

**Newmont  
Tanami Operations  
Newmont Tanami Pty Ltd  
A.C.N. 007 688 093**

**SEVENTH ANNUAL REPORT  
For the  
Tanami Exploration Agreement**

**ANNUAL REPORT FOR ELs 2367, 4529 and EL23662  
For the period 1<sup>st</sup> January 2011 to 31<sup>st</sup> December 2011**

**'TEA' Project  
Northern Territory**

**Minerals explored for: Au**

<b>1:250,000 SHEET:</b>	THE GRANITES	SF 52-03
	MOUNT SOLITAIRE	SF 52-04
	TANAMI	SE 52-15
<b>1:100,000 SHEET:</b>	INNINGARRA	4856
	FRANKENIA	4857
	PTILOTUS	4957
	GRANITES	4956
	DAVIDSON	5057

**AUTHOR:** M. Green,

**TENEMENT HOLDER:** Newmont Tanami Pty Ltd

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Due Date for Submission 31<sup>st</sup> May 2012

## EXECUTIVE SUMMARY

Following reassessment of district prospectivity in the 2008 reporting period, exploration in 2009 was planned to test two targets to validate the empirical model devised through the previous year.

Initial drilling was attempted in 2009 for both targets at SEL23662 and near MLS154 on EL2367. At Oberon, drilling was terminated before target depth due to ground conditions. At Callie NW, delays in permitting lead to attempts to test the target from within the boundaries of MLS 154; an ineffective position. Prioritisation of drilling to further develop the potential of the emerging Auron ore body saw rig capacity directed away from TEA exploration.

In 2010, drilling of one hole was completed at Callie NW. The hole failed to return significant results; however review of recent 3D magnetic modeling suggests that the drill hole was poorly sited to test for the target position.

At Oberon, the failed 2009 hole was 'twinned' by hole TID0065. Assay results for this hole were extremely encouraging, and follow-up commenced in the latter half of the year, comprising TID0066 (drilled 200m to the west of TID0065), TID0067 drilled 200m east of TID0065) and TID0068 (drilled below TID0065). Holes TID0067 and TID0068 remain incomplete at year end; drilling was terminated following the onset of the wet season, which lead to safety concerns related to site access. Assays for part of TID0066 were received in the reporting period (a second batch of assays had not yet been dispatched) and provided further strong encouragement.

A single monitoring bore was drilled by Newmont Tanami Operations' Environment Department. Whole rock geochemical determinations were undertaken to constrain the stratigraphic position of the drilled units.

In 2011, significant follow-up drilling at Oberon occurred. The strong results at Oberon added weight to NTO's exploration efforts in the Tanami, increasing confidence in the potential for large Callie style ore bodies at depth beneath geochemical anomalies hosted by key stratigraphic groups. Additional first pass drilling for these 'deeps' targets took place in 2011, and is planned for 2012. Follow up on targets at Minotaur and in an area south of The Granites is also planned for 2012.

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## 1. INTRODUCTION

This is the seventh annual report on exploration licences covered by the Tanami Exploration Agreement. It covers the period 1<sup>st</sup> of January 2011 to 31<sup>st</sup> of December 2011.

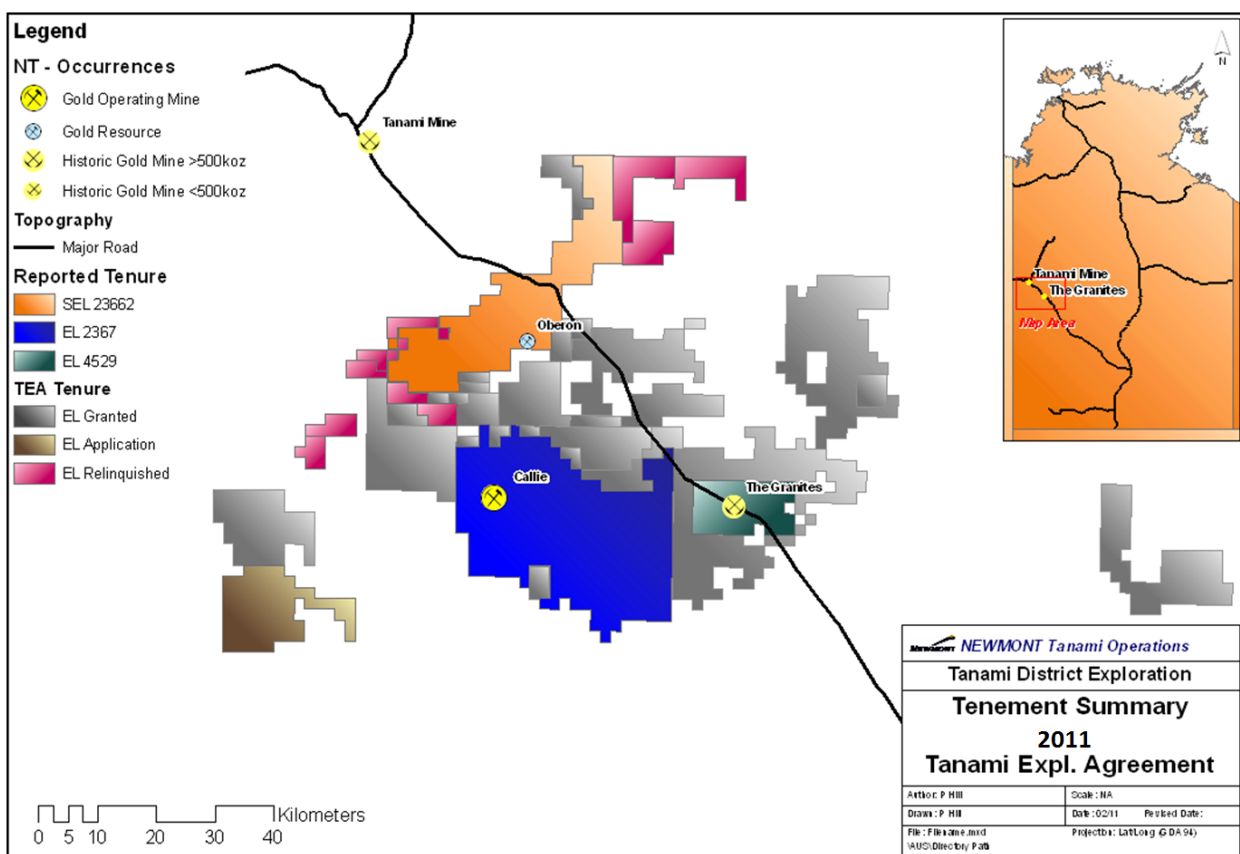
## 2. LICENCE DETAILS

The Tanami Exploration Agreement Ratification Act was passed on the 26th August 2004. This Agreement was made between the Northern Territory Government and Newmont Tanami Pty Ltd, Otter Gold Pty Ltd and Newmont Gold Exploration Pty Ltd. The commencement date for this agreement was the 10th September 2004 and it expires on the 31st December 2014.

Newmont and the Northern Territory entered into this Agreement for the purpose of facilitating a further exploration period during which Newmont has rights of exploration in the Tanami region subject to the terms and conditions set out on the Agreement.

The Agreement area comprises of 20,000 blocks of which no more than 10,000 blocks may be held by Newmont. All licenses held 100% by Newmont and its subsidiaries, as above, within the Agreement area (Figure 1) are covered by the Act.

