

# **GUNSON RESOURCES LIMITED**

**EL 23947 Gosse 5**

**Sixth Annual Report on Exploration Activities**

**for the period**

**14 May 2009 to 13 May 2010**

**Distribution:**

- 1 NTDME
- 2 File: PRO T1-S1 (without appendices)
- 3 P S Leandri (without appendices)

**P S Leandri  
June 2010**

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## **1 SUMMARY**

Exploration Licence 23947 (Gosse 5) was granted to Gunson Resources Ltd ("Gunson") on 14<sup>th</sup> May, 2004. Gunson is exploring EL 23947 for copper-gold mineralisation, based on a geological model where mineralisation is hosted by hematite, rather than by magnetite. This is a departure from the traditional style of exploration in the Tennant Creek area, which has focussed strongly on magnetic anomalies.

A group of six of applications was submitted originally. Of these, EL 23944 and EL 23947 have been granted and three applications (ELAs 23946, 23948 and 23949) were refused Consent to Grant by the CLC. The five-year moratorium period for these ELAs commenced on 20<sup>th</sup> October 2004 (ELs 23946 and 23949) and 5 March 2007 (EL 23948) respectively. The final application, EL 23945, was refused on 8<sup>th</sup> September 2008.

Drill testing of the residual gravity anomaly identified in the fifth year of the tenement was the major work carried out in the reporting year.

Exploration expenditure incurred during Year 6 of EL 23947 amounted to \$88,637.

## **2 INTRODUCTION**

Exploration Licence EL 23947 (Gosse 5) was granted to Gunson on 14<sup>th</sup> May, 2004, for a term of six years, with a minimum expenditure for Year 1 of \$32,500. The exploration licence was subject to a statutory 50% reduction in July 2009 and now covers some 19.3 square kilometres. It is located some 23 km east of the Gosse River, or about 68 km by rough track to the east of Tennant Creek. The location is shown on Figure 1.

This report describes work completed on EL 23947 during the sixth and final year of tenure, from 14<sup>th</sup> May 2009 to 13<sup>th</sup> May 2010. On 19<sup>th</sup> February 2010 Gunson submitted a request for renewal of EL 23947 to the Department of Resources and to date has not been advised if the renewal application was successful.

## **3 REGIONAL SETTING**

EL 23947 is located on crown land, about 68 km to the east of Tennant Creek. The tenement lies within the Warramunga Basin, which is well-documented by Donnellan *et al* (1999). Available mapping (Donnellan *et al*, 1995) shows that there is no outcrop of Proterozoic basement units within the EL, but the tenement is interpreted to be underlain by Yungkulungu Formation, possibly under Gum Creek Formation (Cambrian) cover.

Aeromagnetic patterns indicate that the Gosse 5 Prospect area lies on the margin of an elongate area of elevated magnetic response, with indications of structural breaks trending SW-NE across the tenement area. The residual gravity pattern indicates a local gravity high in a 'neck' area between two larger gravity features.

## **4 PREVIOUS WORK**

Attempts have been made to find evidence of work conducted by previous explorers in the area, but no results have been found to date. Gunson conducted a detailed gravity survey over the entire lease area during the fifth year of tenure, the major outcome of which was to identify a residual gravity anomaly worthy of drill testing. This work was reported on in the Fifth Annual Report for EL23947.

## **5 EXPLORATION MODELS**

Traditional exploration in the Tennant Creek area was based strongly on the association of copper – gold mineralisation with plugs of magnetite with a surrounding alteration halo. Based on its experience on the Stuart Shelf area of South Australia, Gunson has developed a variation of the model for Tennant creek-style mineralisation where the iron oxide host is hematite rather than magnetite.

This means that the focus is on the gravity response, since the magnetic expression may be weak to non-existent. Furthermore, most of Gunson's tenement applications are in areas around the fringe of

the main Tennant Creek mineral field, where the prospective lithologies are likely to be covered by younger units. This makes the exploration more challenging, but is believed to afford a better opportunity for discovery of previously unrecognised mineralisation, as was the case on the eastern side of the Mount Isa –Cloncurry block in the 1990's.

