

# GROUP ANNUAL REPORT

For

# BLUEBUSH PROJECT GR 479

EXPLORATION LICENCES EL23659, 24436, 26610, 27127 28327, 31288, 31290, 31291

From 1 February 2017 to 31 January 2018

And ELs **27119 & 27589**, From 23 August 2016 to 31 January 2018

And EL 29860 From 14 September 2016 to 31 January 2018

Holder Australian Tenement Holdings Pty Ltd and

ABM Resources NL ABM Resources NL

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Target Commodity Gold

Datum/Zone GDA94/ MGA Zone 52

250,000 mapsheet Tanami SE 52-15, The Granites SF 52-03 100,000 mapsheet McFarlane 4757, Pargee 4758, Frankenia 4857

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GR479\_2018\_GA\_38.pdf

FILE	DESCRIPTION
GR479_2018_GA_01_DHCollars GR479_2018_GA_02_DHMetaData GR479_2018_GA_03_DHLithology GR479_2018_GA_04_DHAssay	Drill hole location data Drill Hole technical data Down Hole lithology Down Hole assay results
GR479_2018_GA_05_DHSamp GR479_2018_GA_06_DHSampQC	Down Hole sampling details  Down Hole quality control sampling
GR479_2018_GA_07_DHMagsusc GR479_2018_GA_08_DHMinerals	Down Hole magnetic susceptibility  Down Hole minerals
GR479_2018_GA_09_DHSurv GR479_2018_GA_10_DHAlteration	Down Hole survey data  Down Hole alteration
GR479_2018_GA_11_DHRegolith GR479_2018_GA_12_DHStruc GR479_2018_GA_13_DHVein	Down Hole regolith data  Down Hole structural details  Down Hole veining
GR479_2018_GA_14_DH_XRF GR479_2018_GA_15_Ssample	Down hole XRF results Surface sampling type, location,
GR479_2018_GA_16_SSAssay	description Surface sampling type, location, assay
GR479_2018_GA_17_StandardSamp GR479_2018_GA_18_LIBAltCode	results Standard Sample Alteration codes
GR479_2018_GA_19_LIBLithCode GR479_2018_GA_20_LIBMinerals	Lithology codes Mineral codes
GR479_2018_GA_21_LIBVeinType GR479_2018_GA_22_LIBStrucCode	Vein type codes Structural codes
GR479_2018_GA_23_LIBRegolithCode GR479_2018_GA_24_LIBGeotWeathering GR479_2018_GA_25_LIBStratigraphy	Regolith type codes Weathering type codes Stratigraphy codes
GR479_2018_GA_26_LIBLithPh GR479_2018_GA_27_LIBLithTexture	Grain size range codes Texture codes
GR479_2018_GA_28_LIBLithFabric GR479_2018_GA_29_LIBLithGrainsize	Fabric codes Grainsize codes
GR479_2018_GA_30_LIBIntensityAlt GR479_2018_GA_31_LIBAltStyle GR479_2018_GA_32_LIBMinStyle	Intensity of Alteration codes Style of Alteration codes Style of Mineralisation codes
GR479_2018_GA_33_LIBVeinComp GR479_2018_GA_34_LIBVeinText	Vein Composition codes Vein Texture codes
GR479_2018_GA_35_LIBRegOvpt GR479_2018_GA_36_LIBStrucCategory GR479_2018_GA_37_LIBStrucIntensity	Regolith Overprint codes Structural Category codes Structural Intensity codes
EL27589_2018_GA_24_SSAssay	Late filing for 2016 Surface sampling type, location, assay results
EL27589_2018_GA_25_Ssample	Late filing for 2016 Surface sampling type, location, description

Group annual report

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## 1.0 ABSTRACT

The Bluebush project is located approximately 800km NW of Alice Springs near the border to Western Australia (**Figure 1**). Tenements are registered to Australian Tenement Holdings Pty Ltd (ATH), a wholly owned subsidiary of ABM Resources NL (ABM), a publicly listed company, and ABM directly. ABM is exploring the tenements for gold mineralisation.

The Bluebush project currently comprises 11 Exploration Licences - EL23659, 24436, 26610, 27127, 28327, 31288, 31290, 31291, 27119, 27589 and 29860.

In January 2018 a decision was made to split the Bonanza project into two separate reporting groups in line with changes in ABM's geological model. In February 2018 ABM's application to establish a new group status for 11 of the Bonanza project GR164 tenements was approved. For the newly formed group GR 479 named the Bluebush project the reporting period was kept as before 1 February 2017 to 31 January 2018.

In 2017 ABM's exploration strategy concentrated on areas dominated by Dead Bullock Formation and folding and faulting complexity as highlighted in ABM's 2016 prospectivity study.

Exploration during the year included 340 surface samples and 159 Aircore holes for 8474m.

The surface samples plus the 159 2017 AC EOH samples were used in a (when writing this report) work in progress lithogeochemistry study in partnership with the CSIRO resulting in a geological map showing combined the bed rock geology and the lithogeochemistry (**Figure 2**).

