# Newmarket Gold

## ANNUAL TECHNICAL REPORT

## **EXPLORATION LICENSE IN RETENTION 130**

## Esmeralda - Union Reefs Project

## For the Period 17 November 2014 to 16 November 2015

Distribution:-

- 1. DME Darwin, NT
- 2. Newmarket Gold Inc, Darwin
- 3. Newmarket Gold NT Operations, Union Reefs office.
- 4. Rockland Resources, Brisbane

Charles Nesbitt December 2015

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#### **1. EXECUTIVE SUMMARY**

ELR (Exploration License in Retention) 130 covers strategic landholding, which is located about 210 km southeast of Darwin, NT, and 8km northeast of Pine Creek. Newmarket Gold NT Holdings Pty Ltd ("**Newmarket Gold**") acquired the tenement in November 2009 as part of the acquisition of all assets held by GBS Gold Australia Pty Ltd in the Northern Territory. ELR130 currently sits where MLN27999 is under application. It is planned to try and progress this application in the coming year

Previous exploration by Cyprus Gold Corporation and Acacia Resources had outlined two significant adjacent and sub parallel gold resources (Zones "A" and "B"), known as the Esmeralda deposit, which is located roughly 4km south of the Union Reefs mill. AngloGold estimated that the deposit at 0.7g/t Au cut-off contains a combined inferred resource of 1.26Mt @ 1.62g/t Au (66,000oz).

In 2013, Newmarket Gold revised the resource outlined by both Cypress and Acacia and published their findings in their Mineral Resource report by Edwards and Bremmer (2013). From this report, it was deduced that the combined inferred resource for the Esmeralda area was 1.06Mt @ 2.06 g/t Au (70,300oz).

ELR 130 lies on the eastern margin of the north-west trending Pine Creek Shear Zone (PCSZ). Rocks of the Mt Bonnie Formation that is the uppermost formation of the South Alligator Group, and the Burrell Creek Formation, which is the lowest unit of the Finniss River Group, dominate the stratigraphy of the Union Reefs field. The tectonic corridor is confined to the east (Allamber Springs Granite) and west by lobes of the Cullen Batholith and rocks within this zone have been tightly folded and in high strain areas, subjected to fold limb failure. Axial planes and bedding tend to dip steep westerly. The area of ELR130 is dominated by siltstones, mudstones and greywackes of the Mt Bonnie Formation, the unit is punctuated by horizons of chert and tuffite as well as thin distinctive banded iron formation facies. Thin tourmalinites have been recorded in the area.

Exploration activities during the reporting period include the design and implementation of an extensive RC and diamond drill program across the Esmeralda Gold Deposit to confirm and update the Resource Estimation. Information from this drill program will be collated along with environmental baseline and geotechnical information to be used in a scoping study for the development of the Esmeralda Gold Deposit.

Work undertaken for the preparation for the drilling program and scoping study includes lease boundary survey, Indigenous Land use Agreement negotiations and signing of the agreement, heritage surveys of drill sites and environmental monitoring.

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## 2. COPYRIGHT

This document and its content are the copyright of Newmarket Gold and NT Mining Operations Pty Ltd (operator). The document has been written by Charles Nesbitt and reviewed by Mark Edwards for submission to the Northern Territory Department of Mines and Energy as part of the tenement reporting requirements as per Regulation 78 of the Minerals Titles Act.

Any information included in the report that originates from historical reports or other sources is listed in the "References" section at the end of the document.

This report may be released to open file as per Regulation 125(3) (a).

### 3. INTRODUCTION

ELR 130 is located approximately 8km north of the Pine Creek Township and 4km southeast of the Union Reefs Gold Mine, and occupies one of the most prospective areas of gold mineralisation in the Pine Creek Orogen. The tenement hosts the Esmeralda gold deposit where previous drilling has suggested a combined inferred resource of 1.06Mt @ 2.06 g/t Au (70,300oz). ELR130 consists of not only the Esmeralda gold deposit area, but also of seven mineral leases which cover an elongated northwest trending block of 113 hectares within the tenement area (Figure 1).



Figure 1: ELR130 Tenement Area

This report details the exploration activity covered over the tenement area during the reporting period of 17 November 2014 to 16 November 2015.

