincide with folded Koolpin Formation and Zamu Dolerite (Anticlines). Base metals concentrations are generally low, except some higher than normal values, which appears to be related to sporadic distribution of chalcopyrite, galena and sphalerite. Cu varies from 0 to 214 ppm with an average of 24 ppm. Pb ranges from 0 to 1110 ppm with an average of 37 ppm.

Geochemical sampling program carried out during reporting period 2007-08 has highlighted some areas with anomalous gold values. During 2008-09, a thorough evaluation of the project will be carried out in conjunction with geophysical and structural interpretation. Some of the high priority targets may be drill tested.

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## **1.0 INTRODUCTION**

EL 23517 is located within the Pine Creek Orogen, west of the old Watts Creek alluvial goldfields. Previous exploration has identified gold mineralisation during geochemical sampling and drilling programs. However, so far, sizeable gold deposit has not been identified. In this report exploration activity conducted during the reporting period is presented.

## **2.0 LOCATION AND ACCESS**

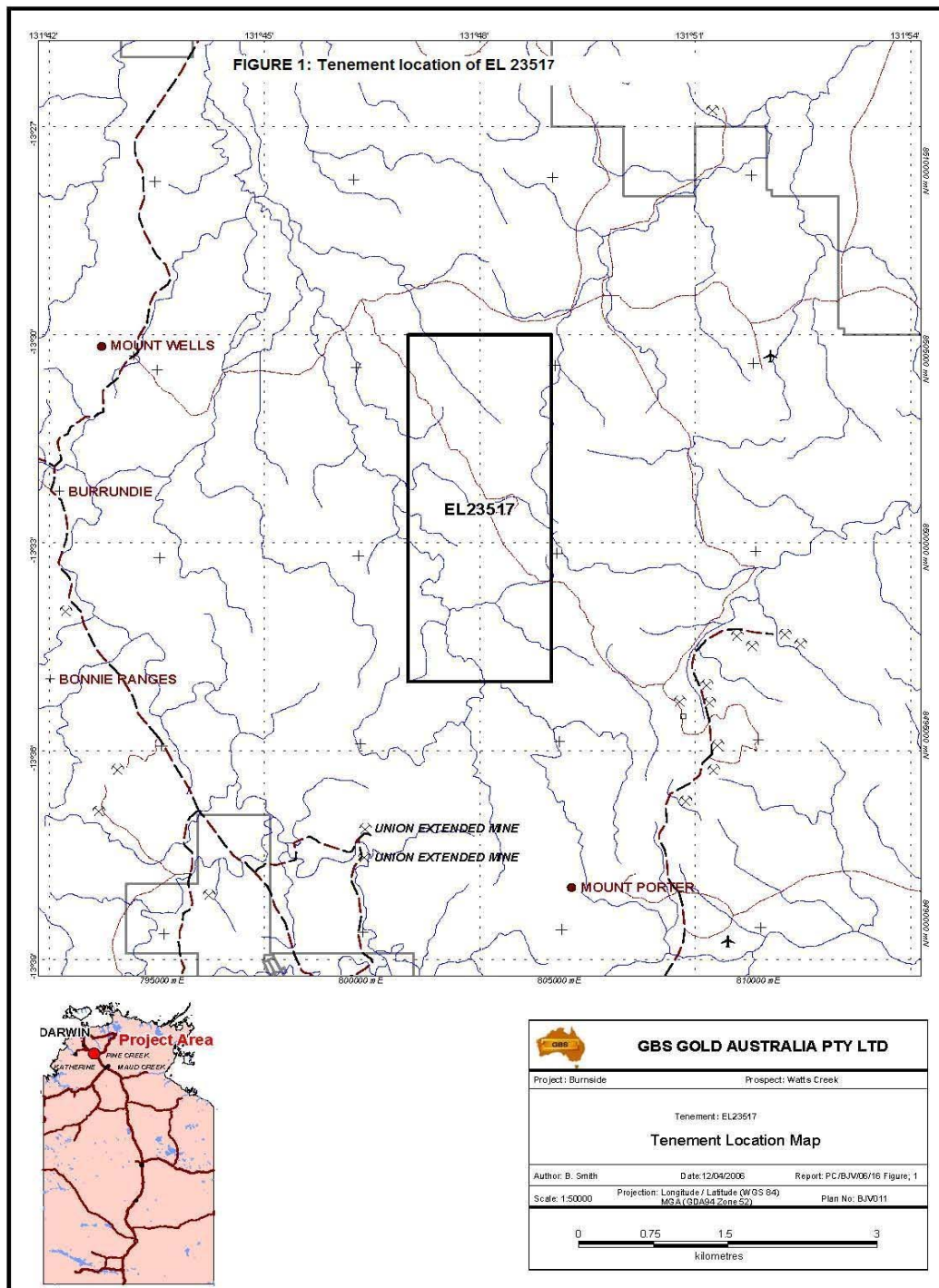
EL23517 is situated approximately 160 km SE of Darwin, and 35km NE of Pine Creek. Vehicle access is via tracks either from the west via Mt Wells, or east via the old Frances Creek mines. The tenement falls within the Pine Creek 1:250,000 sheet and the Pine Creek 1:100,000 sheet (Figure 1). The tenement also is within the Ban Ban Springs pastoral lease (PPL 695). A native title claim (NTD6021/01) has been in effect since March 2001.