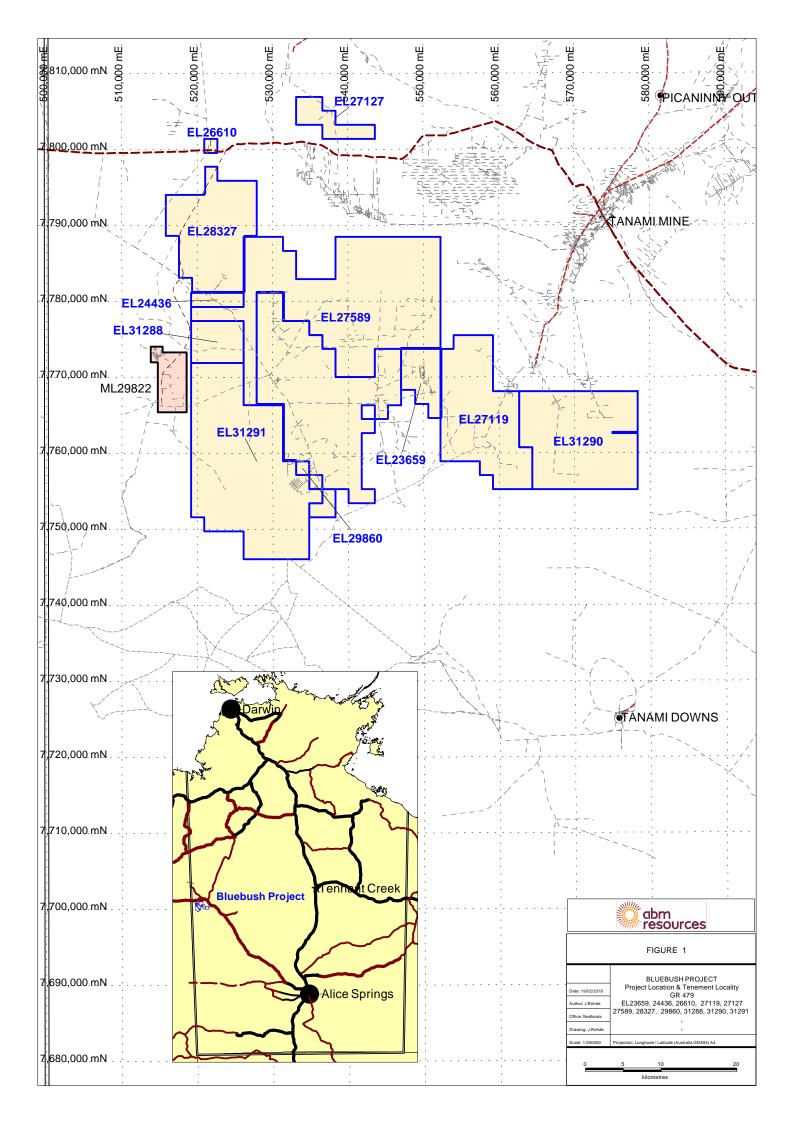
Significant first pass reconnaissance drilling results were received at the northern end of the Capstan prospect area (EL31291). An 8km long anomalous zone was delineated and should be tested with a combination of RAB/AC drilling and RC drilling. The anomalous results included 6m @ 248 ppb Au from 39m (BL0003), 39m @ 24ppb Au from 21m including 3m at 92ppb from 42m (BL0019) and 15m at 32ppb Au from 42m (BL0030).

To the north of the NW- SE trending fault drilling intersected micaceous sandstones, greywackes and siltstones. To the south of the fault drilling intersected silicified siltstones, cherts and minor sandstones. The anomalous results appear to correlate with the NW- SE trending fault, which intersects the folded stratigraphy. Lithogeochemistry confirmed that Dead Bullock Formation was only intersected in the centre of the eastern most drill line (**Figure 2**). The drilling identified a significant leaching profile up to 40m depth.

The drilling over the Indefatigable (EL31291) and Wild Turkey prospect (EL27119) areas were not successful at highlighting any gold anomalous areas.

Results from the systematic soil sampling at the Syrene prospect area (EL27589) in 2016 which were not included in the 2017 Bonanza report are now included in this report. No recommendations deriving from the 2016 soil sampling at the Syrene prospect area were made.

The completion of closer spaced aeromagnetic data was proposed.



## 2.0 INTRODUCTION

The Bonanza Project is located approximately 800km NW of Alice Springs (**Figure 1**). The Project is accessible from Alice Springs via the unsealed Tanami Highway and then using station and old exploration tracks to the south. Historically, ABM Resources has focussed their work surrounding the Twin Bonanza Gold Project, which consists of the Old Pirate Gold Deposit and the Buccaneer Deposit. With the conclusion of mining in June 2016, ABM re-established itself as an exploration company and completed greenfields exploration 15 – 30 km to the east of Old Pirate.

The majority of the project area is dominated by various thicknesses of alluvial cover, the depth of which is greatest within palaeo drainage systems. Hills and ridges are common in northern and central parts of the project area and range in height from less than 30m to more than 200m above the surrounding plains. They are often steeply incised by narrow channels and creeks, which pass into outwash fans before disappearing into the surrounding sand plains. Vegetation is generally sparse, because of the arid climate and predominantly sandy soils, and consists mainly of spinifex with scattered low trees (mostly species of eucalyptus and acacia), shrubs and herbaceous plants. Few trees are taller than 8m with relatively large trees present only along creeks. There are no permanent watercourses in the region; however water apparently persists in some creeks for at least a few months following seasonal rains.

This report is the annual group report GR 479 "Bluebush" on exploration carried out on the tenements over all from 23 August 2016 to 31 January 2018.

#### 3.0 TENURE

Exploration Licences 23659, 24436, 26610, 27127, 28327, 31288, 31290 and 31291 previously formed part of the Bonanza GR164 reporting group. A decision was made to separate the Bonanza project into two separate reporting groups in line with changes in ABM's geological model.

An application was lodged seeking approval of the Bluebush reporting group covering the eight abovementioned exploration licences together with three exploration licences granted in late 2016 (ELs 27119, 27589 and 29860). The Bluebush reporting group was approved on 12 February 2018 under the reporting number GR479. In order to maintain reporting continuity for the ex Bonanza tenure, the reporting period has been set as 1 February to 31 January, the same as the Bonanza project.