## 4. LOCATION AND ACCESS

ELR 130 is located approximately 210 km south of Darwin and about 8km north of the Township of Pine Creek in the Northern Territory (Fig 2). The licence area can be accessed via the Frances Creek Road, turning north off the Kakadu Highway approximately 3km east of the town of Pine Creek. Further access for light vehicles is via a dirt track turning northwest adjacent to the Darwin -Amadeus Basin Gas Pipeline. The climate is hot with periodic monsoonal rains between November and May. For the remainder of the year it is warm to hot and largely dry.



Figure 2: Tenement Location

#### 5. TENEMENT DETAILS

ELR 130 comprises 834 hectares and was granted to Sovereign Gold NL (a wholly owned subsidiary of Astron Resources NL) and Solomon Pacific Resources NL on 17 November 1993 for a period of 5 years. Acacia Resources, a party to the Esmeralda Joint Venture, subsequently acquired 100% of the JV tenements and, in turn, was taken over to AngloGold (Ashanti) limited in 1999. The Burnside Joint Venture (Buffalo Creek Mines Pty Ltd and Territory Goldfields Pty Ltd) took over in 2004.

During 2005-2006, GBS Gold Pty Ltd successfully made a takeover of Northern Gold NL and purchased Harmony Gold (through subsidiary Buffalo Creek Mines) 50% share of the Burnside Project as of 1 April 2006. Newmarket Gold acquired ELR130 as part of the sales process of assets previously held by GBS Gold Australia in November 2009.

An application for ML27999 was submitted to the NT DME on 26 March 2010. This new application covers the entire ELR 130. This new ML is now in the advanced stages of granting and once granted ELR130 will be replaced. The tenement expired on 16 November 2013. A renewal application was lodged with the NT DME on the 16 November 2013. This renewal was granted until the 16th of November 2018 but will hopefully be replaced with ML27999 in the near future.

The tenement is on Mary River West Station, owned by Equest Pty Ltd.

#### 6. GEOLOGICAL SETTING

#### 6.1 REGIONAL GEOLOGY

ELR130 is situated within the Pine Creek Orogen, a tightly folded sequence of Lower Proterozoic rocks, 10km to 14km in thickness, laid down on a rifted granitic Archaean basement during the interval ~2.2-1.87Ga. The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with locally significant inter-layered cherty tuff units. Pre-orogenic mafic sills of the Zamu Dolerite event (~1.87Ga) intruded the lower formations of the South Alligator Group (Ahmad et al 1993).

During the Top End Orogeny (Nimbuwah Event ~1.87-1.85Ga) the sequence was tightly folded, faulted and pervasively altered with metamorphic grade averaging greenschist facies with phyllite in sheared zones.

The Cullen intrusive event introduced a fractionated calc-alkaline granitic batholith into the sequence in the period ~1.84-1.78Ga. These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies, and created regionally extensive biotite and andalusite hornfels facies. Less deformed Middle and Late Proterozoic clastic rocks and volcanics have an unconformable relationship to the older sequences. Flat lying Palaeozoic and Mesozoic strata along with Cainozoic sediments and proto-laterite cementation

overlie parts of the Pine Creek Orogen lithologies. Recent scree deposits sometimes with protolaterite cement occupy the lower hill slopes while fluviatile sands, gravels and black soil deposits mask the river/creek flats areas.

There is a tendency for gold mineralisation to be focused in anticlinal settings within strata of the South Alligator Group and lower parts of the Finniss River Group. This sequence evolved from initial low energy shallow basinal sedimentation to higher energy deeper water flysch facies.

Gold mineralisation appears to be related to the I-type members of the Cullen Batholith, formed as a result of fractionation and differentiation processes during magma emplacement. That ultimately led to the evolution of hydrothermal fluids responsible for gold mineralisation in the adjacent meta-sediments (Bajwah, 1994).

Figure 3 illustrates the regional geology of the ELR130 area.



Figure 3: Esmeralda Area Regional Geology.