The northeastern parts of the area are covered by northwest-trending rugged ridges, which are around 170 m higher than the more subdued topography to the southwest.

## **3.0 TENEMENT STATUS AND OWNERSHIP**

EL 23517 was granted on 4 April 2003 and expires on 3 April 2009. It comprises 10 blocks that cover approximately 33.4 km<sup>2</sup>. A deferral from reduction was granted for both Years 2 and 3. A deed of agreement signed by the Titleholders in November 2005 exists between the Titleholders and Terra Gold Mining Ltd, a subsidiary of GBS Gold. The agreement gives Terra the sole and exclusive right of prospecting and exploring on a number of tenements held by the Titleholders. Terra Gold has agreed to take responsibility for exploration and administration of the tenements.

**Figure 1: Tenement Location Map of EL 23517**



## **4.0 GEOLOGICAL SETTING**

EL 23517 is situated within the Pine Creek Orogen, a tightly folded sequence of Palaeoproterozoic rocks. A full description of the geology and stratigraphy of the Pine Creek Orogen can be found in several texts, including Ahmad et al., (1993) and Stuart-Smith et al., (1987). The 1:100,000 Pine Creek geology map covers the tenement area (Figure 2).

The tenement stratigraphy comprises basal Mt Partridge Group (Wildman Siltstone), South Alligator River (Koolpin Formation, Mount Bonnie Formation and Gerowie Tuff) and Finniss River Group (Burrell Creek Formation). Geology of the project area is shown in Figure 2. The strata are folded around NNW-plunging upright to locally overturned folds, which form the southwestern edge of a major anticlinal structure. Interlayered Zamu Dolerite is wide spread, particularly within horizons of the Koolpin Formation (South Alligator Group). Towards south rock formations have been intruded by the Allamby Springs and McKinlay Granites.