## 6 WORK COMPLETED THIS YEAR

The major work undertaken during the sixth year of tenure was testing the residual gravity anomaly identified during the fifth year with a 330 m deep NQ diamond drill hole (TCD1 on Figure 2).

Prior to drilling of the hole, an aboriginal heritage clearance was conducted by the Aboriginal Areas Protection Authority and an Authority Certificate was issued to Gunson on 25 September 2009. Access to the drill hole and the drill pad were constructed between the 28<sup>th</sup> April and 2<sup>nd</sup> May 2010 and included re-establishing an existing crossing on the Gosse River that had been washed away during the 2009 – 2010 wet season. Plate 1 shows the drill pad with the rig set up and drilling.

A field log of hole TCD1 is attached in Appendix 1. The hole was spudded on 3<sup>rd</sup> May 2010 and drilled with a rotary mud pecollar to 57.3 m when a hard chert band stopped progress. Coring progressed from 57.3 m to 71.6 m and was suspended in free running sand. Rotary drilling re-commenced from 71.6m to refusal at 93.1 m. NQ diamond coring then commenced until the hole reached its final depth of 330 m on the 18<sup>th</sup> May 2010. The lithologies intersected consisted of clays and silicified limestones above 93.1m. From 93.1 m the lithology consisted of variously altered felsic to more mafic volcanic rocks interpreted to be part of the Palaeoproterozoic Yungkulungu Formation. There was no obvious explanation for the gravity anomaly identified during logging.

No sampling or analysis of the drill core was undertaken during the reporting period, but samples were taken in late May 2010 and results will be reported on in the seventh annual report.



Plate 1: TCD 1 drilling in progress May 2010

## 7 PROPOSED WORK PROGRAM AND BUDGET

Exploration work on EL 23947 in the seventh year of tenure will involve sampling and assaying of the core from TCD1 and re-assessment of the gravity anomaly. With the anomaly not having been adequately explained by the core from TCD1 it is likely that Gunson will undertake infill gravity surveys to better guide future drilling. Following this work, it is expected that future exploration will be drill-based, although other techniques may be considered dependent upon the results of the gravity surveys and drilling.

The budget proposed for the seventh year of the licence is summarised below:

Geophysical Surveys	\$8,000
Drill site preparation	\$8,000
Drilling	\$50,000
Assays	\$10,000
Geologist	\$15,000
Rent	\$1,000
Administration	<u>\$5,000</u>
<b>TOTAL</b>	<b>\$97,000</b>

Note: This is higher than that proposed in the February submission as drilling had not commenced at that time.

## 8 EXPENDITURE TO 13/05/2010

<b>YEAR 6:</b> <b>Category</b>	<b>TOTAL</b>
Diamond Drilling	\$61,569
Geophysical Interpretation	\$160
Exploration management	\$8201
Consulting Geologist	\$4797
Rent, rates, government charges	\$2431
Aboriginal heritage survey	<u>\$11,479</u>
<b>TOTAL YEAR 6</b>	<b><u>\$88,637</u></b>
<b>TOTAL YEAR 5</b>	<b>\$24,935</b>
<b>TOTAL YEAR 4</b>	<b>\$2,600</b>
<b>TOTAL YEAR 3</b>	<b>\$935</b>
<b>TOTAL YEAR 2</b>	<b>\$1,021</b>
<b>TOTAL YEAR 1</b>	<b>\$5,086</b>
<b>TOTAL EXPENDITURE TO DATE</b>	<b>\$123,214</b>

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## 9 REFERENCES

- Donnellan, N., Hussey, K.J., and Morrison, R.S. 1995: Explanatory Notes, Flynn 5759, Tennant Creek 5758.  
NT Geological Survey, 1:100,000 Geological Map Series.
- Donnellan, N., Morrison, R.S., Hussey, K.J., Ferenczi, P.A. and Kruse, P.D. 1999: Explanatory Notes, Tennant Creek SE 53-14.  
NT Geological Survey, 1:250,000 Geological Map Series.