Figure 4: Stratigraphic Column, Pine Creek Orogen (Gillman et al, 2009)

#### 6.2 LOCAL GEOLOGY

ELR 130 lies on the eastern margin of the northwest trending Pine Creek Shear Zone (PCSZ). Rocks of the Mt Bonnie Formation, that is the uppermost formation of the South Alligator Group, and the Burrell Creek Formation, which is the lowest unit of the Finniss River Group, dominate the stratigraphy of the Union Reefs field (Error! Reference source not found.). The tectonic corridor is confined to the east (Allamber Springs Granite) and west by lobes of the Cullen Batholith and rocks within this zone have been tightly folded and in high strain areas, subjected to fold limb failure. Axial planes and bedding tend to dip steep westerly. The area of ELR130 is dominated by siltstones, mudstones and greywackes of the Mt Bonnie Formation. The unit is punctuated by horizons of chert and tuffite, as well as thin distinctive banded iron formation facies. Thin tourmalinites have been recorded in the area.

ELR130 has been intruded by a major sub vertical intermediate dyke which sub parallels the stratigraphy. The dyke is deeply weathered and strikes 310°. It has been traced along much of the Pine Creek Tectonic corridor. This dyke event also passes through the Woolwonga deposit some 50 kilometres to the northwest. Within ELR 130 the Allamber Springs Granite of the Cullen Suite contacts the Mt Bonnie Formation and has hornfelsed and silicified the unit to slate and amphibolitic hornfels within 200m of the contact. Gold mineralisation has been focused within Zone "A" and Zone "B" (Esmeralda Deposit) in the sheared axial zones of two adjacent faulted antiforms that strike 3100 magnetic. The deposits occupy ridges up to 40m high. The north eastern "Lens A" is within 300m of the contact and lies within the outer metamorphic aureole of the granite. It dips steeply southwest, is heavily impregnated with tourmaline and silica and has been significantly silicified and brecciated. Chert facies rocks are reported to coincide with the mineralised zones which locally contain visible gold.

A variety of aeromagnetic surveys have been conducted over the area. An example of this can be seen in Figure 5 (below), which illustrates the 1st vertical derivative Reduced to Pole (RTP) aeromagnetic over the tenement location.



Figure 5: ELR130 Aeromagnetic Survey RTP

#### 7. PREVIOUS HISTORY

#### Cyprus Gold Australia Corporation 1991-1993

In **1990-1991** Zones "A" and "B" were defined by Cyprus within EL6880 by a soil geochemical survey. Cyprus was earning equity from registered owners, Astron-Solpac, within the Esmeralda Joint Venture. The soil sampling comprised 691 samples each of 2kg taken from 15cm depth, on a 50m by 25m pattern. The samples were sieved through a ¼ inch mesh screen and subsequently analysed using AAS. Gold and arsenic were determined.

Zone "A" was judged to be very interesting with 1000m of strike within the 50ppb Au contour and 850m within the 100ppb Au contour. A further 500m of strike length was anomalous. The maximum arsenic value was 360ppm. The Amadeus Basin-Darwin gas pipeline crosses the eastern flank of the anomaly.

At Zone "B" the gold anomaly was 700m in length but of lower order. Arsenic values were higher, peaking at 1600ppm. Rock chips at Zone "B" were up to 11.0g/t Au gold, and arsenic up to 1.3%. On a tenement wide basis the Zone "B" mineralisation as well as the Caroline prospects lie within arsenic in soil halo of plus 200ppm. This halo measures 5km by 1km. Zone "A" falls outside this envelope.

Rock chip sampling followed on from the soil work. A total of 97 samples were taken over 2m-10m outcrop widths. Gold values from rocks generally mirrored the soil results with a peak value of 59.9g/t Au with many values in the 1-10g/t Au range.

A total of 985m of costeans were dug on zone "A" over a strike of 750m. These were mapped and sampled. The better intervals included 12m @ 2.11g/t Au, and 15m @ 1.32g/t Au.

The multi-client airborne magnetics acquired by Cyprus showed a weak high (<100nT) coinciding with Zone "B", with a weaker magnetic anomaly coinciding with the strongest gold values. The regional trending intermediate dyke is well defined by the aeromagnetic survey.

Gold was described as being associated with a smoky grey quartz-limonite, pyrite-tourmaline veining and kaolin-pyrite alteration of an argillite-tourmalinitic chert sequence. At Zone "B" the association was similar, though tourmaline was not as abundant and arsenopyrite was more prevalent. At Zone "A" it was speculated that tourmaline could be syngenetic and remobilised, as well as hydrothermal.