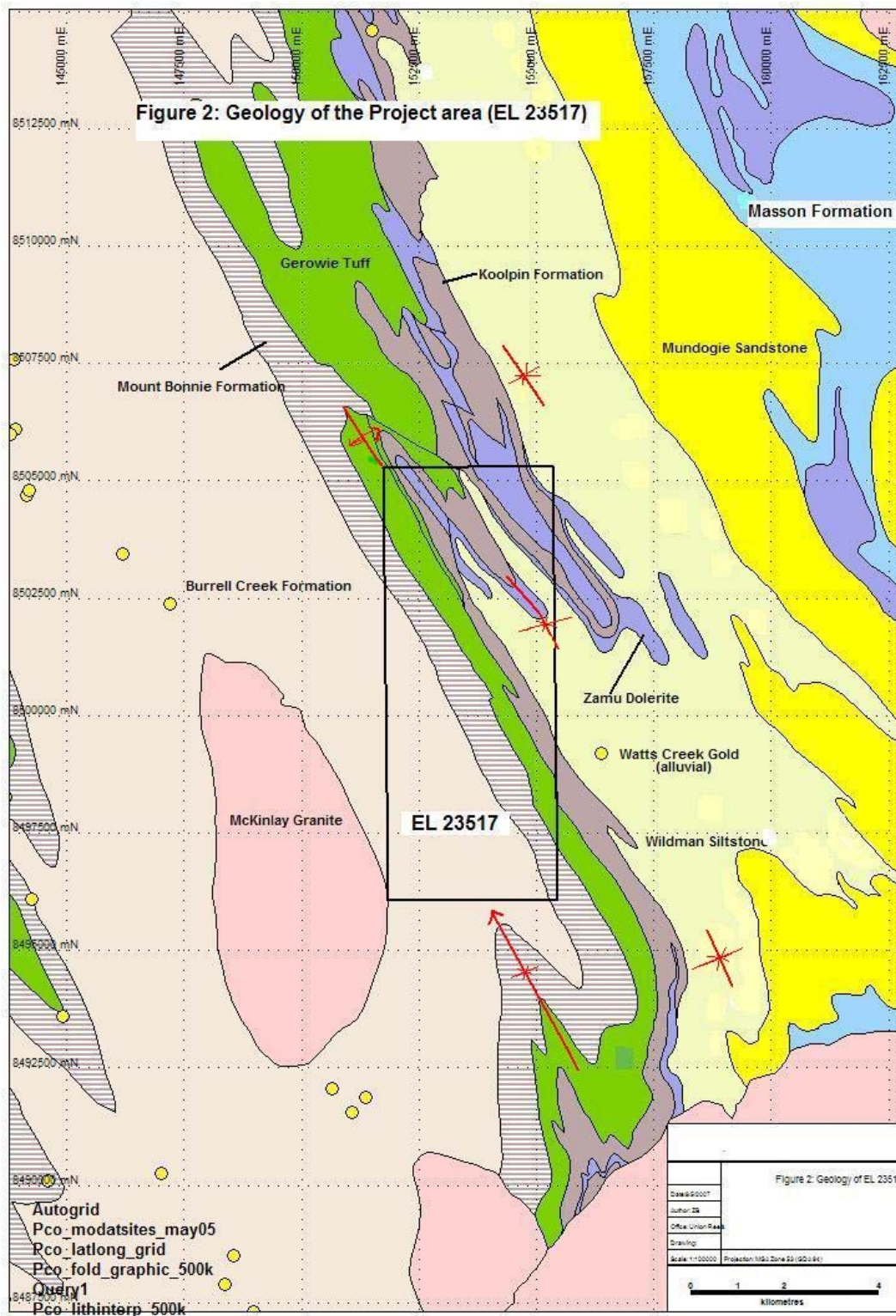
There are no recorded MODAT occurrences within the tenement area, although the Watts Creek alluvial gold field probably extends to the eastern boundary of EL 23517 (Figure 2).

## **5.0 PREVIOUS EXPLORATION ACTIVITIES**

Orridge (2004) outlined work done by Dominion Mining on EL 4759 in 1986, and noted that RC drilling by Dominion within the tenement returned ‘sporadic sub-economic gold mineralisation’. Although not recorded in MODAT, Compass named areas in the north/central part of the tenement ‘Chinese Workings’ and ‘Northern Quartz’ prospects.

More details of previous exploration were highlighted from a historic data review, which was carried out in Year 3 of the tenement, and is detailed in the next section.

During the first year of grant of the tenement, the work consisted of sourcing the drilling done by Dominion and Compass, and noting that the mineralisation is within a stock-work zone hosted by feldspathic quartz sandstone within the Wildman Siltstone, close to



the contact with the overlying Koolpin Formation, in the vicinity of axial fold hinges. Fieldwork by the Titleholder consisted of general reconnaissance and assessing the access to the tenement.

During the second year of tenure, the Titleholder carried out prospecting work in the northwestern portion of the tenement to determine the extent of alluvial gold in the drainages. Coarse and nuggety gold was reported as found by metal detector. Iron and manganese float boulders were noted as shedding from ridges to the northeast.

During the third year of tenure (2005) Terra Gold expressed interest in exploring the tenement. Terra Gold spent 2005 concentrating on its newly acquired Maud Creek Project, carrying out due diligence and other test work. In July 2005, Terra Gold was subjected to a reverse takeover by Emerson Exploration Inc (now GBS Gold International Inc) which was completed by November 2005.

Changes in management and exploration staff during the year impacted on the exploration work done. Work consisted of reviewing the extent of geochemical digital data available, and conducting a full literature review of open file company reports from historic tenure. Results of the literature review are below.