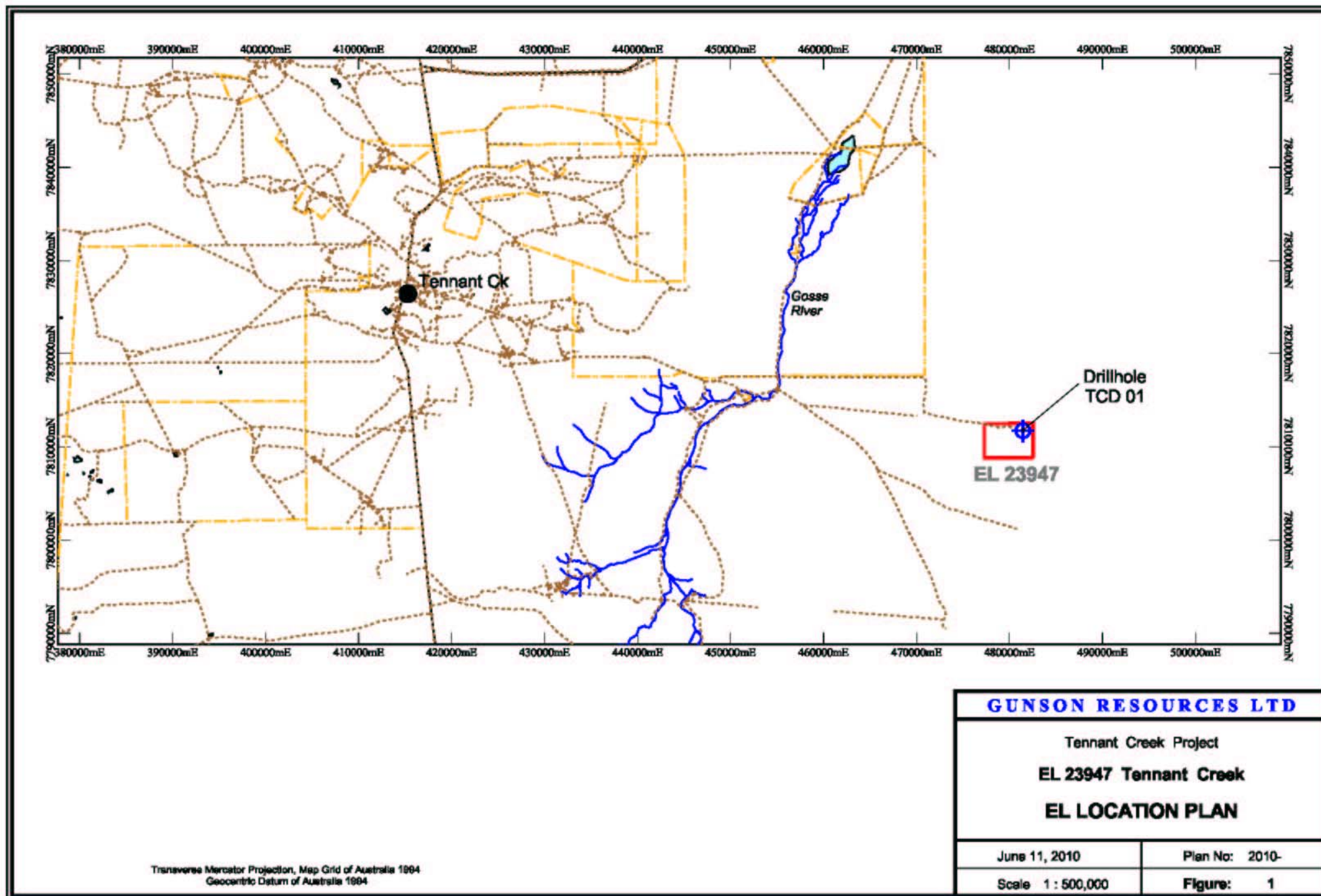