In **1991-1992** Cyprus Gold drilled 25 RC drill holes into the prospect (ERC0001-ERC0025). The holes were allocated to Zone "A" (ERC0001-ERC0010) and to Zone "B" (ERC0011-16). This drilling program was completed in two phases: a 16 hole/1110m phase followed by a 9 hole/740m program. The initial phase was targeted on soil and rock anomalies, the second phase providing selective down dip

testing of phase 1 intersections. Phase two drilling was allocated to Zone "B" (ERC0017-ERC0019) and to Zone "A" (ERC0020-ERC0025). The best result from Zone "A" was 12m @ 3.03g/t Au from 22m in ERC0002. The best result from Zone "B" was 13m @ 2.33g/t Au from 37m in ERC0023.

Based on their drilling data Cyprus reported an "in-situ, undiluted geological resource of 638,000 tonnes grading 1.84 g/t Au (38,000 oz)" for the combined zones (Miller, 1993).

Zone "A" contained an estimated 325,154 tonnes @ 2.12 g/t Au, based on six 50m spaced sections, 8300N - 8500N and 8950N. Zone "B" was estimated to contain 313,546 tonnes @ 1.55 g/t Au based on three sections: 9350N, 9450N & 9500N. It was noted that the Darwin gas pipeline was locally within 100m of the Zone "A" resource.

In the period **1992-1993** mapping and sampling was carried out in the northern sector of Zone "A" where very high grades had been met within rock chips and erratic values in drilling.

An induced polarisation survey was carried out by Scintrex over Zone "A" in 1992 and 1993. The deposit was found to display chargeability anomalies due to sulphides or graphite. The data showed the deposit was offset to the west at the south end and did not pass under the gas pipeline. Rehabilitation by tree planting and seeding was undertaken. Cyprus withdrew from the JV following an increase in corporate minimum target size objectives.

#### Billiton/Acacia 1994-1999

In **1994** Billiton Australia reviewed the Cyprus data and drilled 15 RC holes (EAP0001-0015) into Zone "A" for a total of 938m and a diamond tail of 21m on EAP0015 (renamed EAD0015).

In **1995** Acacia drilled 40 RC holes (ERC0041-0080) into Zone "A" and "B", for a total of 2,573m. In August 1995, a manual resource calculation was completed with the available data. Bulk densities of 2.52, weathered, and 2.74, fresh were used. This uncut geological resource estimates using a 0.7g/t Au lower cut-off gave a combined inferred resource of 879,000 tonnes @ 2.0g/t Au.

In **1996** Acacia completed 27 RC holes for 1,794.5m and 4 diamond drill holes for 155.5m. Twenty three of the holes were drilled on Zone "A".

Nine costeans were dug for 480m on the highest gold in soil sites.

Gradient array IP/resivity was carried out by Zonge Engineering to complement the Cyprus surveys. A total of 9.6line/km of survey was carried out.

Metallurgical test work was commissioned with Metcon Laboratories P/L to determine preliminary gravity/leach amenability on ore grade intercepts in 6 holes. Gold extraction exceeded 90% from all samples, averaging 94.1% with each sample containing free gold up to 250microns. Initial leach was

fast then slowed, many requiring the full 48 hours. Better recoveries were noted at grinds to 53microns and beyond. Lime consumptions averaged 5.4kg/t while cyanide consumption was moderate.

In **1997** fifty RC holes and one re-entry were completed for 4,495m. All holes were surveyed with Eastman single shot. At Zone "A" the deposit was tested to 100m vertical depth. A new lens 100m west of Zone "A" was discovered on four sections. Further drilling to extend the southern limits was unsuccessful. Also during the year a structural analysis of the deposits was commissioned, with a further eight costeans dug for 514m. An airborne radiometric/magnetic survey was completed by UTS. (50m line spacing, 60 degree orientation, 20m terrain clearance, 127sq km total area.) Aerial photography and digital terrain modeling were undertaken.

A resource estimate was completed using all data. M&RT Consultancy defined an inferred resource of 1.26Mt @ 1.62g/t Au.