Group GR479 Tenement details are listed in **Table 1** and are illustrated in **Figure 1**.

Table 1: Tenement Details

Tenement Number	Grant	Expiry	Blocks	Area km²	Comments
EL23659	03-Apr-03	19-Mar-18	12	37.36	
EL24436	19-Dec-07	18-Dec-17	4	12.90	
EL26610	03-Jan-12	02-Jan-18	1	3.23	
EL27119	23-Aug-16	22-Aug-22	53	169.61	
EL27127	03-Jan-12	02-Jan-18	9	29.07	
EL27589	23-Aug-16	22-Aug-22	111	355.16	
EL28327	03-Jan-12	02-Jan-18	45	141.13	
EL29860	14-Sep-16	13-Sep-22	5	16	
EL31288	30-Jun-16	29-Jun-18	12	38.7	Former ELs 22850 & 24344
EL31290	30-Jun-16	29-Jun-17	60	192.82	Former ELs 27124 & 27813
EL31291	30-Jun-16	29-Jun-22	180	578.22	Former ELs 25844, 26616, 27339 & 28323

## 4.0 GEOLOGY

## 4.1.1 Regional Geology

The Granites Tanami Orogen (GTO) is part of the composite Precambrian North Australian Craton (Cawood and Korsch, 2008), and is a remote, poorly exposed and relatively poorly understood terrane mainly comprised of Paleoproterozoic folded sedimentary and volcanic rocks and granitoids (Bagas, 2010, Bagas et al., 2014; Ahmad et al., 2013) (**Table 2**). The oldest rocks in the region are gneisses, schists and granitoids of the Browns Range Metamorphics (2,530 to 2,500 Ma) and Billabong Complex (ca. 2,514 Ma), which are part of the poorly exposed Archean crystalline basement.

The region consists of two major Precambrian tectonic units – the Granites-Tanami Group and the Birrindudu Basin sediments. The oldest sequence of the Tanami Group is the mostly greenschist facies metamorphic grade sedimentary and volcanic rocks of the Mt Charles Formation (ca. 1,910 Ma) in the central Tanami and the Stubbins Formation in the western Tanami. The Mt Charles formation is between 600 - 1000 metres in thickness and consists of inter-bedded basalts with various sedimentary units, but is predominantly sedimentary. The Mt Charles formation is the host of the mineralisation of the Tanami goldfield and the Tanami Mine sequence is distinctive in that it has a significant (~50%) basaltic component.

 Table 2
 Lithostratigraphic framework for the study area (ABM internal document)

Ch-i	Γ -			Antrim Plateau Volcanics	Basalt and basalt breccia; agglomerate with brecciated flow tops, minor sandstone and chert interbeds		
Cambrian	_			Redcliff Pound Group	Cross bedded and rippled quartz sandstone, minor sublithic sandstone, shale, siltstone, conglomerate, arkose and breccia		
	1,640 Ma			Coomarie Sandstone	Sublithic arenite and minor quartz arenite (thin-bedded to flaggy, showing cross-bedding and ripple marks), siltstone and shale		
Meso- proterozoic		0	Birrindudu Group	Talbot Well Formation	Stromatolitic chert, thinly bedded sublithic sandstone, laminated siltstone, shale and limestone		
	1,700 Ma	le Suite		Gardiner Sandstone	Cross bedded quartz sandstone with siltstone and shale, minor glauconitic sandstone and dolomitic sandstone, and basal conglomerate		
	_1,768 ± 14 Ma	Grimwade Suite Frederick Suite		Pargee Sandstone	Sandstone, conglomerate, siltstone; sublithic and lithic sandstone, quartz sandstone, conglomerate with jasperlitic and volcanic clasts		
	1,770 ± 15 Ma 1,790 Ma 1,824 ± 5 Ma	= " "		Mt Winnecke Formation	Quartz-lithic sandstone, granule conglomerate, dacites, rhyolites, pebbly mudstone, pebbly sandstone, brecciated rhyodacite		
	1,816 ± 7 Ma 1,821 ± 5 Ma		Ware Group	Nanny Goat Volcanics	Quartz arenite, volcanogenic sandstone, basalt; rhyolite, rhyolitic feldspar-quartz and quartz-feldspar ignimbrites.		
	1,815 Ma 1,823 ± 4Ma		wate Gloup	Century Formation	Quartz arenite, lithic arenite, cleaved siltstone, granular and pebble conglomerate		
Paleo- proterozoic	1,791 ± 66 Ma _1,800 ± 31 Ma	Birthday					Wilson Formation
	1,815 Ma 	<b>B</b>		Twigg Formation	Siltstone, sandstone and chert		
	1,821 ± 4 Ma 1,825 Ma 1,848 ± 22 Ma	**************************************	Tanami Group	Tanami Group	Killi Killi Formation	Schistose to phyllitic greywacke, siltstone and shale, minor lithic sandstone, granule conglomerate, quartzite, banded chert, basalt and dolerite.	
	1,838 ± 6 Ma 1,865 ± 12 Ma				Dead Bullock Formation Stubbins Formation	Siltstone, intercalated chert, interbedded shale, sandstone, quartzite, black shale, boudin chert, calc-silicate? (Fe-amphibolite interlayered with massive chert) and amphibolite	
	<1,910 Ma 1,913 ± 6 Ma			Mt Charles Formation	Sandstone, (± laminated) siltstone, (± pillowed) basalt, lithic pebbly greywacke, shale, mafic volcanolithic sandstone and basal quartzose sandstone		
	1,877 ± 21 Ma			MacFarlanes Peak Formation	Basalt and ( $\pm$ volcaniclastic) siltstone, greywacke and chert		
Neo-	2,504 ± 4 Ma			Browns Range Metamorphics	Meta-arkose; minor banded ironstone, siltstone, and conglomeratic calc-silicate rocks		
archean	2,514 ± 3 Ma 2,532 ± 3 Ma			Billabong Complex	Strongly foliated, upper amphibolite facies biotite gneiss and augen gneiss.		