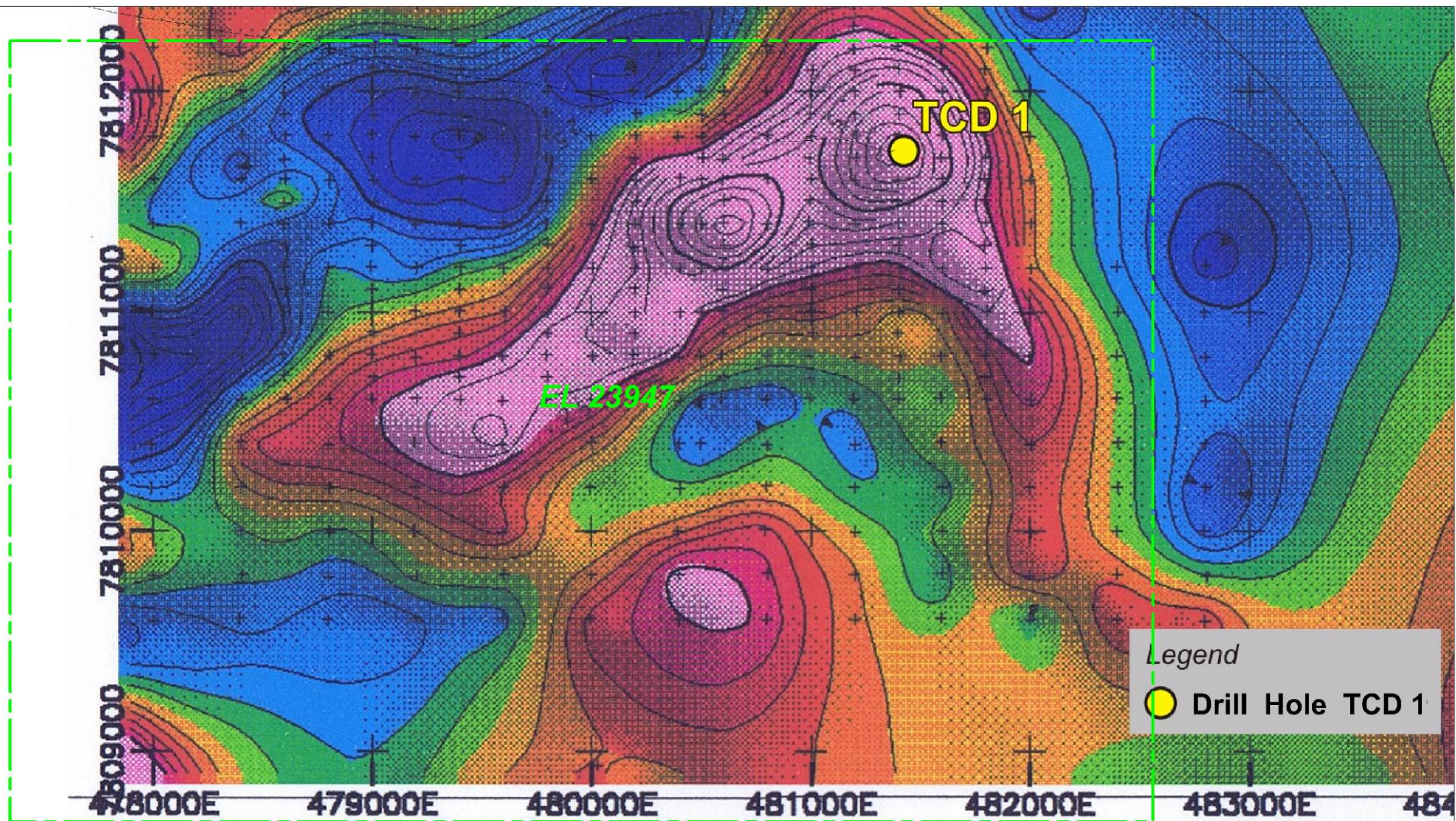