The earliest known tenure over EL 23517 was **AP 2226** held by Australian Geophysical, who explored a large area for uranium, base metals and iron ore. Work done included auger drilling, percussion drilling and geophysical surveys. 'Rare' high lead and silver values were reported, and one U anomaly when the tenement expired.

A review of open file geochemical data from the NTGS Explorer 3 database shows that 66 soil samples were taken by CRA within EL 23517. Samples were assayed for Cu, Pb, Zn and Mn. No assays were done for Au or As. Maximum reported values within EL 23517 include 8310ppm Mn, 518ppm Zn, 269ppm Cu and 143ppm Pb. There are no reference reports or tenement details listed with the data set to check this data.

Dominion Mining explored the area under **EL 4759** (as previously outlined by Orridge 2004). Dominion and Geopeko were in JV (Golden Dyke JV) and had a farm-in agreement with Mineral Resources Corporation, the titleholder. The 'Camp' area (also called Watts Creek North or Watts Creek old townsite) appears to be almost wholly in EL23517, and comprised the area of 5600N – 9000N on the local grid. Exploration in the Camp Area comprised 15 costeans (with best intercept of 1m @ 12.7g/t Au in Creek Costean (7450N). The remainder of reported



costean samples assayed <0.6g/t Au. 8 RC holes totalling 582m were drilled in the Camp area. The holes were apparently poorly placed, either failing to hit the geological target (eg; WC5 missed the isoclinally folded Zamu Dolerite / ferruginous Koolpin Formation target), or away from anomalies defined from the costeans. Compass continued exploration through the 1990's after pegging most of EL 4759 under 86 mineral claims (MCN's **641-643; 2649-2669; 2764 – 2779; 2894-2907; 3505-3540**).

Compass undertook wildcat drilling at Northern Quartz Prospect (3 holes for 99m) and Chinese Workings Prospect (one hole). Drilling at Main Ridge showed the host sequence for stockwork and ladder vein mineralisation is a steeply eastward dipping arkosic sandstone horizon which crops out on the western side of the Main Ridge. Compass held the most prospective areas under mineral claims until 1998. Notable drill results reported in the final year of tenure included 2m @ 9.09g/t Au in CNQ-3.

Dominion also held **EL 5138**, a 3 block tenement, of which one block covered the NE block of EL 23517 from 1988-1989. Work consisted of geochemical sampling (stream sediment, soil and rock chip sampling), which did not define any 'significant anomalous zones'. The tenement was relinquished.

**EL 6474** covered the same 3 blocks as EL5138 (above). The licence lasted one year, with only a literature/geological review, which concluded that the area was away from the main Watts Creek zone of mineralisation, so held little prospectivity.

**EL 5064** (Western Gulf Oil and Mining) covered the 3 SW blocks of EL 23517 from 1987-1990. Rock chip samples within the area covered by EL 23517 produced sporadic anomalous results with a maximum of 0.94g/t Au and 4.35% As in a sample described as 'greywacke with scorodite' (at approximately 804300E / 8497200N). Further sampling around this site did not show any better or comparable values in either Au or As, and the ground was dropped.

**EL 6653** covered the NW blocks of EL 23517, and was held for one year in 1990. Work concentrated on an exploration review, and concluded that the most prospective areas had been pegged under Compass' mineral claims, and the ground was dropped.

**EL 7655** covered the 4 northern blocks of EL 23517, plus a larger area to the north of the tenement for one year (1992). No work was carried out, and it was concluded that no economic mineralisation was contained within the licence area(!)

Territory Goldfields / Northern Gold held **EL 8056** from 1993-1997, covering 5 of the SW blocks of EL 23517, plus areas further south. The most significant work done included soil sampling (65

samples along 4 x 400m spaced lines) within EL3517, with a max value of 3ppb Au (Sample 144287) using BLEG technique. Three stream sed samples were also collected and assayed using BLEG technique. Best result of 0.5ppb Au, 22ppm As, 37ppm Cu, 395ppm Zn and 203ppm Pb came from Sample 144319.

Territory Goldfields also held **EL 8228**, which covered the 3 NW blocks of EL 23517, plus an extensive area to the north and east of the tenement, from 1993 to 1998. Work done within the area covered by EL 23517 included 28 soil samples. Best result from this work of 3140ppm Zn, 900ppm Pb came from about 500m N of the northern edge of EL 23517.