In **1998** Acacia Exploration Darwin completed a rock chip sampling program over potassium altered targets between Zone "A" and "B". (10 samples). No significant values were obtained. Acacia wrote a complete quality control and specific gravity (SG) data report to back up the resource estimates.

The Mining and Resource Technology resource estimates for Zones "A" and "B", using a 0.7g/t Au lower cut-off comprised an oxide resource of 550,000t @ 1.58g/t Au, a transition resource of 120,000t @ 1.52g/t Au, and a fresh resource of 590,000t @ 1.67g/t Au. All resources were in the inferred category. The data used included 157 RC holes, 2 diamond holes and 3 diamond tails.

A gravity survey was conducted across Acacia's Pine Creek tenements including the Esmeralda lease. Station spacing was about 500m using a Worden gravity meter. Ten stations fell within the Esmeralda lease. It was concluded that the western side of the corridor was of higher density than the eastern.

In **1999** channel chip sampling was carried out over a thinly tested area of quartz-tourmaline veining. Thirty samples were collected and twelve returned gold values of 100ppb or better. The best result was 970ppb Au. The results were considered not to be worthy of follow up.

Ten –5mm talus samples from base of slope were collected at regular intervals. Seven of the samples returned 5ppb Au or better. The best was 51ppb Au.

A review of previous data was undertaken. The low gold price mitigated against a drilling allocation in their budget.

In **2000-2001** AngloGold was manager of the tenement following the takeover of Acacia in late 1999. No field work was undertaken in the period. In **2002** a program of rehabilitation was completed. All steel pegs were removed and holes capped below surface with concrete plugs. In addition LG pit optimisations were run on Zone "A" and "B". The optimizations suggested that some 18,000oz of gold could potentially be mined from Zone "A" at a profit. The relocation of part of the gas pipeline would be a pre-requisite to optimising Zone "A".

In July **2003** AngloGold closed the mining operation at Union Reefs and put the project up for sale.

During **2004**, in the four month period following the purchase of the Union Reefs project by the Burnside JV, work comprised a brief data review and a structural interpretation using SPOT satellite imagery.

**2005** saw an in-depth technical geological and mining review of Zone "A" and Zone "B" being conducted by Bill Makar, the results of which can be viewed in the 2005 review of Esmeralda (Makar, 2005).

No work was reported for the 2006 to 2007 reporting period.

Throughout most of **2008-2009**, GBS Gold Australia remained under voluntary administration. A technical review, tenement ranking and evaluation were undertaken to prepare assets for sale. Some field visits were also undertaken. All assets including the Esmeralda tenement group were transferred to Newmarket Gold in November 2009.

#### Newmarket Gold 2009-Current

**2010**. A review of the Union Reefs resource models was completed, which was inclusive of the Lady Alice, Union North, Union South, Millars/Big Tree, Prospect, Esmeralda and Orinoco deposits). AN application was also made to the Northern Territory Mine Department for a Mineral Lease to cover ELR130.

**2011**. Minimal work was done on the area during this period. Resource modelling pertaining to the tenement area was conducted in preparation for the NI 43-101, to be released in the coming 12 months.

**2012.** A review of previous exploration activities, a re-wireframing of the deposit and field orientation trip was undertaken during the reporting period. This new geological and mineralogical data was set to be used in a resource up-date to be conducted within the next reporting period. A review of the historic drilling was also completed during the year, which was reported in the Blythman (2012) report summarising the Esmeralda deposit.

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From **August 2012 to August 2013**, exploration activities included the publication of the NI 43-101 report (Edwards and Bremner, 2013), which Included recommendations on taking the Esmeralda area from an Inferred to an Indicated resource.

2013. Minor work was undertaken on the tenement area during the reporting period, which began late in the year. This work comprised of the location of the reports pertaining to the tenement area as well as the commencement of the validation of the drilling data done by previous companies.

#### 2014.

During the reporting period, Newmarket Gold retained Paul Karpeta of Bastillion Consulting to undertake complete geological mapping of the tenement area from 15 April, 2014 to June 2014. His mapping was done on a 1:1000 scale and can be reviewed the 2014 technical report

Along with the structural measurements, a total of 64 grab samples were collected from the ELR130 project area. These samples were tested for gold at North Australian Laboratories by FA50 fire assay.