Overlying the Mt Charles Formation are siltstones, cherts and lesser fine-grained sandstones interbedded with dolerite sills of the Dead Bullock Formation (DBFm). These are interpreted on the basis of their lithological and geochemical affinities to be laterally equivalent to the Mt Charles Formation. The DBFm is host to the world class Callie Mine at Dead Bullock Soak (DBS). Within the DBFm there are two sub-units (members); the Callie Member (which includes the Schist Hills Iron member (SHIM), Orac and Callie laminated Beds) and the Ferdies Member (which includes the lower Auron Beds). Two types of gold mineralisation have been recognised within the DBFm; Callie style mineralisation found in a series of sheeted veins with a strike of 70° and a dip of 70° to the South. The veins are characterised by coarse and readily visible gold in quartz veins typically 1 cm in width and are commonly found in discrete "vein corridors" where they intersect the favourable stratigraphic units. Villa-style mineralisation is associated to sulphides and is generally fine grained. Villa-style mineralisation is often hosted by bedding or laminations and not necessarily by veins.

Conformably overlying the Mt Charles and Dead Bullock Formations is a regionally extensive blanket of sandy turbidites of the Killi Killi Formation (KKFm). Deposition of the Killi Killi turbidites is considered by Bagas et al, (2007) to mark the transition of the Tanami Basin from a back–arc to a collisional setting. The KKFm is host to the Coyote and Old Pirate mines.

The Tanami Group is unconformably overlain by siliciclastic sedimentary and felsic volcanic rocks of the Mount Winnecke Group and Ware Group that accumulated between ca. 1,825 and 1,810 Ma, followed by regional deformation and granite plutonism of the 1,800 to 1,790 Ma Stafford Event.

The Paleoproterozoic Pargee Sandstone, which has a maximum depositional age of ca. 1,768 Ma, unconformably overlies the pre-Stafford Event stratigraphy and is in turn unconformably overlain by the Mesoproterozoic (ca. 1,600 Ma?) Birrindudu Group. The Birrindudu Basin sediments consist of arenites, siltstones, limestone, shale, sandstone, stromatolitic chert and conglomerate.

These Proterozoic rocks are overlain by the Neoproterozoic Murraba Basin and Paleozoic Canning Basin to the west, the mid-Cambrian to Ordovician Wiso Basin to the east, and subaerial Cambrian Antrim plateau flood basalt of the Cambrian Kalkarindji Province (Ahmad et al., 2013).

A structural evolution involving between three (western Tanami; Bagas et al.; 2013) and at least six (eastern Tanami; Crispe et al., 2007) deformation events have been described (**Table 3**). Regional metamorphism was typically lower to middle greenschist facies, though zones of lower and higher metamorphic grade exist locally (Huston et al., 2007).

The GTO is host to a suite of structurally controlled late tectonic orogenic gold deposits localised in and around the axes of anticlines (e.g. DBS, Coyote, Old Pirate), or by brittle to ductile strain partitioning within and around rheological heterogeneities in the rock package (e.g. The Granites, Groundrush, Tanami goldfield).

# 4.1.2 Summarized Structural History

The deformation event D1 – an E-W compression- forms the N-S F1 fold hinges. The deformation event D2 - a N-S compression-forms the domal structures and accounts for the variably plunging of the stratigraphy e.g. in the west to the south (Old Pirate), in the centre to the north (Capstan) and in the east to south (Wild Turkey).

Schematic compilation of deformation events in the Granites Tanami Orogen. Key to abbreviations: MinMineralisation events, Ign = Igneous events; Met = Metamorphic events; Tec = Tectonic setting.

D	σ <sub>1</sub>	Timing	Min	lgn	Met	Structure	Tec	Comments			
3+		From ca. 1,774 Ma						Various (Collectively designated D3+) - Limited information - Numerous late thrust faults, oblique slip faults and normal faults cutting earlier structures - Displacements along regional D3+ structures range from several hundred meters to several kilometers			
2d	<b>→</b> ← 070°-090°	To ca. 1,790 Ma						'Stafford Event' (IV): ENE-WSW- to E-W-directed shortening - N-S- to NW-SE-striking D2d faults, including oblique thrusts with a component of left-lateral movement - Gold mineralisation (ca. 1,800 to 1,795 Ma)			
2c	315°-360°		ca. 1,800 to 1,795 Ma				Continent-	'Stafford Event' (III): N.S. to NW SE directed shortening			
2b	045°-090°		_	Grimwalde & Frederick Suites: 1,825 to 1,790 Ma	Greenschist facies					continent collison (Kimberley/ NAC)	Stafford Event' (II): NE-SW- to E-W-directed shortening Open, angular NW-SE- to N-S-trending F2b folds Locally developed S2b crenulation of S1 fabric in F2b hinge regions Ware Group F2b folds are developed as N-S- to NNW-SSE-trending, open to tight, angular, upright structures
2a	290°-315°	From ca. 1,800 Ma						'Stafford Event' (I): NW-SE- to WNW-ESE-directed shortening - Local open, angular NE-SW- to NNE-SSW-trending F2a folds - Axial-planar S2a fabric crenulating pre-existing S1 fabric in F2a hinge regions			
1	<b>→</b> ←	Between ca. 1,825 Ma and 1,830 Ma		Birthday Suite: 1,825 to 1,815 Ma	Greenschist- to mid-amphibolite facies (high-T, low-P)		Continent- continent collison (Kimberley/ NAC)	'Tanami Event': E-W-directed shortening - Disharmonic, isoclinal, moderately- to steeply-plunging, N-S to NNW-SSE-, WNW-ESE- and NE-SW-trending F1 folds - Well-developed axial planar S1 cleavage and L1 stretching lineations in F1 hinge regions and parallel to F1 - Thrusts and transpressional faults mainly parallel to S1 - Gold mineralisation			
E	360°-020°	Between ca. 1,830 Ma and 1,865 Ma					Back-arc basin; rifting	Early Rifting: N-S- to NNE-SSW-directed extension - WNW-ESE-striking, S-dipping, listric, crustal-scale faults			