## **5.1 Gold Mineralisation and Potential of the Area**

The project area is covered by the Palaeoproterozoic sequence covering rocks of the South Alligator and Mount Partridge Groups, intruded by McKinlay and Allamber Springs Granites towards south (Figure 2). It also comprises significant outcrops of Zamu Dolerite. The area rocks are metamorphosed and deformed during Top End Orogeny with the development of Anticlinal Structures (possibly D3) which are known important traps for mineralisation. This geological setting is host to gold mineralisation in the Pine Creek Orogen.

In the project area, sampling and drilling campaigns have defined a number of anomalous zones. Gold potential for formations within South Alligator River and Finnis River Groups (Koolpin Formation, Gerowie Tuff and Burrell Creek Formation) is well established. However, a significant gold deposit/prospect within the Wildman Siltstone (Mount Partridge Group) is yet to be discovered. A number of soil sampling programs have shown that anomalous gold mineralisation is present within the Wildman Siltstone and with further exploration this could turn into a significant gold deposit. Information presented above indicates that more concerted efforts are required to find significant mineralisation within EL 23517.

## **6.0 EXPLORATION DURING CURRENT TENURE**

To assess the mineral prospectivity of EL 23517, a soil sampling program was undertaken during 2007. This involved collection of 778 soil samples of -2 um along east west lines (0.5 km apart). Analytical data with their coordinates are given in Appendix 1.

During exploration program, soil sample locations were loaded into GPS. Field Technicians navigate to each location using the GPS under the supervision of a geologist. At soil sampling location a hole approximately 30cm by 30cm by 20cm deep is dug using a pick. This is done to remove the top layer of leached soil and to get to the transition zone between soil horizons A and B. The soil at the bottom of the hole is broken up also using the pick until it is of a slightly fine “milled” consistency. Soil is then sieved using a 2mm pan sieve and a collection pan. Approximate weight of sample collected is 2kg. After the soil sample is collected, a pin flag is written up with the site location number and sample number and placed in the hole. Hole is then back filled. Au was analysed by fire assay and base metals by Atomic Absorption Spectrophotometer by SGS Labs Townsville.

### ***Results***

Within the tenement area, Au values are generally low and they range from -1 to 140 ppb. Higher than normal values form three clusters which generally correspond to anticlinal structure that contains the Koolpin Formation and the Zamu Dolerite. Folded stratigraphic sequence of the Koolpin Formation and the Zamu Dolerite is important for localisation of economic gold mineralisation such as Cosmo Howley. In EL 23517, similar sequence has returned anomalous gold values which could be an important target for further exploration. These anomalous areas are also characterised by the higher than normal As values which is consistent with observations made in other parts of the Pine Creek Orogen.

Base metals concentrations are generally low, except some higher than normal values, which appears to be related to sporadic distribution of chalcopyrite, galena and sphalerite. Cu varies from 0 to 214 ppm with an average of 24 ppm. Pb ranges from 0 to 1110 ppm with an average of 37 ppm (Appendix 1).

In addition to geochemical sampling program, following activities were also performed:

1. Reconnaissance visit and planning for the upcoming field season
2. Administrative duties
3. Report Preparation

This activity costed \$19549.00 and details are given in Appendix 2.

## **7.0 PLANNED EXPLORATION DURING 2008/09**

GBS Gold has developed an exploration strategy for use in the Pine Creek Orogen that involves recognising broad structural domains. The genetic model can be used to describe the type of structures, and mineralisation styles that are expected to be encountered within the structural domains, and to generate further target areas.

Geochemical sampling program carried out during reporting period 2007-08 has highlighted some areas with anomalous gold values. During 2008-09, a thorough evaluation of the project will be carried out in conjunction with geophysical and structural interpretation. Some of the high priority targets may be drill tested. A minimum budget of \$8500 has been set aside for this work.

## **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., 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.
- Orridge, G.R., 2004. Exploration Licence 23517 Watts Creek Annual Report for the Year Ending 14<sup>th</sup> April 2004 (unpubl); *Northern Territory Geological Survey Company Report CR2004-0270*.
- Orridge, G.R., 2005. Exploration Licence 23517 Watts Creek Annual Report for the Year Ending 3<sup>rd</sup> April 2005 (unpubl); *Northern Territory Geological Survey Company Report CR2005-0140*.
- Stuart-Smith, PG., Needham, RS., and Wallace, DA., 1987, Pine Creek, Northern Territory, 1:100 000 geological map and explanatory notes. Bureau of Mineral Resources, Australia and Northern Territory Geological Survey.