During this time, Newmarket Gold had begun negotiations for the approved land use agreement with the Northern Land Council (NLC) and traditional land owners of the tenement area.

#### 8. EXPLORATION ACTIVITY 17 NOVEMBER 2014 TO 16 NOVEMBER 2015

#### **RC Drill Program**

Drill program of 72 RC drill holes was designed to infill drill the Esmeralda Gold Deposit to take the resource to the next level of confidence and identify extensions to the mineralised lodes.

October 19<sup>th</sup> 2015, a heritage clearance was conducted over the proposed drill sites. Some artefacts were discovered however, these sites did not affect the location of the proposed drill sites. All proposed drill sites were cleared to drill.

Earthworks began soon after the heritage clearance was approved with the clearing and levelling of drill pads. Care was taken to use existing tracks where possible and to avoid significant vegetation where possible. Sumps were dug on pads where water was expected to be intersected.

The drill program commenced from Oct 28<sup>th</sup> 2015 and carried through to December 2015, beyond the limit of this reporting period. Of the 72 RC drill holes proposed, 48 RC drill holes were drilled for 3,326m during this reporting period. The drill hole details are listed in Table 1. The remainder of the drill holes will be reported in the subsequent Annual Technical Report along with the assay results for the entire program which at time of reporting were still pending.

#### **Diamond Drill Program**

Scheduled to coincide with the RC program, Diamond drilling program of 9 holes for 634m was designed predominantly for gathering of geotechnical information for the Esmeralda Gold Deposit scoping study, however, one extra hole has been added to the program to twin two RC holes which expected to return good assay results. It is hoped structural data from these short holes can be used to assist with geological and mineralization modelling of the deposit.

Due to rig availability, the diamond drill program had not yet commenced during the reporting period for this report but will be completed during the next reporting period.



Figure 6 Esmeralda Drill Plan

Table 1 Esmeralda RC Drill Hole Location, Performance & Results

Hole ID	North (m) MGA z52	East (m) MGA z52	RL	Azimuth	Dip	EOH (m)	Drilled Date	
ESRC0001	806187	8477255	212.2	90	-60	60	6/11/2015	
ESRC0002	806251	8477311	201.7	90	-65	90	6/11/2015	
ESRC0002B	806257	8477309		90	-50	67	13/11/2015	
ESRC0003	806144	8477272	208.9	90	-60	66	7/11/2015	
ESRC0004	806164	8477283	214.3	90	-60	48	6/11/2015	
ESRC0005	806177	8477307	208.7	90	-65	150	7/11/2015	
ESRC0006	806193	8477323	204.5	90	-60	102	13/11/2015	
ESRC0007	806211	8477348	201.8	90	-60	78		
ESRC0008	806227	8477372	203.7	90	-60	54		

Hole ID	North (m) MGA z52	East (m) MGA z52	RL	Azimuth Dip		EOH (m)	Drilled Date	
ESRC0009	806152	8477314	211.1	90	-60	30	8/11/2015	
ESRC0010	806108	8477307	209.1	90	-60	69	9/11/2015	
ESRC0011	806131	8477322	210.4	90	-60	36	8/11/2015	
ESRC0012	806156	8477356	204.1	90	-60	90	10/11/2015	
ESRC0014	806187	8477401	210.2	90	-60	36		
ESRC0015	806104	8477384	213.4	90	-60	132		
ESRC0016	806135	8477400	209.1	90	-60	72	14/11/2015	
ESRC0017	806146	8477423	217.1	90	-60	48	14/11/2015	
ESRC0018	806072	8477432	232.9	90	-75	126	10/11/2015	
ESRC0019	806079	8477437	232.6	90	-60	90	12/11/2015	
ESRC0020	806099	8477456	225.1	90	-60	36	14/11/2015	
ESRC0021	806040	8477474	231.9	90	-80	72	12/11/2015	
ESRC0022	806052	8477476	231.6	90	-60	54	12/11/2015	
ESRC0023	806033	8477498	226.5	90	-60	36	13/11/2015	
ESRC0024	806008	8477506	224.1	90	-60	60	13/11/2015	
ESRC0025	806027	8477525	218.1	90	-60	30		
ESRC0026	805972	8477491	218.1	90	-60	84		
ESRC0027	805991	8477517	220.9	90	-60	60	15/11/2015	
ESRC0028	805965	8477524	219.0	110	-60	54	15/11/2015	
ESRC0029	805986	8477553	216.4	110	-60	30	15/11/2015	
ESRC0030	805913	8477540	212.9	110	-60	75	15/11/2015	
ESRC0030B	805904	8477537	211.9	110	-90	36	16/11/2015	
ESRC0031	805927	8477559	215.7	110	-60	72	16/11/2015	
ESRC0032	805859	8477556	207.5	110	-60	78		
ESRC0034	805885	8477616	209.2	135	-60	78		
ESRC0036	805816	8477588	212.3	90	-60	60	5/11/2015	
ESRC0037	805848	8477620	214.6	100	-60	96		
ESRC0038	805874	8477640	217.0	100	-60	66		
ESRC0039	805781	8477629	217.1	90	-60	54	5/11/2015	
ESRC0040	805746	8477660	215.2	90	-60	50	5/11/2015	
ESRC0041	805748	8477746	211.7	90	-60	54	30/10/2015	
ESRC0041A	805748	8477746	214.6	110	60	54		
ESRC0042	805766	8477770	216.4	90	-60	30	30/10/2015	
ESRC0043	805726	8477799	229.1	90	-60	130	5/11/2015	
ESRC0045	805681	8477816	232.4	90	-60	90	29/10/2015	
ESRC0046	805713	8477850	223.9	90	-60	30	30/10/2015	
ESRC0047	805640	8477841	214.6	90	-70	114		
ESRC0048	805651	8477859	226.9	90	-60	66	28/10/2015	
ESRC0049	805200	8477394	214.6	90	-60	78		
ESRC0051	805176	8477453	214.6	270	-60	54		
ESRC0052	805176	8477453	214.6	90	-60	54		
ESRC0054	805133	8477498	214.6	90	-60	120		
ESRC0055	805110	8477528	214.6	90	-60	102		
ESRC0056	805077	8477514	232.3	90	-60	132	4/11/2015	

Hole ID	North (m) MGA z52	East (m) MGA z52	RL	Azimuth Dip		EOH (m)	Drilled Date
ESRC0057	805088	8477548	214.6	90	-60	120	
ESRC0058	805077	8477522	232.5	90	-60	120	3/11/2015
ESRC0059	805041	8477553	230.7	90	-60	60	2/11/2015
ESRC0060	805041	8477552		90	-60	66	2/11/2015
ESRC0062	805022	8477577	214.6	90	-70	84	
ESRC0063	804989	8477642	232.6	90	-60	45	30/10/2015
ESRC0064	804987	8477640	232.5	90	-90	75	31/10/2015
ESRC0065	804970	8477692	229.3	90	-60	47	4/11/2015
ESRC0066	804928	8477656	225.4	90	-70	90	2/11/2015
ESRC0069	804964	8477768	225.6	90	-60	66	1/11/2015
ESRC0071	804855	8477733	221.1	90	-60	102	31/10/2015
ESRC0072	804933	8477804	218.5	90	-60	66	1/11/2015
ESRC0074	804817	8477803	220.3	90	-60	108	31/10/2015
ESRC0077	805010	8477630	214.6	90	-60	76	
ESRC0078	805010	8477630	214.6	90	-90	120	
ESRC0079	804985	8477687	214.6	90	-90	48	
ESRC0080	805044	8477594	214.6	90	-60	72	
ESRC0081	805026	8477578	214.6	90	-60	72	
ESRC009A	806149	8477312	211.2	90	-90	56	9/11/2015

Table 2 Esmeralda Diamond Drill Hole Planned Location, Performance & Results

Hole ID	North (m) MGA z52	East (m) MGA z52	RL	Azimuth	Dip	EOH (m)	Drilled Date
ESDD0013	806164	8477384	207.9	90	-60	59	
ESDD0033	805868	8477575	207.2	90	-60	87	
ESDD0035	805917	8477614	207.2	270	-45	74	
ESDD0044	805745	8477812	207.2	90	-60	30	
ESDD0050	805206	8477420	207.2	90	-60	60	
ESDD0053	805162	8477509	207.2	270	-45	75	
ESDD0068	804965	8477740	207.2	270	-45	65	
ESDD0075	805533	8476998	207.2	90	-60	120	
ESDD0082	805768	8477767	207.2	90	-70	64	

During the reporting period Newmarket Gold applied to relinquish the local Caroline Mineral Leases which were located on ELR130. During the year this was granted as these were seen as redundant seeing as the application ML27999 also covered the same area. A final report has been lodged for this title package

Also during the year the final ML27999 boundary pegs were established by Ausurv Pty Ltd, out of Darwin. During this process several survey pegs were established to allow for the conversion of a local Mine Grid to be used for future mining activities. This conversion is in the table below.

Table 3 Local Mine Grid conversion to MGA Z52 co-ordinate system

Co-ordinate Transformation Spreadsheet								
Rearing: 48 81016 dog	Booring	0.0000 dog						
Baselength: 2075.2180 m	Baselength:	2073.7220 m						
Scale Factor: 0.999279	Base Error:	1496.0 mm						
Scale Error: 720.9 mm/Km	Alpha:	0.657963						
Easting Origin: -6900677.9827 m	Beta	-0.752093						
Northing Origin: -4963107.1186m	Rotation:	48.81916 deg						

Ori	ginal Co-ordin	ates (m) MGA	Z52		Transfor	med Co-ordin	ates (m) Orig	Mine Grid
No	Easting	Northing	Elevation	_	No	Easting	Northing	Elevation
5000E7000N	806863.8710	8476072.7070	216.3870	1	5000E7000N	<u>5000.0000</u>	<u>7000.0000</u>	<u>216.3870</u>
SPIKE	805301.9890	8477439.1090	239.7230		<u>SPIKE</u>	<u>5000.0000</u>	<u>9073.7220</u>	<u>239.7230</u>

During the reporting year a scoping study was commenced on the deposit to determine the future mining potential of the deposit. This has been completed using the current Inferred resources and has shown there are positive economic outcomes from a potential mine. With this in mind the process of constructing a Notice of Intent (NoI) to be issued to the DME and EPA has commenced. This included the collection of a series of baseline data to be used in the NoI and the generation of a potential mine plan. This work continues and will be updated using the new Mineral Resource model planned to be completed in the coming months.

As part of the NoI process environmental baseline study was designed and implemented with the consultation of environmental consultancy EcOz. Fauna survey was carried out throughout the area of the Esmeralda deposit. Newmarket Gold Inc were awaiting the survey results and report as at the end of this reporting period.

The construction of the NoI is currently underway and will be submitted in the coming months for consideration and comment.

## 9. RECOMMENDATIONS AND CONCLUSIONS

It is hoped that this will be the final report for ELR130 as it stands now as if the ML27999 is granted this title will not be required. Newmarket Gold has made good progress over the past few months to finalise all requirements for granting of this mineral lease. This lease will be required before any mining can take place on the lease.

It is expected that the Esmeralda RC and Diamond Drilling program will conclude in Dec 2015. Following the conclusion of the program, rehabilitation of the drill sites will begin. As results are completed these will be used to construct an update of the current Inferred Mineral Resource for the Esmeralda deposit. This can then be used in the determination of a more detailed mine plan for the area. Geotechnical and updated scoping study for the development of the Esmeralda Gold Deposit will begin. This information will be critical in the final determination of final pit wall angles and the stability of the material in the waste rock dumps if they are required

Two ground water monitor wells have been proposed for Esmeralda deposit to complement the existing monitor well network. These wells will be used to obtain baseline ground water chemistry data for the environmental and scoping studies. They can also be used to monitor the performance of mining activities if they are approved in the future.

The environmental impact baseline study will continue throughout the 2015-2016 reporting period. These can be used to monitor future mining activities if approved.

Negotiations shall continue with the owners of the gas pipeline, which travels through ELR130, to determine the possibility of having it moved. If this is possible, it will give access to Esmeralda's full resource. This will only occur after the final mine plan is determined to work out the cost and financial benefit of moving the pipeline.

All available information that has been collected over the past reporting period continuing into the next period will be used to help determine if mining is economically viable on this project which has been ranked highly by the company.

#### **10. REFERENCES**

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