From the commencement date, the Granites Exploration Agreement ceased to be of effect and all remaining licenses are now included in the TEA Project.



**Figure 1: Tanami Exploration Agreement Projects**

In Agreement with NT Department of Resources, Minerals and Energy, one report on the exploration activities carried out on the Exploration Licences shall be submitted prior to the end of May in each Tenure Year in respect of the previous calendar year.

**Table 1: Tanami Project Exploration License Details. Reported Tenure highlighted.**

Tenement	Name	Project	Grant Date	Expiry Date	Area	Holder
<b>Granted</b>						
EL 2366	Hordern Hills	TGEA Central	25/03/1988	31/12/2014	124	Newmont Tanami
<b>EL 2367</b>	<b>Schist Hills</b>	<b>TGEA Central</b>	<b>25/03/1988</b>	<b>31/12/2014</b>	<b>283</b>	<b>Newmont Tanami</b>
<b>EL 4529</b>	<b>The Window</b>	<b>TGEA Central</b>	<b>9/05/1990</b>	<b>31/12/2014</b>	<b>48</b>	<b>Newmont Tanami</b>
EL 8077	Tanami Downs	Legend	4/06/2001	31/12/2014	66	Newmont Tanami
EL 8912	Moorlands	Central	9/09/1999	31/12/2014	105	Newmont Tanami
EL 9737	Step 2	Central	21/08/2003	31/12/2014	7	Newmont Tanami
EL 9996	Strip	Central	21/08/2003	31/12/2014	5	Newmont Tanami
EL 10138	Bullock's Head	McFarlane	8/06/2001	31/12/2014	54	Newmont Tanami
EL 22170	Jumbuck	Central	21/08/2003	31/12/2014	20	Newmont Tanami
EL 22900	Karnak	Central	25/05/2006	31/12/2014	13	Newmont Tanami
EL 22933	Ptearaway	Central	25/05/2006	31/12/2014	4	Newmont Tanami
EL 23308	Windy Hill Main	Windy Hill	25/05/2006	31/12/2014	9	Newmont Tanami
EL 23744	Rainmaker North	Central	25/05/2006	31/12/2014	3	Newmont Tanami
EL 23833	Madam Pelleys Hills	Central	25/05/2006	31/12/2014	6	Newmont Tanami
EL 24864	Callie West 2	Central	12/04/2007	31/12/2014	7	Newmont Tanami
EL 24865	Callie West 3	Central	12/04/2007	31/12/2014	2	Newmont Tanami
EL 24886	Rainmaker	Central	12/04/2007	31/12/2014	3	Newmont Tanami
EL 24888	Inspiration Peak South	Central	12/04/2007	31/12/2014	3	Newmont Tanami
EL 24889	Inspiration Peak North	Central	12/04/2007	31/12/2014	2	Newmont Tanami
EL 24890	Symington North	Central	12/04/2007	31/12/2014	3	Newmont Tanami
EL 24895	Ptilotus South	Central	12/04/2007	31/12/2014	25	Newmont Tanami
EL 24896	Smoke Hills East	Central	12/04/2007	31/12/2014	33	Newmont Tanami
EL 24973	Salt Lake 1	Central	12/04/2007	31/12/2014	32	Newmont Tanami
EL 24974	Salt Lake Dune	Central	12/04/2007	31/12/2014	13	Newmont Tanami
EL 25012	SALT LAKE 3	Central	12/04/2007	31/12/2014	2	Newmont Tanami
EL 25013	SALT LAKE 2	Central	12/04/2007	31/12/2014	3	Newmont Tanami
SEL 23658	Lennards	Central	3/04/2003	31/12/2014	55	Newmont Tanami
SEL 23660	Cashel	Central	3/04/2003	31/12/2014	67	Newmont Tanami
<b>SEL 23662</b>	<b>Cave Hills</b>	<b>Central</b>	<b>3/04/2003</b>	<b>31/12/2014</b>	<b>158</b>	<b>Newmont Tanami</b>
<b>Application</b>						
EL 23150	Officer Hills	Officer Hill JV			64	Quantum Resources Ltd
<b>Relinquished / Divested</b>						
EL 9763	Red Hills	Legend	1/01/2005	31/12/2014	7	Otter Gold Pty Ltd
EL 9843	Farrands Hills East	Chapmans Hill	1/01/2005	31/12/2014	22	Otter Gold Pty Ltd
EL 10355	Red Hills North	Legend	1/01/2005	31/12/2014	4	Otter Gold Pty Ltd
EL 10411	Tanami Downs North	Legend	1/01/2005	31/12/2014	7	Otter Gold Pty Ltd
EL 22061	Farrands Hills South	Chapmans Hill	1/01/2005	31/12/2014	17	Otter Gold Pty Ltd
EL 22229	Question Mark Bore East	McFarlane	1/01/2005	31/12/2014	8	Otter Gold Pty Ltd
EL 22378	Question Mark Bore Far East	McFarlane	1/01/2005	31/12/2014	6	Otter Gold Pty Ltd
EL 23833	Madam Pelleys Hills	Central	1/01/2005	31/12/2014	6	Newmont Tanami

### 3. LOCATION

The tenements that comprise the TEA Project are situated approximately 600km northwest of Alice Springs in the Granites-Tanami region of the Northern Territory. These licenses are located within the following 1:250,000 map sheets;

Tanami SE52-15

The Granites SF52-03

Mt Solitaire SF52-04

Geographically, the area lies in the western part of the Tanami Desert, a generally flat and featureless sand-covered landscape of spinifex and low scrub. All tenements within the project area are within Aboriginal freehold land except 7 licenses which fall within the Suplejack Pastoral Lease.

The climate is semi-arid with rainfall averaging approximately 450mm per annum. Most rainfall occurs as summer storms associated with the monsoon season between November and March. Daily temperatures range from a winter minimum of near zero to a summer maximum of about 48°C.

The Tanami Desert in which the lease is situated is widely covered in Aeolian sand with a vegetation cover dominated by spinifex with low bushes and scattered small trees.

#### **4. INFRASTRUCTURE**

Prior to the presence of Normandy NFM and Otter Gold, now Newmont, in this part of the Tanami region, infrastructural support was almost completely lacking. Currently supplies are trucked or flown to permanent camps at The Granites (within EL4529) from Alice Springs. Telephone and fax using microwave links service all camps. Water is provided by two remote borefields. One borefield lies 35km east of The Granites (Billabong) and the other 10km north-east of Dead Bullock Soak. Power is locally generated at exploration bases and mine sites. The nearest settlements are the Rabbit Flat roadhouse 50km to the northwest of The Granites on the Tanami Road and Tanami Downs homestead 60km to the west. The nearest town is Yuendumu some 250km southeast of The Granites on the Tanami Highway.

#### **5. ACCESS**

Access to the area is by air or via the Tanami Highway. A basic network of preexisting and newly formed tracks link individual prospect areas to the major Newmont Exploration camp at The Granites. A bitumen ore haulage road connects the Dead Bullock Soak mining operation with The Granites mining and camp facilities.

#### **6. SURVEY CONTROL**

Initial survey control has been established over the current exploration licenses by Company and contract surveyors. All survey marks have been tied to the Australian Map Grid with trigonometrical survey station control. Extensive use is made of Global Positioning System equipment by staff engaged in regional exploration.