Later the Tanami and Mongrel Faults cut through the stratigraphy with an offset of (5 or 13 km?). The Trans - Tanami Structural Corridor (TTSC) is considered to be a prospective area to explore for gold. Approximately 50% of the Bonanza Project lies within this TTSC and the remaining tenure lies adjacent to the TTSC.

# 4.2 Local Geology

The local geology of the Bonanza Project comprises of Ware Group (~1824-1815 Ma), Tanami Group (~1865-1831 Ma), Mt Charles Formation (~1910 Ma) and younger intruding felsic and mafic units.

The western region of the Bonanza Project, **Bonanza Area**, generally consists of younger rock packages including Ware Group and Killi Killi Formation. Mapping and drilling at the Old Pirate Mine, Bandit prospect and the Casa prospect show the geology is dominated by interbedded turbiditic shales, siltstones and sandstones of the Killi Killi Formation. At the Vampire prospect approximately 15 km north-northeast of Old Pirate, Century Formation of the Ware Group lies unconformably above Killi Killi Formation. Century Formation comprises an upwards fining sequence of basal conglomerate, pebbly lithic sandstone, quartz-lithic sandstone, interbedded quartz sandstone and shale with low magnetic response. North and west of Old Pirate and overlying Century Formation in probably conformable relationship are higher magnetic response interbedded quartz sandstone, quartz lithic sandstone, greywacke and thick shales of Wilsons Formation, Ware Group.

The eastern region of the Bonanza Project, **Bluebush Area**, is generally dominated by older rock packages; Killi Killi Formation, Dead Bullock Formation, Mt Charles Formation and younger intruding felsic units. Mapping by ABM geologists in 2015 and drilling in 2017 confirmed the Capstan Prospect is a north-westerly plunging anticline of micaceous sandstones and siltstones, Killi Killi Formation, with a core of Dead Bullock Formation consisting of siltstones, chert, nodular chert and greywackes. Reconnaissance mapping at Hat and Top Hat indicate continuation of Dead Bullock Formation stratigraphy along outcrop and high aeromagnetic and gravity trends from Capstan.

North of Capstan and the Tanami Fault, the Port prospect contains interbedded coarse to fine sandstone and shale of Killi Killi Formation define north-northwest plunging fold sets. Killi Killi Formation also dominates the Wild Turkey Prospect with some minor intruding Granites. The oldest rock unit in the area is the Mt Charles Formation, which is in the eastern area.

## 5.0 PREVIOUS EXPLORATION

This chapter covers the previous exploration before the Bonanza project was split in two.

ABM's records show that a total of 1228 RAB and vacuum holes were drilled by Acacia Resources and Normandy NFM Ltd on east - west traverses on EL24344 and EL24436 previously EL7666 and EL8999 in 1996 1997 & 2002.

In <u>2010</u> due to the change of owner ship neither ATHnor ABM conducted any field exploration on the tenement. ABM reviewed and evaluated the exploration potential of the area but no on-ground exploration was conducted.

A summary work completed by ABM from **2011 to 2016** is seen in **Table 4** for surface samples and in **Table 5** for drilling. The majority of work conducted from 2011-2016 was within proximity to the Old Pirate and Buccaneer deposits.

The exploration from 2011 – 2016 is summarised in more detail in the previous annual group reports.

In addition to the work outlined in the below tables there were minor work programs conducted between 2011 and 2016 including: petrographic work conducted on EL23508, EL24436 and EL23661 in 2011. Two stream samples were collected in 2011 on EL23661. Work in 2013 involved 48 lag samples collected over EL28322. Groundwater testing was conducted with 2 groundwater bores drilled in 2015 and 2 samples were taken in 2016 on EL28322.

In 2012, mineral resource estimates, metallurgy testing and scoping studies were completed at Old Pirate and Buccaneer Prospects, on EL28322. In 2013, 2505 bulk trail mining samples were collected and 15 smaller pits were excavated at the Old Pirate and Golden Hind prospects. On 28 March 2014 the Mineral Lease 'Twin Bonanza 1' ML29822.was granted and from there on all further mining related work is being reported on the ML rather than EL28322.

**Table 4** Surface Samples collected over the GR164 tenements from 2011 – 2016.

Year	Tenement No	Soil Samples	Rock chip, Costean, Trench samples	XRF Measurements	Field Mapping
2011		190	1465		Yes
	EL22178		5		
	EL22228		8		
	EL23508		4		
	EL23661	190	1447		Yes
	EL24436		1		
2012		1884	4836		Yes
	EL28322	450	4462		Yes
	EL25194	278	7		
	EL25844		5		
	EL26616	1156	332		Yes
	EL28327		30		
2013		4359	2421		
	EL28322	4338	2339		
	EL25844		4		
	EL26616		7		
	EL28324		49		
	EL28328	21	22		
2014			2508	347	

	EL28322		281	78	
	EL23208		257		
	EL24436			1	
	EL25844		11		
	EL26610			5	
	EL26616		1100	34	
	EL28323		3	151	
	EL28324			29	
	EL28327		852	49	
	EL28328		5		
2015			338	233	Yes
	EL27339		7		Yes
	EL28322		36		Yes
	EL23208		20		Yes
	EL24436		52		Yes
	EL25844		3		Yes
	EL26616		169		Yes
	EL28323		51	233	Yes
	EL28325		69		Yes
	EL28327		373		Yes
	EL28328		141		Yes
2016		20	28		
	EL24436	20	3		
	EL31289		16		
	EL31291	·	9		

Table 5Drilling completed over GR164 tenements from 2011-2016.

Year	Tenement No	Diamond Drilling	RC Drilling	AC Drilling
2011	EL23661	11 holes for 4394.2m	103 holes for 27681m	
2012	EL28322	12 holes for 2800.1m	268 holes for 43545m	
2014	EL28322	1 RCD hole for 90m		
2015	EL26616		10 holes for 880m	41 holes for 3540m

## 6.0 EXPLORATION COMPLETED

In 2017 exploration consisted of surface sampling plus AC drilling.

A summary of exploration is listed in **Table 6**.

Table 6 Summary of Exploration February 2017 to January 2018

Tenement No	Rock Chip Sample	Drill Spoil Sample	Surface sampling combined	2017 AC Drilling E.O.H. Samples	AC Drilling	Litho Geochemistry Interpretation In conjunction with CSIRO
EL23659	7	40	47			Yes,
EL24436						
EL26610						
EL27119	7	51	58	27	27 holes for 1121m	Yes,
EL27127						
EL27589		1	1	1	1 hole for 37m	Yes,
EL28327						
EL29860		10	10	6	6 holes for 257m	Yes,
EL31288						
EL31290				1	1 hole for 42m	Yes,
EL31291	24	200	224	124	124 holes for 7017m	Yes,
Total	38	302	340		159 holes for 8474m and 3197 samples	,

# 6.1 Exploration Objectives

An ABM prospectivity study conducted at the end of 2016 indicated that the Bluebush area was a prospective region to explore for gold. The Dead Bullock stratigraphy (host of world-class Callie Deposit), folding and faulting complexity, and early stage geochemical anomalism contribute to the higher ranking.

The Granites 250K mapsheet (SF 52-3) provides limited detail of the geology in the Bluebush area as the majority of the area is covered under alluvial sediments. There is also very limited multi-element geochemistry data from historical drilling.

ABM's objectives this season were twofold:

- 1. To better understand the underlying geology and create a map for effective targeting, by:
  - Consistently logging AC chips and collecting an EOH multi-element samples for lithogeochemistry mapping.
  - Collecting historical drill spoil for multi element analysis for lithogeochemistry mapping
- 2. To follow up existing arsenic and gold anomalism around known targets

## 6.2 Surface Sampling

A total of 38 rock-chip and 302 surface samples were taken on 5 tenements.

The surface samples were collected from the freshest material of historic drill spoil.

Parallel to the historical drill spoils from 297 RAB holes 159 EOH samples were collected from the 2017 AC drilling program.

These samples were assessed in partnership with the CSIRO to establish geochemical fingerprints of the geological sequences to assist future targeting. The (at the time of writing this report) in work progress lithogeochemical study aims to be able to classify rock units based on their whole rock geochemistry and to identify and to focus on the larger scale gold systems in the Tanami (**Figure 2**).

Both the rocks samples and the spoil samples were multi-element assayed.

All sample locations are shown on **Plate 1A**, **1B**, **1C**. All surface sampling data is included in the appendices.

The assay results were used to determine the lithogeochemistry. The lithgeochemistry results were integrated into a geological map showing combined the bed rock geology and the lithogeochemistry (**Figure 2**).

Details and assay results of the soil samples collected at the Syrene prospect on EL27589 in 2016 which were not available when submitting the 2017 Bonanza group report have now been included in this report as appendices EL27589\_2018\_A\_24\_SSAssay.txt and EL27589\_2018\_A\_25\_Ssample.txt. The sample locations are shown on **Plate 1A**.

## 6.3 Drilling

A total of 159 AC holes for 8,474m and were completed on 5 tenements. A total of 3197 samples were collected and assayed for gold and multi- element.

All drill hole locations are shown on **Plate 2.** All drill hole data is included in the appendices.

## 6.3.1 Downhole Sampling

Drill hole samples were collected and XRF-tested simultaneously with the drilling, to help determine arsenic anomalism and to guide the drilling.

AC drilling was sampled as 3m interval composites by spear sampling with the total reject producing a 2-3kg composite sample. At the end-of-hole (EOH) a 1m 2-3kg spear sample was collected.

The 3m composite samples were submitted to the Bureau Veritas Laboratory in Adelaide for crushing and pulverising to produce a 40g charge for Fire Assay with AES finish. The EOH samples underwent mixed acid digest (MA100/1/2) with ICPC-AES and ICP-MS finishes to get a suit of 59 elements (**Table 7**).

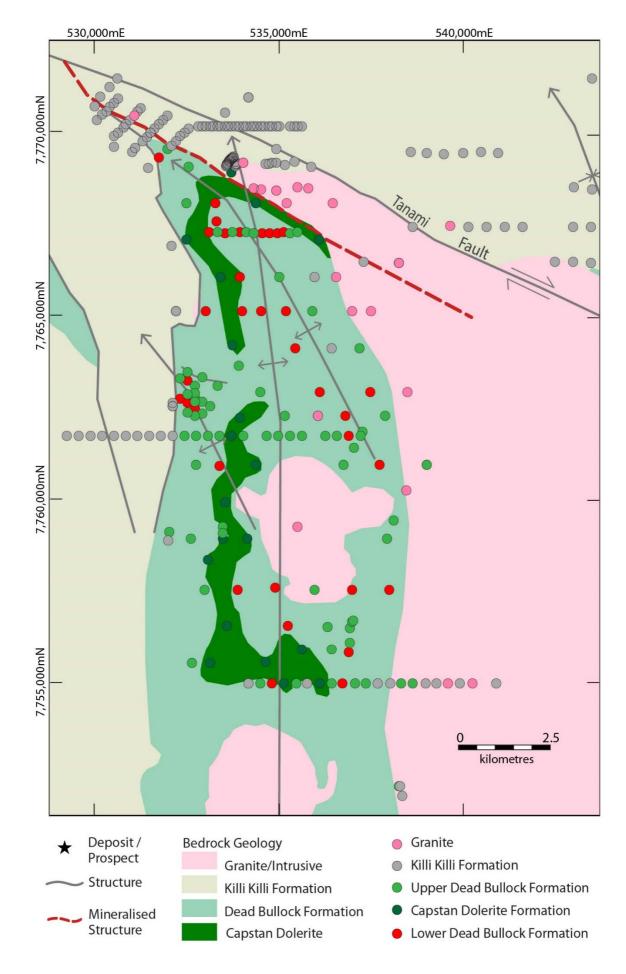


FIGURE 2 Map showing bedrock geology and the rock types of historic drill hole spoil samples plus 2017 AC drilling EOH samples at the Capstan Prospect area (EL31291).

A blank or standard was inserted every 20 samples. For drill samples, blank material was supplied by the assaying laboratory and two certified standards, acquired from GeoStats Pty. Ltd.. Different gold grades and lithologies were also used.

**Table 7** The Bureau Veritas Methods used for AC drilling during the reporting period

FA002		Au (1), Pt (5), Pd (1)
Lead Collection Fire Assay		
by ICP-AES. Detection limit in		
ppb.		
MA100/1/2	MA101: ICP-	Al (100), Ca (100), Cr (10), Fe (100), K (100), Mg (100), Mn
Mixed Acid	AES detection	(2), Na (100), P (50), S (50), Sc (1), Ti (50), V (5)
Digest with	limits (in ppm)	
ICP-AES	,	
and ICP-		
MS	MA102: ICP-MS	Ag (0.5), As (1), Ba (1), Be (0.5), Bi (0.1), Cd (0.5), Ce (0.1),
finishes)	detection limits	Co (1), Cs (0.1), Cu (1), Dy (0.05), Er (0.05), Eu (0.05), Ga
	(in ppm)	(0.2), Gd (0.2), Hf (0.2), Ho(0.02), In (0.05), La (0.1), Li
		(0.5), Lu (0.02), Mo (0.5), Nb (0.5), Nd (0.05), Ni (2), Pb (1),
		Pr (0.05), Rb (0.2), Re (0.1), Sb (0.1), Se (5), Sm (0.05), Sn
		(1), Sr (0.5), Ta (0.1), Tb (0.02), Te (0.2), Th (0.1), TI (0.1),
		Tm (0.05), U (0.1), W (0.5), Y (0.1), Yb (0.05), Zn (2), Zr (1)
		(0.00), 5 (0.1), 11 (0.0), 10 (0.00), 211 (2), 21 (1)

# 6.3.2 Drilling at the Capstan Prospect

The aim of the drilling over the Capstan Prospect was to test a >100ppm As anomaly from surface samples, which extended over an area of  $\sim$ 1.3 km x 1 km, and to test stratigraphy and favourable structural positions. The only previous drilling in the area was a VAC drilling program, which Normandy NFM Limited drilled down to an average depth of 7.6m, in 1992.

The AC drillholes were completed on a grid spacing of 160 x 640m. Holes were angled inwards towards 042 degrees or 222 degrees to try to intercept antiformal hinges and major faults. The anomalous results include:

- 6m @ 248 ppb Au from 39m (BL0003)
- 39m @ 24ppb Au from 21m including 3m at 92ppb from 42m (BL0019) and
- 15m at 32ppb Au from 42m (BL0030)

To the north of the NW- SE trending fault drilling intersected micaceous sandstones, greywackes and siltstones. To the south of the fault drilling intersected silicified siltstones, cherts and minor sandstones. The anomalous results appear to correlate with the NW- SE trending fault, which intersects the folded stratigraphy. Lithogeochemistry confirmed that Dead Bullock Formation was only intersected in the centre of the eastern most drill line.

The drilling identified a significant leaching profile up to 40m deep, as a result drillholes BL0008, BL0011, BL0013, BL0014, BL0015 and BL0017 were deemed ineffective as they did not penetrate the leached profile.

Future drilling should involve RC drilling to infill around the best 2017 results. The use of a bigger rig will also enable penetration of the hard silicified siltstones and cherts, enabling better testing of the underlying saprock/fresh rock.

# 6.3.3 Drilling in the wider Capstan Prospect Area

In the wider area of the Capstan prospect the reconnaissance drilling campaign aimed to upgrade the geological understanding of the 22km x 8km area with lithogeochemistry and define new gold and arsenic targets in untested areas. Historical drilling over the area had failed to penetrate the alluvial cover which covers ~80% of the area as well as the leached regolith profile which is apparent in the northern region of the area. The deep paleochannel (~40m) also had prevented effective testing of the area in the past.

Drilling was conducted on a  $\sim$ 1 km x 1 km grid spacing over an area of 15 km x 7km. Drill holes were aimed to reach fresh rock so that a sufficient geochemistry sample could be collected. The average drill hole depth was 60m.

An 8km long gold anomaly was identified over the northern region of the area.

The best results over the area included:

- 21m @ 139ppb Au from 15m (BL0042); including 6m @ 347ppb Au from 15m
- 3m @ 202ppb Au from 45m & 6m @ 302ppb Au from 60m (BL0047)
- 9m @ 76ppb Au from 36m (BL0048)
- 2m @ 105ppb Au from 75m (BL0061)

This reconnaissance drilling campaign confirmed that the wider Capstan prospect area consists of Dead Bullock Formation sediments, with granite intruding on the eastern side of the area and Killi Killi Formation sediments to the west of the area (**Figure 2**). The DBFm has undergone hornfelsing on the eastern DBFm - granite contact suggested by the development of schistose textures with andalusite porphyroblasts. A mafic intrusive also appears to intrude down the western margin of the central granite.

There are multiple structures which have been interpreted and intersected in drilling and often coincide with quartz veining and anomalous gold results.

Aircore and reverse circulation drilling is planned for the 2018 field season to follow up and infill these anomalous results.

#### 6.3.4 Drilling in the wider Indefatigable Prospect Area

The regional AC drilling over the wider Indefatigable area focused on 3 targets - the Indefatigable prospect target, Hornblower prospect target, and the Big Cuban prospect target.

The <u>Indefatigable</u> target was drilled with two drill lines on a hole spacing of 500m and line spacing of 2km. The northernmost line tested the widest part of a surface arsenic anomaly, whereas the southern line centred over the narrower part of the anomaly up-slope. In total 12 vertical drill holes were drilled for a total of 561m with an average depth of 47m.

The <u>Hornblower</u> target was drilled with three lines on a hole spacing of 500m and line spacing of 1km. The aim was to cover the strongest response in the surface arsenic anomaly and extend the program over the magnetically interpreted as Dead Bullock Formation stratigraphy. All three lines covered the interpreted syncline position and thrust fault to the east. In total 18 vertical drill holes were drilled for 997m with an average depth of 55m.

Six vertical AC holes were drilled over the <u>Big Cuban</u> target aimed to test the stratigraphy in the interpreted antiformal closure/thrust position in Dead Bullock Formation. In total 265m metres drilled and the average drill depth was 44m.

Drilling over the Indefatigable Block received gold results below expectation with the best results including:

- 3m at 71ppb Au from 6m (BL0144)
- 11m at 18ppb Au from 48m including 3m at 47ppb Au from 57m (BL0072)

Overall assay results from the drilling over the wider Indefatigable prospect area were disappointing with the only anomalous result coming from hole BL0114 which derived from the base of alluvial cover, suggesting this is transported gold.

Drilling at the Hornblower target intersected Killi Killi Formation stratigraphy in the core of the Hornblower fold and Dead Bullock Formation was intersected along the eastern limb. Offsets in stratigraphy were interpreted and north-south faulting may be of greater significance than previously interpreted. Most of the intersected anomalism is near the bottom of the holes and is associated with quartz veining, with the exception of BL0144 which has Au anomalism at the base of transported cover.

No significant gold anomalism was intersected over the Big Cuban target.

## 6.3.5 Drilling in the wider Wild Turkey Prospect Area

The Wild Turkey Block is a 15 km x 4 km area of Killi Killi Formation with interpreted prospective Dead Bullock Formation at depth and intruding granite to the north. The area is interpreted to be a large south-easterly dipping antiform. The Wild Turkey Target comprises historical shafts, anomalous rock samples, and limited successful historical drilling. Framework AC drilling was designed to upgrade the geological understanding of the block with litho-geochemistry, aim to confirm bedrock anomalism, and define new gold and arsenic targets in untested areas.

Five drill hole traverses were completed over the antiformal structure in the Wild Turkey area. A total of 28 drill holes for 1163m were completed in October 2017. Gold assay results are relatively low, the best interval assayed was 3m at 100ppb Au from a depth of 21m (in BL0122).

Most of the drilling intersected coarser sediments interpreted to be Killi Killi Formation and a number of holes intersected darker silt/sand rather than the more easily recognisable Killi Killi sediments. A number of felsic intrusives were also recognized.

# 7.0 RECOMMENDATION and CONCLUSIONS

Significant first pass reconnaissance drilling results were received at the northern end of the Capstan prospect area. An 8km long anomalous zone was delineated and should be tested with a combination of RAB/AC drilling and RC drilling.

The drilling over the Indefatigable and Wild Turkey prospect areas were not as successful at highlighting any gold anomalous areas.

The combination of regional mapping, collection of historic drill spoil and assaying EOH AC drill samples for multi-element analysis enabled ABM to commence an update of the geology map of the Bluebush region. The up - date should be completed.

The exploration of Bluebush project area would largely benefit from the completion of closer spaced aeromagnetic data as the available data is very patchy, mainly only flown with 150-200m line spacing as well as it has gaps in this data itself.

No recommendations deriving from the 2016 soil sampling at the Syrene prospect area were made.

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