Figure 1: EL 23947 Location Plan





Legend

● Drill Hole TCD 1

Gunson Resources Limited

Figure 2

Date: 11/6/2010

Author: PSL

Office: West Perth

Drawing:

Scale: 1:25000

Projection: MGA Zone 53 (GDA 94)

Tennant Creek Project  
Location of TCD 1 overlain  
on Residual Gravity Image

0 250 500 1,000  
metres

Figure 2: TCD 1 Overlain on Gravity Anomaly



**Appendix 1**  
**Field Geological Log**  
**TCD 1**

# Precollar Drilling Log

# Tennant Creek Project

Depth (m)		Interval Width	Description	Sample No
From	To			
0.0	2.8	2.8	Dark red-brown clayey sand with granular sub angular quartz grains	
2.8	4.8	2.0	Yellow brown and red brown clay with qtz as above	
4.8	6.8	2.0	As above	
6.8	8.8	2.0	As above	
8.8	10.8	2.0	Orange brown clay and laterised fine sand with granular sub angular qtz	
10.8	12.8	2.0	Orange brown clay and fine sand with granular sub angular qtz	
12.8	14.8	2.0	Orange brown and cream clayey grit, subangular to subrounded granular to pebble quartz	
14.8	16.8	2.0	As above	
16.8	18.8	2.0	As above	
18.8	20.8	2.0	As above	
20.8	22.8	2.0	As above, with minor laterisation and iron staining	
22.8	24.8	2.0	As above	
24.8	26.8	2.0	As above	
26.8	28.8	2.0	Cream clay and quartz sand as above	
28.8	30.8	2.0	As above	
30.8	32.8	2.0	Light brown clay with fine quartz sand and iron oxides	Hard bands throughout ↑ ↓
32.8	34.8	2.0	Light brown clay with granular qtz and chert bands	
34.8	36.8	2.0	Light brown clay with granular qtz and chert bands & light grey silty sand	
36.8	38.8	2.0	Light grey & white silty clay, clay sand and grits	
38.8	40.8	2.0	As above with chert fragments	
40.8	42.8	2.0	As above with iron cemented sandstone fragments	
42.8	44.8	2.0	As above, less cemented fragments	
44.8	46.8	2.0	As above, 10 % iron cemented fragments	
46.8	48.8	2.0	As above, 1 % iron cemented fragments	
48.8	50.8	2.0	White to light brown clays with granular to pebbly subrounded quartz grains	
50.8	52.8	2.0	As above	
52.8	54.8	2.0	As above with iron cemented fine grained sandstone	
54.8	57.2	2.4	White to light brown clays with granular to pebbly quartz and light brow to black chert	
			End of Precollar at 57.2 m due to worn bit and refusal	

<b>Project</b>	Tennant Creek	<b>Drilling Details</b>		<b>Dip</b>	-90°	<b>Azimuth</b>	360°	<b>Collar Location:</b>		<b>Hole Number</b>
<b>Prospect</b>	Gosse 5	<b>Contractor</b>	Wild Drilling	<b>Water Table</b>				7811730	<b>N</b>	<b>TCD01</b>
<b>Tenement</b>	EL 23947	<b>Rig Type</b>	Coretech YDX-3L	<b>Logged By</b>	P Leandri			481425	<b>E</b>	
<b>Page</b>	1 of 1	<b>Method</b>	HQ Rotary Mud	<b>Date</b>	3 - 4/ 5 /2010			292.00	<b>RL</b>	

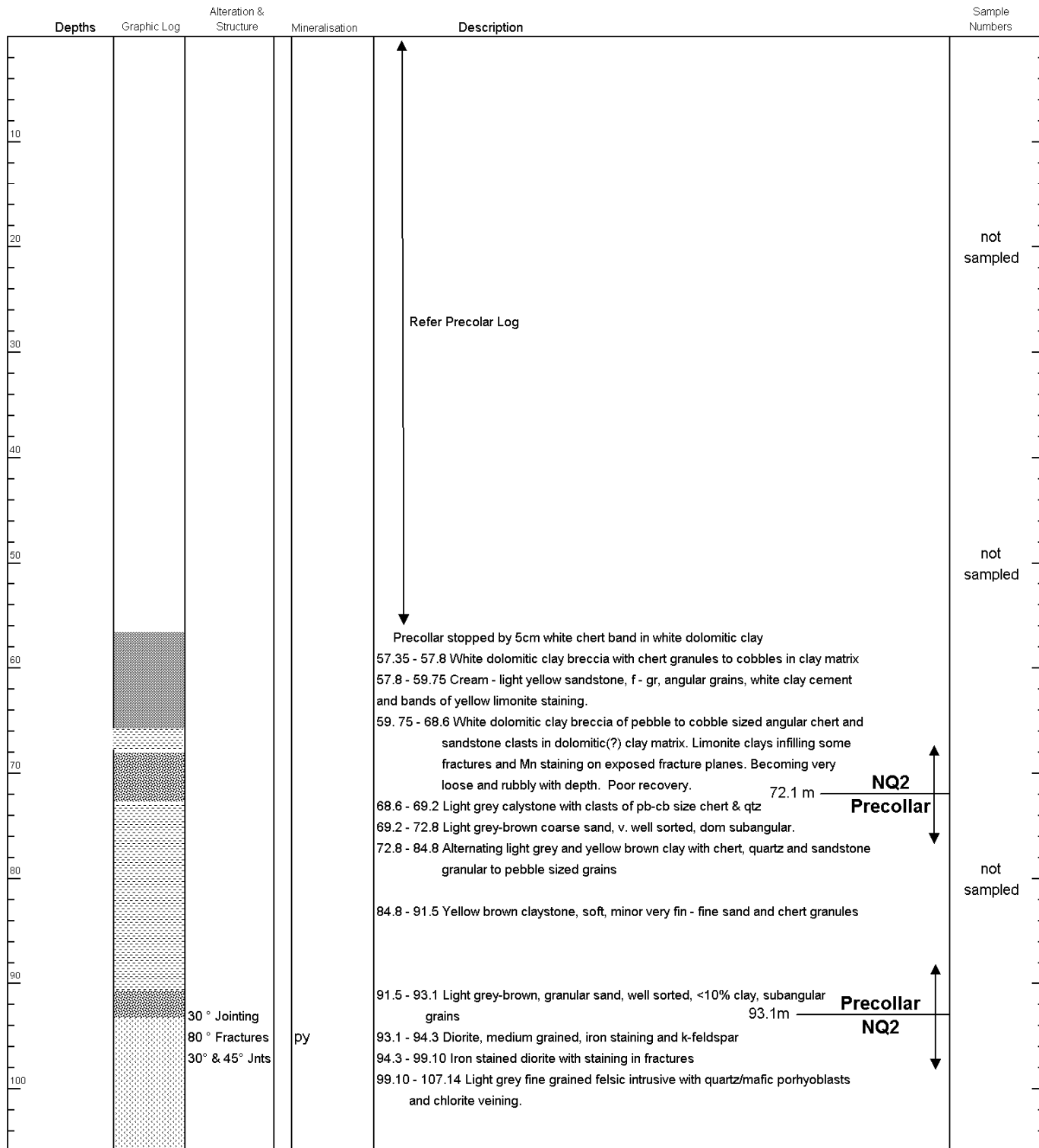
**1 : 500**

# Tennant Creek Project

Hole Number

**TCD01**

Project:	<b>Tennant Creek</b>	Coring commenced	07-05-2010
Prospect:	<b>Gosse 5</b>	Coring completed	18-05-2010
Tenement:	<b>EL 23947</b>	Final Depth	330.00



Contractor:	Wild Drilling	Dip:	-90°	Azimuth:	360°	7811730 N.	481425 E.
Rig Type:	Coretech YDX-3L	Logged by:	Paul Leandri			Collar RL:	292 m.
Precollar Depth:	93 m.	Date:	May 2010			Page	1 of 4

# Drillhole Log 1 : 500

# Tennant Creek Project

Hole Number

**TCD01**

Project:	Tennant Creek	Coring commenced	07-05-2010
Prospect:	Gosse 5	Coring completed	18-05-2010
Tenement:	EL 23947	Final Depth	330

Depths	Graphic Log	Alteration & Structure	Mineralisation	Description	Sample Numbers
110		60° Joint 30° Joint		Glassy quartz/obsidian(?) 107.14 - 113.20 Light grey fine grained rhyodacite/dacite, with quartz cumulate grains Cross jointing at 30° and 45° and iron alteration in fractures. K-felds more common with depth. 113.20 - 118.29 Felsic unit as above intruded by chlorite veins and foliation developing at 30°. Core jointed and broken, mafic content incre 118.29 - 118.39 Breccia of coarse k-felds dom dacite in matrix of fg mafics. 118.93 - 131.90 Light grey medium grained dacite/diorite with k-felds and iron staining. Chlorite veining at 30°, joints at 45° and 60°.	
120	▲ ▲ ▲	30° Veins 45° Joints 60° Joints			not sampled
130		Hem 30° Joints		131.90 - 132.90 Pink bleached and iron stained volcnics with hematite stockwork 132.90 - 136.10 Fine grained rhyolite with medium grained quartz & amphibole phenocrysts	
140		30° Foln		136.1 - 136.75 Pink & grey altered dacite 136.75 - 140.6 Pink & grey altered dacite(?), metasomatised and containing vugs with siderite crystal lining. Transitions to pink dacite and then grey rhyolite with faint foliation at 45° and jointing at 45° and 60°. 140.6 - 142.46 5 cm of red pink vesicular rhyolite then light grey + pink dacite, as above 142.46 - 147.82 Light grey, fine grained dacite, with medium grained phenocrysts and 10 % cumulate aggregations of quartz and amphibole	
150	▲ ▲ ▲ ▲	10° Joint 45° Fract		147.82 - 148.78 Red and green grey breccia of felsic volcanics in fine vein stockwork of hematite and quartz. 2 % fine grained pyrite, vuggy in part with siderite fill. 148.78 - 158.60 Rhyolite, pink and dark grey, progressively less altered with depth, often very fractured and at steep angle (0-10°). Fractures often filled with quartz veins 158.60 - 164.63 Rhyolite/Rhyodacite, pink and grey green, fine grained with faint foliation at 45° in mafic minerals.	not sampled
160		45° Foln 30° vein 45° Joint			
170	▲ ▲ ▲ ▲	Hem		164.63 - 170.91 Rhyolite becoming greydacite/andesite with increased mafic and plagioclase content, decrease in quartz and k-felds. 170.91 - 170.97 Pink-grey brecciated layer with erosional iron oxide basal contact. 170.97 - 173.80 Light grey - grey rhyolite with minor pink alteration and high k-felds content 173.810- 174.09 Pink - red oxidised brecciated rhyolite. Gradational upper contact erosional lower contact (? flow contact). 174.09 - 179.80 Rhyolite, variably light grey to grey + pink. Dominant K-felds & qtz, slight increase in mafic content towards base of interval. 179.80 - 184.70 Grey fine to medium grained rhyolite, increased mafic content. 184.70 - 185.90 Grey rhyolitic tuff with angular clasts of chert, rhyolite & k-feldspar in fine grained mafic/Qtz groundmass 185.90 - 191.18 Rhyolite, grey, fine to medium grained, 30 % mafics 191.18 - 191.84 Brick red altered rhyolite. Oxidised matrix with Qtz/mafic phenocrysts 191.84 - 193.53 Red and black tuff fine to medium grained K-feldspar & mafic groundmass with quartz, rhyolite and mafic phenocrysts. Qtz veins @60° & 45° cut by 10° veins 193.53 - 194.00 Red breccia rhyolite porphyroblasts in red hematized felsic groundmass 194.00 - 194.66 Buff to grey felsic tuff. Cryptocrystalline groundmass with f - m grained Qtz & mafic phenocrysts. 194.66 - 197.67 Grey rhyolite, fine grained 30% mafics, rest Qtz & feldspar 197.67 - 201.84 Rhyolite as above interlayered with light pink brown, coarse K-felds in mafic groundmass. Pyrite concentrated on fracture planes	
180		30° Joint			
190	▲ ▲ ▲ ▲	60° Joint 45° & 60° vein 10° x-cut vein	py 2 - 5 % py Tr - 2% py 1 - 3%		not sampled
200		70° Joint			

Contractor:	Wild Drilling	Dip:	-90°	Azimuth:	360°	7811730 N.	481425 E.
Rig Type:	Coretech YDX-3L	Logged by:	Paul Leandri	Collar RL:	292 m.		
Precollar Depth:	93 m.	Date:	May 2010	Page	2	of	4



# Drillhole Log 1 : 500

# Tennant Creek Project

Hole Number

**TCD01**

Project:	Tennant Creek	Coring commenced	07-05-2010
Prospect:	Gosse 5	Coring completed	18-05-2010
Tenement:	EL 23947	Final Depth	330

Depths	Graphic Log	Alteration & Structure	Mineralisation	Description	Sample Numbers
210			Tr py	201.84 - 203.68 Rhyolite, grey with slight foliation in mafics = 30 - 40 %. Contains fine to medium grained pink-brown feldspar, similar to coarse felds above	
220				203.38 - 215.55 Rhyolite, feldspathic and quartz phenocrysts up to 3cm in plagioclase, quartz, & mafic fine grained groundmass. Chlorite veining from 207 m at 30° contains rhyolite xenoliths	
230				215.55 - 242.52 Grey rhyolite/dacite, 20% mafics, feldspar mainly plagioclase, common chloritic veining.	not sampled
240		45° Joint & Vein			
250		Hem	py 2%	242.52 - 243.09 Red oxidised tuff. Hematite pigmented felsic ground mass with medium grained quartz and mafic phenocrysts	
260		30° qtz/chl 60° qtz/chl	py 2% py 1-2%	243.09 - 252.26 Grey rhyolite, 20 - 30 % mafics, fine grained with medium grained phenocrysts Has hematite pigmentation at 246.5 - 246.95 and quartz/chlorite/epidote (?) veining at 30° cross-cut by other veins at 60°.	not sampled
270		0° qtz 60° qtz/chl 30° foln	py tr-1%	252.26 - 260.68 Rhyolite as above, with common quartz/chlorite/epidote stockwork at 30° and 60°. Hematite pigmentation 256.60 -256.82m. Veins less prominent from 257.0m	
280		60° & 45° Chl	py 2%	260.68 - 279.20 Grey Rhyolite as above with vertical (0°) quartz veins cutting 60° chlorite veins some recrystallisation to medium grained, occasionally mafics are foliated. Mafic content increasing from 20 % to 30%.	
290			py 1- 5 %	60° veins cut by 45° veins 279.20 - 279.65 Chlorite intrusion/stockwork consuming rhyolite. Xenoliths oxidised and pyr visible in joint planes. 279.65 - 294.08 Grey felsic volcanic/tuff epidote veining at 30°, joints @ 20°. Py visible on fracture planes , epidote silteration increasing towards 294 m	not sampled
300		30°	py	294.08 - 297.53 Dark grey felsic volcanic tuff. Occ irregular epidote veinlets	HP Log
				297.53 - 306.00 Paler grey rhyolitic tuff, some darker streaks, with faint chl-epidote veinlets from 303.4 m and silvery disseminated py from 304 m.	

Contractor:	Wild Drilling	Dip:	-90°	Azimuth:	360°	7811730 N.	481425 E.
Rig Type:	Coretech YDX-3L	Logged by:	P. Leandri & H. Paterson	Collar RL:	292 m.		
Precollar Depth:	93 m.	Date:	May 2010	Page	3	of	4

# Drillhole Log 1 : 500

## Tennant Creek Project

Hole Number

**TCD01**

Project:	Tennant Creek	Coring commenced	07-05-2010
Prospect:	Gosse 5	Coring completed	18-05-2010
Tenement:	EL 23947	Final Depth	330

Depths	Graphic Log	Alteration & Structure	Mineralisation	Description	Sample Numbers
310			Tr py	306.00 - 312.0 m Massive felsic tuff, occ fuzzy patches of epidote(& chl?) alteration. Rare disseminated py, usually in cubes.	
320	▲▲▲▲▲			312.0 - 319.80 m Fine to medium grained felsic pyroclastic - gradational variation in grainsize wispy epidote veinlets.	
330				319.80 m - 320.20 m Badly broken core, chl on joint faces minor earthy red hematite 320.20 - 320.66 m Rhyolite tuff 320.66 - 320.85 m Breccia zone with carbonate infill & red hematite staining. Py cubes to 5mm 320.85 - 326.75 m Grey - dark grey altered rhyolitic tuff, badly broken with chl veins and intersecting joints 326.75 - 330 m Dark grey chlorite and altered rhyolitic tuff. Trace disseminated py	not sampled
				<b>EOH 330m</b>	
340					
350					
360					
370					
380					
390					
400					

Contractor:	Wild Drilling	Dip:	-90°	Azimuth:	360°	7811730 N.	481425 E.
Rig Type:	Coretech YDX-3L	Logged by:	H. Paterson	Collar RL:	292 m.		
Precollar Depth:	93 m.	Date:	May 2010	Page	4	of	4