#### **7. ENVIRONMENTAL PRACTICE**

Rehabilitation of exploration sites was carried out pursuant to Section 24(e) of the NT Mining Act and in accordance with the Departments "Guidelines for Rehabilitation of Exploration Sites",

- All drillholes were capped or backfilled on completion, all drill pads were rehabilitated and all sample bags removed if follow up drilling was not to occur in the next reporting period.
- all costeans were backfilled when no longer required
- All grid lines and tracks were rehabilitated when no longer needed.

#### **8. EXPLORATION ACTIVITIES**

Exploration and mine studies have indicated that gold mineralisation in the region has an association with a range of geological environments. Models of gold occurrence for which the Tanami is believed to be most prospective include:

- Discordant stockwork deposits of gold in relatively late stage quartz veins;

- Structurally favorable environments where possible gold traps exist amongst prospective lithological units; and
- Gold mineralisation in veins hosted by shear zones with strong alteration Characteristics;

With these models in mind, the Company's geologists have selected prospective target exploration areas based on regional geological, structural, geophysical and geochemical data.

The detailed assessment of these targets has been undertaken by a range of exploration techniques, designed to reveal the geology of the target area, and the presence of "pathfinder" elements to gold mineralisation, particularly gold itself, in "anomalous" quantities.

The task has been made difficult by the extensive cover of windblown sand and other transported material, which conceals the rock and associated soil, typically to a thickness of several metres.

## 9. EXPLORATION RATIONALE

The **T**anami **R**egional **F**ramework **S**tudy (TaRFS) in 2006 indicated that the Tanami and Barrow Creek Regions retained excellent potential for discovery of Callie style mineralisation. Testing of targets generated by the TaRFS resulted in generally disappointing outcomes.

In late 2007, control of exploration in the Tanami was transferred from Newmont's Perth based Regional Exploration Group to Newmont Tanami Operations.

*In 2008, NTO's primary focus was to develop an applicable geological model based on observations made within the Callie mineralised system. A broad scale geophysical interpretation was undertaken in order to generate an appropriate structural and stratigraphic framework within which to apply the mineralising model and generate strong conceptual targets.*

A total of 20 target areas were reviewed within the context of the Callie model, with two areas selected for drill testing in 2009.

Drill testing was incomplete in 2009, through operational pressures and loss of drilling equipment leading to termination of drilling at Oberon. The 2009 programme was deferred for completion in 2010; outcomes are detailed in this report.

In addition to completion of drilling as initially targeted in 2008, 2010 saw the introduction of a further two targets for testing in 2011.

## 10. GEOLOGY

The Proterozoic Granites-Tanami Inlier is located about 600km NW of Alice Springs, in the Northern Territory and forms part of the broader Northern Australian Orogenic Province (Plumb, 1990). The Inlier underlies, and is bounded by, the Palaeozoic Canning, Neoproterozoic Wiso and Palaeoproterozoic Victoria River Basins to the west, east and north respectively. The Arunta Complex lies to the south and may represent a continuation of the Halls Creek Orogen in Western Australia (Hendrickx, et al, 2000). To the northwest, clastic sediments of the Middle Proterozoic Birrindudu Basin overlie and separate the Inlier from the similar age rocks in the Halls Creek Province.

The oldest rocks of the Tanami region belong to the Billabong Complex, a suite of Archaean age gneiss and schist. This is unconformably overlain by the basal Proterozoic sequence known as the MacFarlanes Peak Group dominated by mafic volcanic and volcanoclastic rocks suggestive of a rift setting. The MacFarlanes Peak Group has a maximum age of deposition of



1880 Ma. This is followed by a thick, possibly disconformable succession of clastic sediments making up the Tanami Group representative of a passive margin sequence. (Hendrickx et al, 2000). The Tanami Mine Group is subdivided into a thin basal meta-quartzite, the lower Tanami Group (Dead Bullock Formation) made up of carbonaceous siltstone, BIF's and calc-silicates and an upper sequence of turbidites (Killi Killi Formation). A suite of pre-to syndeformation dolerites and gabbros are found intruding both the MacFarlane Peak and Tanami Groups.

Complex, polyphase deformation during the Tanami Orogeny (1845-1835 Ma) has affected the entire Inlier (Vandenberg et al., 2001). Peak regional metamorphism during the Tanami Orogeny reached amphibolite facies, but is more generally greenschist facies through the Inlier. Contact metamorphic aureoles are well developed at the margins of granite plutons emplaced throughout deformation. Formation of molasse during the Tanami Orogeny occupies a small syn-orogenic subbasin to the west of the inlier (Pargee Sandstone).

A period of crustal extension ( $\approx$ 1830Ma) followed the Tanami Event; this resulted in the deposition of basalt and turbiditic volcanics in an inferred failed rift (Mt Charles formation) along with high level granite intrusion and felsic volcanism from  $\approx$ 1830-1800Ma (Dean, 2001). At least three suites of granitic intrusives and two volcanic complexes are present. The last intrusion of (undeformed) granite occurred at around 1805 – 1790Ma, with intrusion of The Granites Suite (Dean, 2001).

Residual hills of gently folded Birrindudu Group siliciclastics unconformably overlie early Proterozoic lithologies and provide platform cover sequences. Younger flat lying Cambrian Antrim Plateau Basalts are also preserved in areas protected from erosional stripping.

Tertiary drainage channels, now completely filled with alluvial sediment, lacustrine clays and calcrete are a major feature of the region. Some drainage profiles exceed 10 km wide, 100m depth, presenting a formidable barrier to mineral exploration.

A desert terrain comprising transported and residual colluvial cover sediments and aeolian sand blanket a large portion of the Inlier, with an estimated outcrop exposure of less than 10% of the early Proterozoic lithological units. Gold mineralisation within the Tanami is dominantly hosted by the Tanami Group and Mt Charles Formation, though mineralisation has been recorded in all Proterozoic units older than the Birrindudu Group cover sequences. Owing to their more resistant nature, only the cherts and iron-formations and associated interbedded graphitic schists tend to outcrop above the sand plain.

## 11. PREVIOUS EXPLORATION

Where relevant, exploration summaries are given below. Details are available in earlier Annual Exploration Reports.

## 12. WORK CARRIED OUT

### 12.1 Ongoing Prospectivity Review

The model for ongoing exploration within the Tanami Exploration Agreement tenure looks to target Callie Laminated Bed (CLB) and Auron Bed (AB) stratigraphic positions within antiform hinge positions. CLB and AB rocks, and to a lesser extent Orac Formation and Schist Hills Iron Member (SHIM) rocks, represent reactive host units; thus identification of a mineralising structure is also required. In the Callie mineralised system, mineralisation is commonly spatially associated with axial planar faulting in fold hinges. Offset on these faults is in the order of 10's of metres and is typically reverse. It is clear that the largest volumes of higher grade mineralisation occur within the CLB within the fold axial plane.

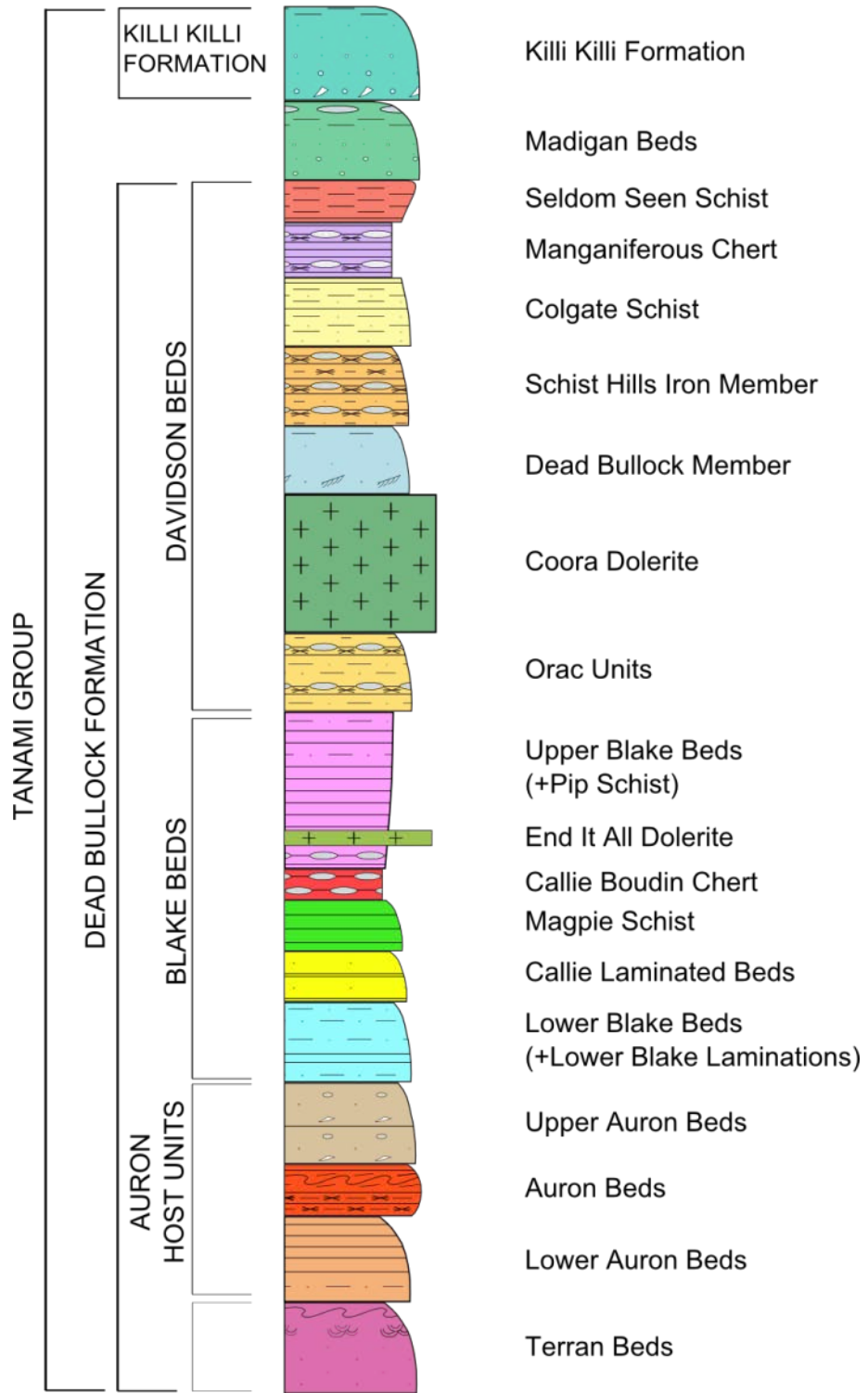
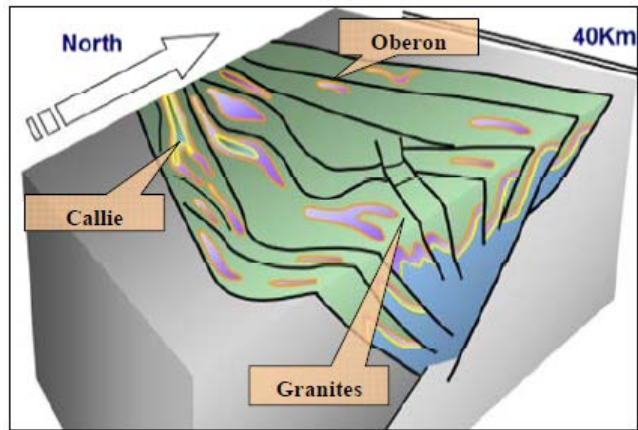
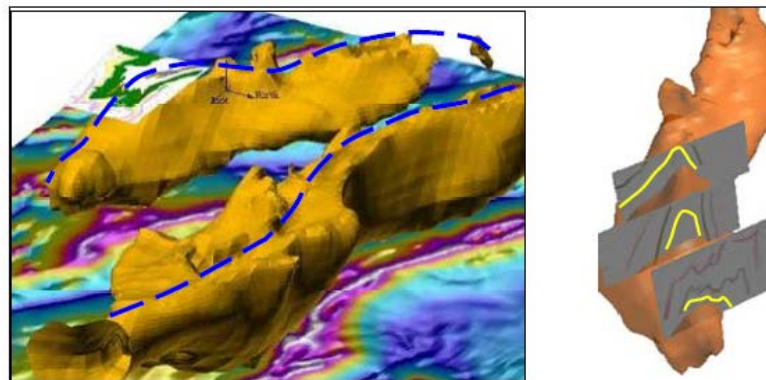


Figure 2: Dead Bullock Soak Simplified Stratigraphic Column



**Figure 3: Regional structural model**

Yellow and orange lines represent Callie Laminated Beds and Orac Formation target stratigraphic positions respectively. Green is Killi Killi Formation cover, purple is Upper Blake Beds, blue is Lower Blake Beds, and grey is Basement.



**Figure 4: DBS interpreted magnetic model**

Image on Left: View is above; from NW. Backdrop is Phase Filtered aeromagnetics. Overlay is interpretation / fact geology for the Callie Pit area. Blue lines are F1 fold axes from 2008 interpretation. Red line shows the Callie Mineralised position. Image on right: View is above from ESE, showing modelled body and three known sections from Callie. CLB is shown in yellow, Orac in khaki and SHIM in pink. Position of modelled body relative to CLB indicates Auron.

In 2010, prospectivity assessment continued, buoyed by strong results from initial drilling at Oberon. Following the selection rationale for Oberon (prioritising targets with favourable lithology and robust geochemical footprints), Minotaur and The Granites areas were chosen for advancement.

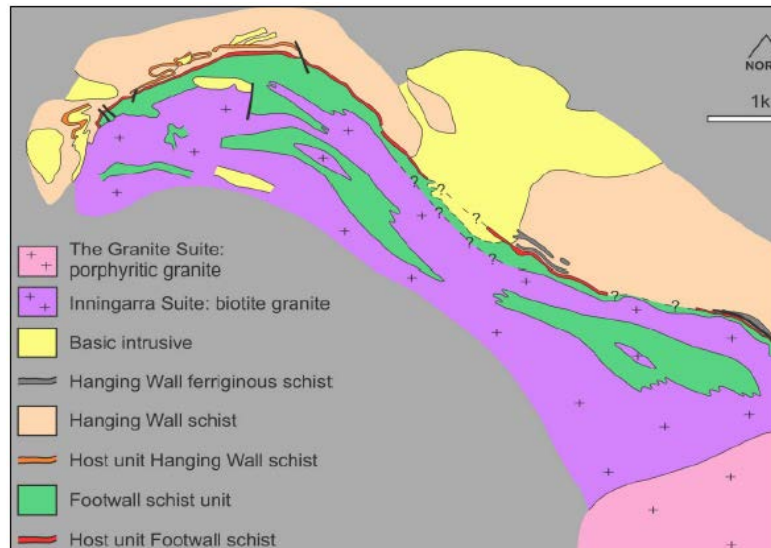
#### **12.1.1 EL 4529 - The Granites South**

Initial review of the immediate Granites area, in 2008, did not suggest strong potential remained in the area. During 2010, the area was again reviewed, following a request to initiate a sterilization programme ahead of plans to construct a tailings storage facility in The Granites area.

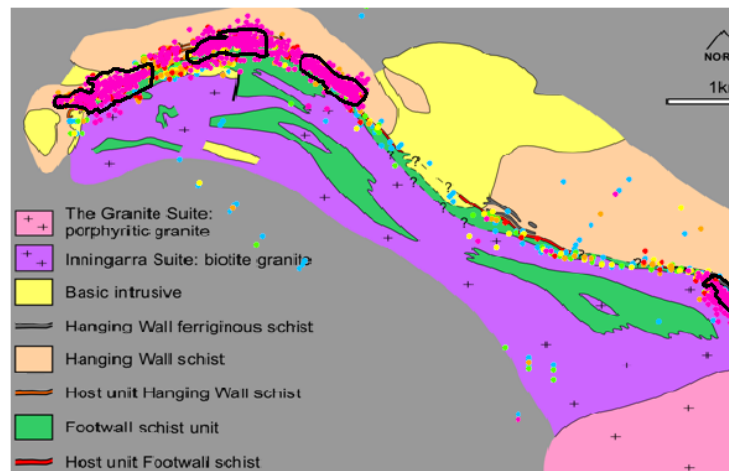
In the 2010 review, inconsistencies in historic geological interpretation, the likelihood of stratigraphic lateral equivalence between iron rich host units at The Granites and at Callie (supported by Minotaur and Oberon work), and the observation of a weak, linear, laterally

extensive geochemical anomaly saw the prospectivity of the project progress to the front of the pipeline as such drilling was planned for early 2011.

The drilling of one of the proposed target locations commenced in 2011, however the hole was stopped before completion due to operational requirements. Further assessment of the target is still to take place with the completion of GRD0001 planned for 2012.



**Figure 5: Historic geology interpretation, The Granites.**



**Figure 6: Historic geology interpretation and drilling anomalism, The Granites.**

### 13. SEL 23662 – Cave Hills

#### 13.1 INTRODUCTION

The Cave Hills SEL is centered approximately 50km northwest of The Granites Gold Mine. It is readily accessible via roads and tracks leading from the Tanami Road, which bisects the license. In March 2003, SEL 23662 replaced 157 sub blocks of EL2370 and 1 sub block of EL8802, both of which were previously held by Newmont Exploration.

In 2004 an interpretation of ASTER data acquired over a portion of SEL23662 was obtained from RSG Global Services. The data formed part of an orientation study to determine the effectiveness of multi-spectral imagery in mapping lithological variations, alteration associated with mineralisation and regolith variation. In summary, ASTER is a satellite mounted multi-spectral instrument that contains sensors that measure the wavelengths of energy that are

able to be reflected by minerals that occur on the surface of the earth that may be useful in relation to geological interpretation.

Also in 2004 an RC-drilling program was completed at the Titania Prospect area. Detailed results can be found in Parker, 2005 (Interim Report for Cave Hills). An evaluation of a suite of thin sections prepared from subsurface rock taken from the Titania Prospect area was undertaken by APS. The 17 sections were taken from drill chips.

A regional BLEG soil sampling (500m x 500m) program was completed to the south of the Challenger 1 Prospect area. Previous surveys at Golconda and Challenger South had defined anomalous gold values within interpreted transported regolith. Further sampling was conducted toward the end of the reporting period to determine if the source of the elevated gold values lay to the west of the Challenger Prospect area and to the north of the Golconda Prospect. Results were received after the reporting period and were included in the 2005 report.

### **13.1.1 EXPLORATION ACTIVITY DURING 2009**

Following recommendations made in 2008, a programme of 3 holes, each of a nominal 900m depth, was approved for completion at Oberon in 2009. Drilling of the first hole at Oberon, TID0064 was initiated in May (25th) and terminated, at 703m, in June (12th) following bogging of the rod string, specifically the oversized back-reamer, while tripping out of the hole. The barrel assembly was caught in a broad fault zone around 580m – 600m, which reacted to hydraulic over-pressuring and closing in on the rod string.

In May, the Jenna mineralised position was confirmed beneath Callie. Operational pressures dictated that drilling resources were to be re-allocated to this target, and no further drilling was completed at Oberon in 2009

### **13.1.2 EXPLORATION ACTIVITY DURING 2010**

#### **Diamond Drilling - Oberon**

##### ***Background***

Oberon was selected as a high rank target based on a favorable geochemical footprint (~420Koz AU in Resource / Reserve) and recently interpreted stratigraphic equivalence to the Orac Formation / Schist Hills Iron Member units that host mineralisation at the Villa, Dead Bullock Ridge and Triumph / Colliewobble pits at Dead Bullock Soak.

Following a re-logging program based on interpreted equivalence to the Callie stratigraphy, and an exercise attempting to gauge potential stratigraphic thickness at Oberon, three drill targets were defined in late 2008. Partial completion of the initial hole (TID0064) in 2009 indicated that the stratigraphic equivalence was a valid hypothesis, but that initial structural interpretations were perhaps inadequate.

Assay results in 2009, including 1m @ 17.5ppm Au, supported the exploration model, and completion of the program (with modifications based on the outcomes of TID0064) was approved for 2010.

##### ***2010 Programme Outcomes***

Hole TID0065 was completed to effectively replace hole TID0064, having a slightly shallower collar dip to allow better lateral coverage to the south and to better test an apparent slight southern dip to the host structure at Oberon. Drilling commenced in late April and was completed in late May for a total of 897.8m. The hole was drilled to design depth and was an effective test of the target.

Following receipt of favorable assays from TID0065 drilling commenced to complete the remaining two proposed holes. TID0066 and TID0067 were drilled in succession; drilled during

the month of October, TID0066 was completed at a depth of 916m. This drillhole was similarly drilled to planned depth and is an effective test of the target position. Drilling of TID0067 was suspended, at 518.6m, in mid-November following the onset of the wet season rains. In late October, a second drill was mobilised to Oberon. By mid-November TID0068 had been completed to 459.4m, and was suspended in line with hole TID0067.

**Table 2: Drilling Metrics, Oberon 2010**

Plan Hole ID	Hole ID	Hole Type	Target	Depth	Start	End
PTID0065	TID0065	Diamond	Oberon Deeps	897.8	24-Apr-10	24-May-10
OBPD0002	TID0066	Diamond	Oberon Deeps	916	3-Oct-10	27-Oct-10
OBPD0003	TID0067	Diamond	Oberon Deeps	518.6	28-Oct-10	15-Nov-10
OBPD0004	TID0068	Diamond	Oberon Deeps	459.4	31-Oct-10	15-Nov-10

### 13.1.3 EXPLORATION ACTIVITY DURING 2011

Fourteen holes were initially planned to be drilled at Oberon in 2011. Due to weather restrictions and drill rig availability the campaign was not commenced until late in July. At the end of 2011 5 drill holes reached completion depth and four holes had commenced drilling. Table 3 summarizes the Drill holes that were planned for 2011; it indicates which were completed, commenced or to be drilled (TBD).

**Table 3: Drilling Metrics, Oberon 2011**

Plan Hole ID	Hole ID	Hole Type	Easting	Northing	Completed / Commenced / Planned for 2011
OBPD003	TID0067	Diamond	603 575	7 756 935	Completed
OBPD004	TID0068	Diamond	603 342	7 756 948	Completed
OBPD005	TID0069	Diamond	603 342	7 756 948	Completed
OBPD006	TID0069D1	Diamond	603 342	7 756 948	Completed
OBPD007	TID0073	Diamond	603 342	7 756 948	Commenced
OBPD008		Diamond	603 175	7 757 050	TBD 2011/2012
OBPD009	TID0074	Diamond	603 175	7 757 050	Commenced
OBPD010	TID0070	Diamond	603 175	7 757 050	Completed
OBPD011	TID0071	Diamond	603 575	7 756 935	Commenced
OBPD012		Diamond	603 575	7 756 935	TBD 2011/2012
OBPD013		Diamond	603 575	7 756 935	TBD 2011/2012
OBPD014	TID0072	Diamond	603 288	7 756 260	Commenced
OBPD015		Diamond	603 288	7 756 260	TBD 2011/2012
OBPD016		Diamond	603 288	7 756 260	TBD 2011/2012

The drilling primarily focused beneath the original interpreted open pit reserve, targeting favorable units in a lower stratigraphic position. Three sections, 200m spaced were drilled with an array of holes that were anticipated to give a better understanding on the structural controls on mineralisation and scope into how deep the mineralised position extended. Drilling was very slow on all sections due to upright faulting along lithological contacts that created very broken and wedgy ground.

It was decided to focus drilling attention on the discovery section as the vertical extent of mineralisation remained open with each subsequent hole. Drilling was again halted during the latter part of the year due to safety concerns regarding transportation and logistical support of the drill rigs during the wet season.

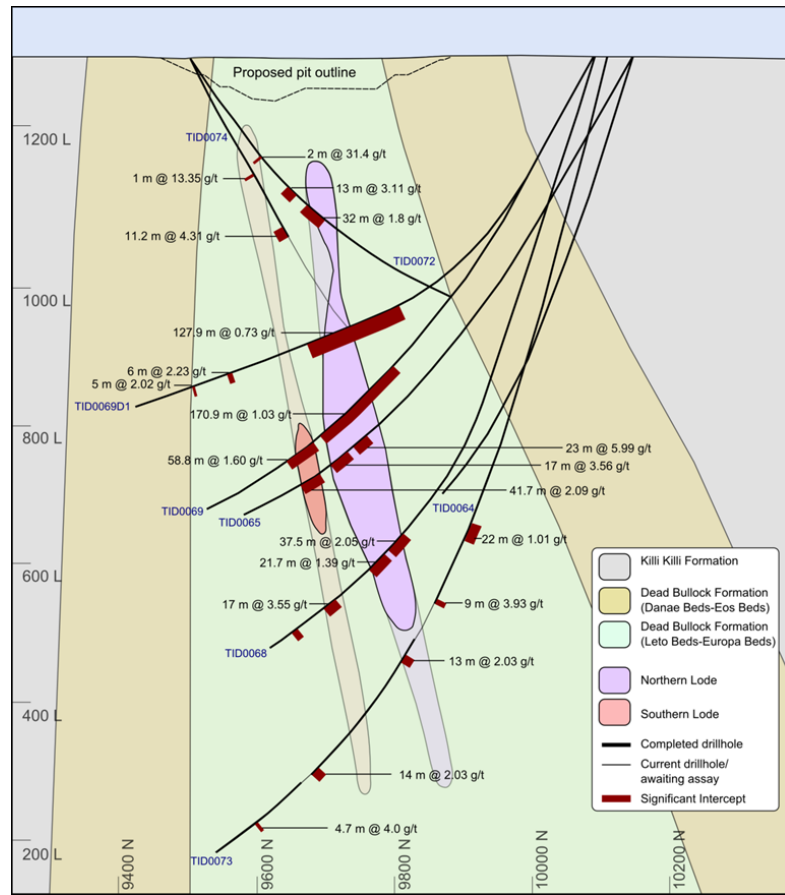


Figure 7: 21400mE Discovery Section, Oberon

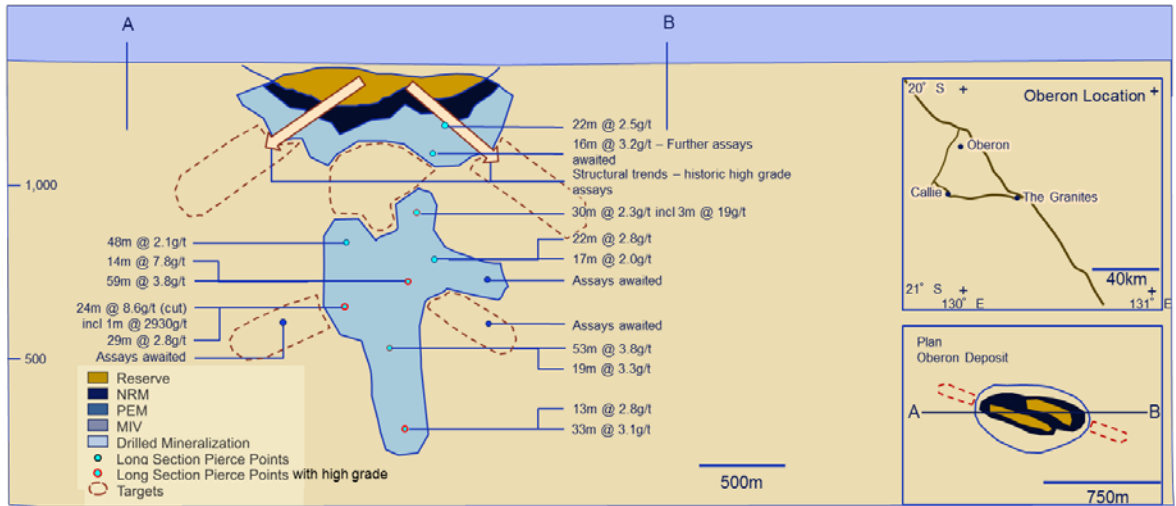
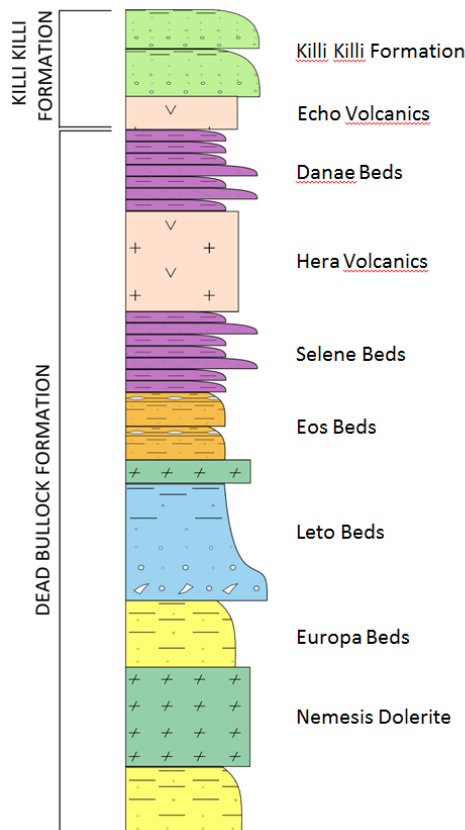


Figure 8: Results and interpreted high grade zones within deposit

The interpretation and understanding of stratigraphy was a major focus for the work completed in 2011. Extensive sedimentary logging was undertaken to identify features and characteristics of the lithologies at Oberon. It is recognized that structural control plays a major role in the distribution of mineralisation at Oberon but preferential host units with similar chemistry at DBS are considered to play an integral role. It has been recognised that the majority of high grade mineralisation at this early stage of interpretation is hosted within the Leto and Europa beds with a wide low grade gold distribution within the Nemesis Dolerite.

A more in depth petrological study is planned for 2012 which will hopefully unlock a greater understanding of the mineralised target zones.



**Figure 9: Oberon Stratigraphic Column**

### **Further Work**

Follow up drilling will continue in 2012 at Oberon with planned drilling to better understand the strike extent of the deposit and further investigation into the vertical extent of the mineralised zone. While drilling will predominately be the focus of exploration activity, it is anticipated that geophysical data gathering will also occur which may include a ground EM/IP survey.

## **14. EL 2367 – Schist Hills**

### **14.1 INTRODUCTION**

The Schist Hills exploration license (EL2367) is centrally located within the company's Tanami tenement holding centred 20km west of The Granites (MLS8) and completely enclosing the Dead Bullock Soak mining lease (MLS154).

Gold was originally discovered in the Schist Hills region by the explorer Davidson at the turn of the century. Normandy NFM commenced work in the area in 1988 with a reconnaissance laterite sampling program, using a vacuum drill rig to sample on a 2km triangular grid. This initial exploration led to the identification of Dead Bullock Soak, and later in the year, economic grades of gold were intersected in several RC drillholes. Nine individual gold resources have been delineated in the area, including the +5 million ounce Au Callie deposit, and these currently support the largest gold mining operation in the Northern Territory.

During 1996, exploration work on EL2367 was confined to prospect evaluation at Anomaly 2, Madam Pele and Inspiration Peak/Symington. During 1997 most of the license (except for the southern end) was sampled by regional-scale lag and CRC sampling, and some further



investigation was undertaken at Anomaly 2. No new prospects emerged from this program of work.

During 1998, exploration focused on completing surface sampling of the southern portion of the tenement (begun in 1997) using regional-scale lag and CRC sampling. Other exploration included RAB drilling, soil sampling and a ground magnetic survey at Anomaly 9 and a soil sampling program at the Magellan 2 anomaly.

During 1999 work was conducted at Anomaly 9, Inspiration Peak, Magellan 1, Magellan 2, Madam Margi, Revelation Ridge and some limited reconnaissance work.

For the 2000 field season work focused on the Madam Margi prospect area with aircore drilling and ground magnetic traverses in two areas of deeper cover.

Work during the 2001 field season was based around the collection and subsequent interpretation of a detailed airborne magnetics survey that encompassed the areas cover by the Schist Hills, Hordern Hills and The Window exploration licenses. Based on the interpretation of this data, conceptual targets for the occurrence of gold mineralisation based upon a new interpretation of geology and structure were determined for the Symington, Neverest, Magellan 2, Madam Margi, Razorback Spur and Revelation Ridge prospect areas, located within Schist Hills EL2367. As a consequence, soil sampling surveys, RAB/Aircore drilling, RC drilling, or diamond drilling programs were planned for these particular prospect areas in an effort to garner evidence for these new interpretations.

Work in the 2002 season was mainly based around interpretation of structure and stratigraphy from the 2001 aeromagnetic survey. Diamond and RC drilling was undertaken at Anomaly 2 and Magellan 2. Prospect scale RAB drilling was used at Magellan 1 and regional / stratigraphic RAB was used along the DBS to Magellan 2 trend. VAC drilling was used to collect geochemical samples at the Anomaly 9 prospect. A large program of surface sampling was planned, and mostly completed, covering interpreted prospective geology to generate targets for the 2003 field season.

Work in the 2003 field season focused on fewer high priority targets with 70% of the budget for 2003 allocated to 4 main target areas within 20km of the Callie and Granites operations – Callie Trend, Anomaly 2 Trend, Symington Trend and Grimwade Trend.

The focus of exploration in 2004 continued to be on higher priority targets within the Callie, Anomaly 2, Symington and Grimwade Trends.

In 2005 A RAB and aircore drill programme was conducted to test a broad area of anomalous to highly anomalous BLEG A and BLEG T values occurring over interpreted Blake-Davidson stratigraphic equivalents was finalised. The aim was the discovery of a near surface oxide deposit for the Granites Mill or a Callie style deposit within folded variably magnetic metasediments. A proposed drilling programme was to comprise approximately 3750m and would test approximately 2km of interpreted stratigraphy at a nominal drill density of 400 x 100m to a depth of 50m. This drilling program did deviate however from the original plan due to the lithologies that were intercepted. In the majority of drill holes, fresh bedrock was reached within 5m of ground surface. It was for this reason that most of the holes were not drilled to the proposed depth and were pulled short once a significant bedrock sample had been obtained.

A 'wild cat' drill hole was included in the program to obtain lithology information relating to a magnetic high located to the north (~400m) of the scheduled drill program. Previous drilling interpreted this magnetic high to be dolerite. However sediments were encountered in this hole. The deepest hole drilled in the program was GRAC0029 which was drilled to 74m

located within the centre of the magnetic high. A fine grained sericitic schist unit (Davison) was encountered.

#### 14.1.1 EXPLORATION ACTIVITY DURING 2009

A total of five diamond drillholes were completed at Pegasus, for an aggregate of 1005.1m of HQ core.

#### 14.1.2 EXPLORATION ACTIVITY DURING 2010

A single drill hole was completed at the Callie NW target, for 481m of diamond core.

#### 14.1.3 Diamond Drilling – Callie NW

##### **Background**

Along with Oberon, Callie NW was initially proposed for first pass drill testing in 2008. A programme of 3 drill holes was approved for the 2009 budget year; however permitting issues and the demands of the high priority Auron drill programme had a dramatic impact on the Callie NW programme.

Drilling was again budgeted for in 2010, and the first of the three holes was completed. The collar position of the proposed hole had been designed based on historic interpretive geology and existing upward-continued / extrapolated geology boundaries from the Callie mine.

Patchy drilling has been completed to the northwest of the Callie open pit. At Gahn West, a series of shallow reverse circulation holes reveal a shallow cluster of near ore grade intersections. A relative deep diamond drill hole was completed well south of the main Callie anticline trend, yet returned a single significant intersection of 1m @ 48ppm Au. Two lines of TEM were completed by Geoscience Australia in 2007, and show a near linear weak conductor that may represent the Auron Beds.

##### **2010 Programme Outcomes**

Hole CND0001 was completed to a depth of 481.1m against a plan of 500m. The intersected a considerable zone of Auron Beds lithologies, having traversed through the Callie Boudin Chert, Magpie Schist, Callie Laminated Beds and the Lower Blake beds on the southern limb of the Callie Anticline.

Drilling was completed on an orientation consistent with drilling in the main Callie ore zone (from south to north on a magnetic azimuth close to 360°). This drilling orientation is likely less than optimal, given the change in strike of the Callie anticline immediately west of the Gahn deposit.

Minimal veining was noted in the Auron and Callie positions, and assay results reflected this. There were also significant mineralogical differences between Auron Beds lithologies in the Callie NW drilling when compared to Auron Beds lithologies observed within the Callie Mine area. Biotite was common in CND0001, and pyrrhotite dominated over magnetite.

**Table 4: Drilling metrics, Callie NW 2010**

Plan Hole ID	Hole ID	Hole Type	Target	Depth	Start	End
CNW001	CND0001	Diamond	Auron Up Plunge	481.1	22-Mar-10	30-Mar-10

##### **Interpretation**

The presence of favourable stratigraphy at depth to the west of Callie provides significant scope to define future drill targets. Recent structural studies suggest that the Callie stratigraphy is down faulted on the western, footwall, side of the Soolin and Servalan faults, allowing for the continuation of the stratigraphy west of the Callie pit.

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Analysis of airborne magnetic data shows that the hinge of the Callie Anticlinorium is relatively flat lying west of the Callie Pit and that it gradually increases in northwesterly plunge, with a fold closure indicated approximately 12km northwest of Callie. It is reasonable to assume that approximately 13km of prospective folded stratigraphy lies close to the surface through this trend.

Historic RAB drilling shows scattered gold anomalism along the trend; however it is unlikely that prospective horizons have been effectively tested by this drilling (completed prior to the definition of the Callie system).

***Further Work***

No further work took place in 2011 and none is planned for 2012, extensional drilling of the Auron units is planned up plunge and considered warranted, however appraisal of a more effective drill platform will be undertaken once a more extensive and more tightly constrained magnetic model has been completed for the greater Callie Anticlinorium.

Un-mineralised Auron Bed and Callie Laminated Bed materials will be utilised in an upcoming study investigating the metasomatic / alteration effects of mineralisation on Fe oxidation state and mica – amphibole chemistry.

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## 16. BIBLIOGRAPHIC DATA SHEET

<b>PROJECT</b>	Tanami Exploration Project	
<b>TENEMENTS</b>	EL2367, EL4529 and SEL23662	
<b>TENEMENT OPERATOR/HOLDER</b>	Newmont Tanami Pty Ltd	
<b>REPORT TITLE</b>	Seventh Annual Report for the Tanami Exploration Agreement	
<b>REPORT PERIOD</b>	1 <sup>st</sup> January to 31 <sup>st</sup> December 2011	
<b>AUTHOR(S)</b>	M. Green,	
<b>DATE OF REPORT</b>	31 <sup>st</sup> May 2012	
<b>1:250 000 SHEET</b>	The Granites	SF52-03
	Mount Solitaire	SF52-04
	Tanami	SE51-15
<b>1:100 000 SHEET</b>	Inningarra	4856
	Frankenia	4857
	Ptilotus	4957
	Granites	4956
	Davidson	5057
<b>TARGET COMMODITY</b>	Gold	
<b>KEYWORDS</b>	Prospectivity review, field assessments, environmental monitoring bore drilling, whole rock geochemical sampling	
<b>PROSPECTS DRILLED</b>	Oberon, Callie, Granites	
<b>ABSTRACT</b>	<b>Location:</b>	600km NW of Alice Springs, NT
	<b>Geology:</b>	Archaean gneiss and schist overlain by Proterozoic MacFarlanes Peak Group, Proterozoic Granites-Tanami Inlier
	<b>Work done:</b>	Ongoing review of regional prospectivity, water bore drillhole sampling, diamond drilling
	<b>Results:</b>	Drilling has defined a broad medium grade gold mineralised system to a depth of 200m over a 200m strike length
	<b>Conclusions:</b>	Further work is recommended to validate the exploration model and enable better understanding of the stratigraphic/structural settings and controls of the Oberon and Callie systems.

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## 17. APPENDICES

Appendix 1. Drill Rig Details, Sampling Methods and Analytical Techniques

Appendix 2. Digital Data

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**18. VERIFICATION LISTING**

<b>Exploration Work Type</b>	<b>Filename</b>	<b>Format</b>
<b>Office Studies</b>		
Literature search		
Database compilation		
Computer modelling		
Reprocessing of data		
General research		
Report preparation	TEA_2011_A_01_ReportBody	pdf
Other (specify)		
<b>Airborne Exploration Surveys</b>		
Aeromagnetics		
Radiometrics		
Electromagnetics		
Gravity		
Digital terrain modelling		
Other (specify)		
<b>Remote Sensing</b>		
Aerial photography		
LANDSAT		
SPOT		
MSS		
Radar		
Other (specify)		
<b>Ground Exploration Surveys</b>		
<b>Geological Mapping</b>		
Regional		
Reconnaissance		
Prospect		
Underground		
Costean		
<b>Ground geophysics</b>		
Radiometrics		
Magnetics		
Gravity		
Digital terrain modelling		
Electromagnetics		
SP/AP/EP		
IP		
AMT		
Resistivity		
Complex resistivity		
Seismic reflection		
Seismic refraction		
Well logging		
Geophysical interpretation		
Other (specify)		
<b>Geochemical Surveying</b>		
Drill sampling		
Surface sampling		
Other (specify)		
<b>Drilling</b>		
All drilling		
<b>File Verification Listing</b> (this file)	TEA_OBE-GRS 2011_A_02_Collars TEA_OBE-GRS 2011_A_03_DH_Geochemistry TEA_OBE-GRS 2011_A_04_DH_Survey TEA_OBE-GRS 2011_A_05_DH_Geology TEA_OBE-GRS 2011_A_06_DH_Structures TEA_OBE-GRS 2011_A_07_DH_Veins	.txt



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## Appendix 1 – DRILL RIG DETAILS, SAMPLING METHODS AND ANALYTICAL TECHNIQUES

### Drilling

Surface Diamond Drill holes were completed by Major Drilling using a UDR1200 drilling Rig. Sanderson Drilling also completed drilling using a Sandvik KL900 and a Hyco 1200H. We plan to cap all holes on completion with the hole number recorded on the plastic cap. Permanent rehabilitation is undertaken only when all possible re-entry is finalised. This is achieved by the removal of the protruding collar and insertion of a plastic plug 0.3m below ground. The cavity is back filled and mounded. The hole number is inscribed on a wooden peg, positioned adjacent to the plug. All drill hole collars are accurately located by company surveyors utilising theodolite/EDM equipment

### Sampling

Diamond core in all areas where mineralisation is deemed reasonably likely is either half core or whole core sampled at nominal 1.0m intervals. This interval is adjusted where necessary to conform to lithological boundaries. The sampling intervals are clearly documented in the drill hole logs (Appendix 2, Digital Data).

### Assay

All diamond core is sent to ALS Chemex in Alice Springs for preparation then shipped to ALS Chemex in Perth for gold analysis. Samples are prepared by crushing all the core in a jaw crusher then the entire sample is pulverised by an LM5. The pulps are then routinely assayed by fire assay (method Au-AA26 -50g charge). Select samples were sent for additional fire assay. Some holes were assayed for a multi-element suite by ICP-AES following Aqua Regia Digest

## Appendix 2 – DIGITAL DATA (see attached files)

**Digital Data:** Drill logs and summary of drill holes (MS Excel Files)

OBE-GRS 2012 Collars

OBE-GRS 2012 Geology

OBE-GRS 2012 Structures

OBE-GRS 2012 Survey

OBE-GRS 2012 Veins