**APPENDIX 2:** Expenditure Statement for EL 23517

<b>NORTHERN TERRITORY EXPLORATION EXPENDITURE FOR MINERAL TENEMENT</b>
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**Section 1. Tenement type, number and operation name: (One licence only per form even if combined reporting has been approved)**

Type	EXPLORATION LICENCE
Number	23517
Operation Name (optional)	BUNSIDE OPERATIONS

**Section 2. Period covered by this return:**

Twelve-month period:		If Final Report:	
From	3 April 2007	From	
To	2 April 2008	To	
Covenant for the reporting period:		\$7500.00	

**Section 3. Give title of accompanying technical report:**

Title of Technical Report	ANNUAL EXPLORATION REPORT, EL 23517 FOR PERIOD ENDING 3 April 2008, WATTS CREEK
Author	Zia U. Bajwah

<b>Section 4. Locality of operation:</b>	
Geological Province Geographic Location	<b>PINE CREEK OROGEN WATTS CREEK</b>

<b>Section 5. Work program for the next twelve months:</b>	
<b>Activities proposed</b> (please mark with an "X"): <input type="checkbox"/> Literature review <input checked="" type="checkbox"/> Geological mapping <input type="checkbox"/> Rock/soil/stream sediment sampling	<input checked="" type="checkbox"/> Drilling and/or costeaning <input checked="" type="checkbox"/> Airborne geophysics <input type="checkbox"/> Ground geophysics <input type="checkbox"/> Other:
<b>Estimated Cost:</b> \$8500.00	

<b>Section 6. Summary of operations and expenditure:</b>													
<p>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.</p>													
<p><b>Do not include the following as expenditure (if relevant, these may be</b></p> <table border="0"> <tr> <td>• Insurance</td> <td>• Transfer costs</td> <td>• Land Access Compensation</td> </tr> <tr> <td>• Company Prospectus</td> <td>• Title Search</td> <td>• Meetings with Land Councils</td> </tr> <tr> <td>• Rent &amp; Department Fees</td> <td>• Legal costs</td> <td>• Payments to Traditional Owners</td> </tr> <tr> <td>• Bond</td> <td>• Advertising</td> <td>• Fines</td> </tr> </table>		• 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
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• 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
<b>Office Studies</b>				
Literature search		830.00		
Database compilation	<b>x</b>			
Computer modelling				
Reprocessing of data				
General research				
Report preparation	<b>x</b>	1550.00	<b>x</b>	
Other (specify): Admin	<b>x</b>	1120.00		
<b>Subtotal</b>		\$3500.00		
<b>Airborne Exploration Surveys (state line kms)</b>				
Aeromagnetics		kms		
Radiometrics		kms		
Electromagnetics		kms		
Gravity		kms		
Digital terrain modelling		kms		
Other (specify)		kms		
<b>Subtotal</b>		\$		
<b>Remote Sensing</b>				
Aerial photography				
LANDSAT				
SPOT				
MSS				
Other (specify)				
<b>Subtotal</b>		\$		
<b>Ground Exploration Surveys</b>				
<b>Geological Mapping</b>				
Regional		1650.00		
Reconnaissance	<b>x</b>			
Prospect				
Underground				
Costean				
<b>Ground Geophysics</b>				
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)				

<b>Geochemical Surveying and Geochronology</b> (state number of samples)		14399.00		
Drill (cuttings, core, etc.)				
Stream sediment				
Soil	<b>778</b>		<b>x</b>	
Rock chip				
Laterite				
Water				
Biogeochemistry				
Isotope				
Whole rock				
Mineral analysis				
Laboratory analysis (type)				
Petrology				
Other (specify)				
<b>Ground Exploration Subtotal</b>		<b>\$16049.00</b>		
<b>Drilling (state number of holes &amp; metres)</b>				
Diamond			holes	metres
Reverse circulation (RC)			holes	metres
Rotary air blast (RAB)			holes	metres
Air-core			holes	metres



**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 there under.

☒

I have attached the Technical Report

1. Name: Zia U. Bajwah

Position: Geologist

Signature:

Date: 21 May 2007

2. Name:

Position:

Signature:

Date: