

Anglo American Exploration Australia Pty. Ltd. A.C.N. 006 195 982

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Tenement Holder:	Anglo American Exploration (Australia) Pty Ltd.
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ABSTRACT

LOCATION:

EPM15646 is located approximately 35 km west-south-west of Greenvale. Access to the tenement from Townsville is via the Gregory Development Rd that links Charters Towers to the Lynd Junction and then various station tracks. The tenement is on the Clarke River (SE55-13) 1:250,000 map sheet and the Burges (7,859) 1:100,000 map sheet.

GEOLOGY:

EPM15646 is located in northeast Queensland along the Tasman Orogenic zone, on the south eastern margin of the predominantly Palaeoproterozoic to Early Mesoproterozoic Georgetown Inlier. The tenement area predominantly consists of Cambrian to Ordovician metasediments intruded by a Silurian mafic complex with minor Quaternary cover. The exploration target is a Voisey's Bay style NiS Deposit and the area has not seen NiS exploration. Anglo American has the rights to proprietary technology that the company believes will be able to detect massive NiS at significant depths.

WORK COMPLETED:

Exploration activities conducted by AAEA during the reporting period included: a regional geophysics mosaic compilation, n ground IP survey, an aerial Spectrem geophysics survey, a ground magnetics survey, rock chip sampling, soil sampling, tree bark sampling, termite sample geochemistry, HMC sampling, regional structural, geology and regolith mapping, Palmer Rails prospect mapping, 20 AC holes for 331m, 11 RAB holes for 282m, 45 RC holes for 2196m and 35 petrological samples.

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1. INTRODUCTION

EPM15646 is located approximately 35 km west-south-west of Greenvale. Access to the tenement from Townsville is via the Gregory Development Rd that links Charters Towers to the Lynd Junction and then various station tracks. The tenement is on the Clarke River (SE55-13) 1:250,000 map sheet and the Burges (7,859) 1:100,000 map sheet (Figure 1).

This report summarises the exploration activities conducted on 44 blocks surrendered in May 2012, EPM15646 during the reporting period 15th May 2007 to 14th May 2012 by Anglo American Exploration (Australia) Pty Ltd (AAEA).

2. TENURE

The tenement was originally granted to AAEA on 15th May 2007 and comprised of 99 graticule blocks. Forty Four (44) blocks were surrendered in May 2012 for a total area of 142km². The original tenement details are in Table 1 below and the tenement location plan is presented as Figure 1.

Table 1: Original Tenements Details					
Date			Expiry	Area	No
Tenement	Holder	Granted	Date	Km ⁻	Sub Blocks
EPM15646	AAEA	15/05/2007	14/05/2012	321.3	99

Table 2 and Figure 2 details the 44 surrendered sub blocks that comprise the lease and the report on the Townsville 1: Million map sheet.

Table 2: Surrender Blocks - EPM15646					
1:1,000,000	Primary	Sub-blocks	No of		
Plan Name	Number		Blocks		
	2599	ekpuz	5		
Townsville	2600	abcdefghjklmnopqv	1		
	2601	abf	16		
	2671	ekpuz	3		
	2672	atuxyz	5		
	2673	V	6		
	2743	e	1		
	2744	djnost	1		
		Total	44		

3. REGIONAL GEOLOGY

EPM15646, The Lynd Project, is located in northeast Queensland along the Tasman Orogenic zone, on the south eastern margin of the predominantly Palaeoproterozoic to Early Mesoproterozoic Georgetown Inlier (Figure 3). At this location, Palaeoproterozoic rocks of the Georgetown linlier are in faulted contact with younger Ordovician to Carboniferous sediments of the Broken River Province further east (Fergusson et al., 2007). Recent work has replaced the western contact of the Tasman Orogenic zone from the Burdekin River Fault westward along the Lynd Mylonite Zone; the area between the two structural elements is named the Greenvale Province (Nishiya et al., 2003 and Fergusson et al., 2007).

The roughly N-S trending Balcooma Mylonite Zone and Nickel Mine Fault divide the Greenvale Province between the Lynd Mylonite Zone and the Burdekin River Fault further (Fergusson *et al.*, 2007). Early Palaeozoic metamorphic units and intrusions make up the majority of rocks in the Greenvale province (Whitnall *et al.*, 1991). The stratigraphy is younging towards the east from the Cambrian (486±5 to 477±6 Ma) Oasis Metamorphics and Lynwater complex west of the Balcooma Mylonite zone; the Ordovician (471±4 Ma) Balcooma Meta Volcanic Group and Silurian (431±7 Ma) Dido Tonalite East of the Balcooma Mylonite Zone (Whitnall *et al.*, 1991; Fergusson *et al.*, 2007). An increase in age is documented through the stratigraphy further east with the Ordovician Lugano Metamorphics, Cockiespring Tonalite, Eland Metavolcanics and Paddys Creek Phyllite west of the Nickel Mine Fault; through to the Cambrian Halls Reward Metamorphics located between the Nickel Mine Fault and the Burdekin River Fault (Fergusson *et al.*, 2007; Nishiya *et al.*, 2003).

The older units in the Greenvale province; Oasis Metamorphics, Lynwater Complex and Halls Reward Metamorphics, have been affected by amphibolite grade metamorphism related to the Cambrian Delamerian Orogeny (Fergusson *et al.*, 2007). Deposition of the Balcooma Volcanic group took place in a back-arc setting (Withnall *et al.*, 1991). Subsequent amphibolite grade metamorphism during the Silurian to Early Devonian deformed the Balcooma Volcanic Group (Withnall *et al.*, 1991). The emplacement of the Dido Tonalite, the focus of this study, is associated with this Silurian deformation event (Withnall *et al.*, 1991). Later deformation produced the predominantly N-S trending foliation found in the Greenvale Province (Fergusson *et al.*, 2007).

The rocks exposed in the central NNE-SSW trending axis on tenement EPM15646 are the Silurian Dido Tonalite (Withnall *et al.*, 1991). Several gabbroic intrusions of unknown age have been located within the Dido Tonalite and on the tenement EPM15646. Metasediments of the Lugano Metamorphics and Eland Metavolcanics are the most eastern exposed rocks on tenement EPM15646. However, lithological contacts are not exposed and the location of the western contact of the Dido Tonalite with the Balcooma Mylonite Zone is uncertain due to a significant amount of Tertiary cover in the area.

4. EXPLORATION CONDUCTED

Exploration activities conducted by AAEA during the reporting period included: a regional geophysics mosaic completion, an ground IP survey, a Spectrem aerial geophysics survey, a ground magnetics survey, rock chip sampling, soil sampling, tree bark sampling, termite sample geochemistry, HMC sampling, regional structural, geology and regolith mapping, Palmer Rails prospect mapping, 20 AC holes for 331m, 11 RAB holes for 282m, 45 RC holes for 2196m and 35 petrology samples.

Table 3: Exploration Geophysics	n Summary Sampling	Mapping	Drilling	Petrology
 Regional Mosaic Completion IP Survey - 2 lines Spectrem Survey – 695 line km Ground Magnetics – 17 line km at Vesper Prospect 	 Rock Chip sampling Soil sampling Tree bark sampling Termite Sample geochemistry - HMC analysis on Bulk (#09- 001-001), HMC analysis Loam and Termite - Bulk Samples #AUA054802 and AUA054901, HMC analysis on 2009 RC Samples 	 Regional Structural Mapping by Rankin Regolith Geology Mapping by Eijndthoven Palmer Rails Mapping by Eijndthoven Regional Regolith Mapping by Eijndthoven 	 20 AC holes for 331m 11 RAB holes for 282m 45 RC holes for 2196m 	35 Samples

The location of this activity is shown on the Exploration Index Plan (Figure 5 and Table 3). The digital data associated with this report are presented in Appendices as txt, zip or pdf files.

4.1 YEAR 1 EXPLORATION - 2007

Work carried out during the first year of the licence comprised a review of open file exploration data, interpretation of previous geophysical surveys, a geochemical surveys and an IP survey and a regional regolith interpretation.

4.1.1 Regional Mapping and Structural Data Completion

During May to June 2007, several geological reconnaissance field trips were made to EPM15646 to scout station tracks and access routes for exploration. This was followed by a mapping exercise to identify the major lithologies, structures and prospective areas for nickel mineralisation (Regional structural map as Figure 14). The intrusive bodies crop out very poorly, and are commonly defined only by trace float. Several intrusive bodies were identified in two areas. The morphology of the intrusions is unclear as only limited structural measurements were available. Lithologies were subdivided into:

- (1) olivine gabbronorite/gabbro,
- (2) olivine-free gabbronorites/gabbros,
- (3) vari-textured gabbronorites/norites,
- (4) magnetite gabbronorite, and
- (5) leuco olivine gabbronorite.

In some cases, trace sulphides (<1%) are present, including chalcopyrite and lesser pyrite. The country rocks of the intrusions were only observed in generally small pieces of float. They included weathered felsic gneisses and rare biotite gneisses.

4.1.2 Rock chip Sampling

Rock chip samples were collected across the tenement where outcrop or suitably abundant float material was encountered. The samples were submitted to ACME Analytical Laboratories in Vancouver and ALS Chemex in Townsville. The samples were analysed for Au, Pt and Pd by 30 gram fire assay and for major and trace elements by ICP-MS and ICP-OES after digestion involving multi-acid or fusion digest.

The rock chip sample locations are presented in Figure 18, the digital data is included in Appendix II and the code definitions of lithologies are include in Appendix I.

4.1.3 Soil Sampling

A soil sampling program was conducted during September 2007, covering areas identified from field mapping, radiometric data and aeromagnetic images as being shallow-buried mafic intrusions. In total, 12 samples, from 4 traverses and several random locations were collected (Figure 19). Sample spacing for most of the program was conducted at 800m x 200m, although in some areas sample spacing was condensed. The sampled terrain was generally flat to gently undulating (<9m slope). All soil samples were taken from depths ranging between 5 and 20cm. The lack of a well-developed soil profile dismissed the need to target a specific soil horizon other than the near surface A horizon. All samples were homogenized in situ, and approximately 3 to 5 kg was sieved in the field for a <250 micron fraction. Samples were analysed at ACME Analytical Laboratories in Vancouver using the 1FMS (aqua regia) method, which reports 53 elements to sub ppm levels by ICP-MS.

The soil sample locations are presented in Figure 19, the digital data is included in Appendix II and the code definitions of lithologies are include in Appendix I.

4.1.4 Tree Bark Sampling

Nine (9) tree bark samples were collected at 100m intervals along two traverses on EPM15646. The purpose of the survey was to determine if a vegetation survey could identify anomalous geochemical signatures that are coincident with the soil survey anomalies through thin regolith cover in the Lynd area. The reasoning behind the vegetation sampling is that large areas of the tenement are covered by relatively thick (<20m), transported, sandy soils that suppress soil geochemical signatures from the bedrock. Trees have the ability to tap the geochemistry of the bedrock through the uptake of metals through their roots and a positive vegetation anomaly in an area devoid of soil anomalies could be followed-up by geophysics prior to drill testing.

Two different species of Eucalypt trees were sampled during this survey. Eucalypt trees growing on black soil above mafic intrusives tend to be short (<6 m), have thin trunks (<15 cm diameter) and moderately thick (up to 1cm) cork-like red bark relative to trunk diameter. Eucalypt trees growing in the McKinnon Creek flood plain tend to be tall (up to 10 to 15m), have moderately-thick trunks (<40 cm diameter) and relatively thin brown to yellow bark relative to truck diameter (up to 1cm).

Bark sampling comprised scraping bark from multiple sides of a tree using a blade. The bark chips were captured in a dust-pan and transferred into geochemical sample bags. Care was taken to not sample trees that were obviously contaminated by termite-carried soil, which was particularly common on trees in the flood plain. The bark samples were sent to Colin Dunn, a consultant biogeochemist in Canada where they were oven-dried over night at 60°C before being milled to <1mm fragments. The samples were then sent to ACME Analytical Laboratories in Vancouver and assayed using the ACME Group 1-VE method (digestion of 1 gram sample in HNO3 then Aqua Regia and analysed by ICP-MS which provides low detection limits for 53 elements).

The sample locations are presented in Figure 19, the digital data is included in Appendix II and the code definitions of lithologies are include in Appendix I.

4.1.5 Aircore Drilling

An Aircore drilling program was completed at the Lynd during September and October 2007. The program was terminated early due to a critical defect on the drill rig. A total of 20 drill holes (LYAC prefixed) were drilled for a total of 331m. Sampling took place on 2m intervals. The samples were analysed at ALS Chemex Townsville using a fusion digest followed by an ICP-OES finish.

The drill hole locations are presented in Figure 20, the digital data is included in Appendix III and the code definitions of lithologies are include in Appendix I.

4.2 YEAR 2 EXPLORATION - 2008

Exploration during the second year included: regional geological mapping, regolith mapping, prospect mapping, drilling of 11 RAB drill holes (LYRB08 prefix) for 282 metres and the completion of 2 lines of an IP survey.

4.2.1 Regional Geological Mapping

The geology map of the whole Lynd project area was constructed during 2009 on a 1:50,000 scale. The objective of the mapping was to get better insight in the local geology and gain an understand of the dimensions and geological setting of the mafic intrusives from within the Project. The mapping was compiled with the following datasets: AAEA aeromagnetic survey 1VD and RTP data; RTP open file aeromagnetic data; all geological data collected by AAEA during the course of the project; thin section analysis of all the drilling completed on the project and hand samples. The 1:50,000 scale geology map is presented as Figure 15.

4.2.2 Prospect Geological Mapping – Palmer Rails

The geology map of the Palmer Rails Prospect area was constructed during 2009 on a 1:10,000 scale. The objective of the mapping was to get better insight in the local geology and to gain an understand of the dimensions and geological setting of the mafic intrusives from within the Palmer Rails Project. The mapping was compiled using aeromagnetic data; previous mapping completions, ground truthing, hand samples and all geological data collected by AAEA during the course of the project. The 1:10,000 scale geology map is presented as Figure 16.

4.2.1 Regolith Mapping

A regolith map was constructed for the greater project area from a range of data that included satellite images, radiometric data, aerial photography, Google Earth and ground traversing. The mapping was used to identify different soil types in the area which helped identify areas suitable for geochemistry sampling (i.e. thin soils developed in situ over basement rocks) from areas where alternative exploration methods are required (i.e. transported soils and sand not conducive to soil sampling). The regolith mapping is presented in Figure 17.

4.2.2 RAB Drilling

A RAB drilling programme was conducted during June 2008. Eleven (11) RAB drill holes (LYRB08 prefix) were completed for 282 metres. Samples were taken over 2m composites with logging occurred on a meter scale. Assaying for precious metals by 30 gm fire assay was performed by ALS Chemex, Townsville and Perth whereas base metal analyses were completed using a 4-acid digest by ACME Analytical in Vancouver, Canada.

The aim of the RAB program was to gain a better understanding of the geology located below 10 to 40m of residual and transported cover. Anomalous concentrations of Ni-Cu-PGE were encountered in some holes, but overall, the geochemical results were not significant.

The drill hole locations are presented in Figure 20, the digital data is included in Appendix IV and the code definitions of lithologies are include in Appendix II.

4.2.3 Ground Geophysics - IP Survey

Two lines, (7896800N and 7896400N) of 100m dipole-dipole Induced Polarisation surveying (IP) was completed within EPM15646. The aim of the survey was: 1) to test for the presence of sulphides within the main intrusives as defined from the aeromagnetics and; 2) to get some electrical properties for the regolith. The dipole-dipole method was chosen as this method is more easily and reliably interpreted than other IP configurations.

Search Exploration Pty Ltd were contracted to complete this work using the equipment listed below:

- Search WB 50 high powered transmitter [+50amps]
- Search SSIP 16 channel full waveform receiver
- Two Toyota 4wd, one with hydraulic auger
- Multi-core receiving cable

The IP survey identified a shallow moderate chargeable anomaly located on the eastern margin of a magnetic anomaly and is coincident with a zone of low resistivity, on line 7888600N

Line locations are shown in Figure 11, cross sections are presented in Figures 12 and 13 and the digital data is included in Appendix V.

4.3 YEAR 3 EXPLORATION - 2009

Exploration work carried out on EPM15646, during the third year of the tenement consisted of a Spectrem Airborne Geophysics Survey (TMI, EM and Radiometrics), a ground magnetic survey, termite mound sampling including detailed heavy mineral analysis, 45 RC drill holes for 2196 metres and a petrology study of RC chips from a selection of holes from the drilling.

4.3.1 Aerial Geophysics – Spectrem Air Survey

In late 2009, Spectrem Air Limited conducted an aerial geophysical survey over The Lynd - Block 1 area. A total of 5,070 line km was surveyed for the whole of The Lynd - Block 1 area and approximately 695 line km (Figure 6) was surveyed within the surrendered portion of EPM15646. Data captured includes EM (Figure 8), Magnetics (Figure 7), DTM (Depth of cover - Figure 9) and Radiometrics.

The digital data, details of the survey, the system specifications, standard Spectrem Air data processing stream are presented in Appendix VI.

4.3.2 Ground Geophysics - Magnetics Survey

A small ground magnetic geophysical survey was completed in May 2009 by AAEA personnel. The sampling was carried out on 40m spaced lines over a discrete area of interpreted circular magnetic "pipe" features on EPM15646 (Figure 10).

Table 4: Ground Geophysics - Magnetic Survey Details			
Instrument: Geometrics G858 Caesium Vapour magnetometer with an inbuilt GPS			
Base Station Geometrics G856 proton precession			

	magnetometer
Line Spacing	40m
Line Orientation	East - west.
Total No Lines	30
Line Km	~17 line km

The ground magnetic data revealed the presence of at least six, 80m to 130m diameter pipe-like features that ranged from 20 to 45m beneath the surface. The digital data of this survey are attached in Appendix VII.

4.3.3 Termite Mound Sampling – Geochemistry and Heavy Mineral Analysis

The pipe-like features were identified (Figure 5) were considered to be possible kimberlite or lamproite intrusions capable of hosting diamonds. The importance of these targets is given weight by reports of alluvial diamonds found by previous prospectors in the region (although a kimberlite source has never been located).

The termite samples were collected as close as possible over the known pipe-like features at spaces ranging from 30m to 200m apart (Figure 18). A 2-3kg sample, considered to be representative of the entire termite mound was homogenised in the field and collected into calico bags. A 100 gram representative sample of <250 micron soil, sieved from the termite mound was sent to ACME Analytical Laboratory in Canada and analysed by the Group 1FMS method; an aqua regia digest followed by an ICP-MS finish (Appendix VII).

The 36, two to three kilogram termite mound samples were bulked into one sample in Perth before being sent to Diatech Laboratories and North Australian Diamond Labs in Perth for heavy mineral separation, analysis and observation (Appendix VII). This process produced approximately 12.5 grams of heavy mineral concentrate for observation.

The concentrate was observed down to 0.2mm and revealed the following: two 125 to 175 micron, nearly equi dimensional, cubo - to octahedron, light-grey to colourless, transparent diamonds that were recovered from the +0.5mm concentrate after fusion of the heavy mineral rejects. One black, dull, near spherical, highly granular and weathered Cr-spinel of possible kimberlite origin, one black, dull, subrounded, granular and weathered Cr-spinel of probable kimberlite origin, and several Fe-oxide and Fe-oxihydroxides, epidotes, ilmenites and spessartines.

The <250 micron soil/termite sample geochemistry revealed that three of the six pipe-like features correspond to weakly anomalous concentrations of Ni-Co-Cr-Nb-Ta; a geochemical signature that is typical of kimberlite pipes that can host diamonds.

A follow-up termite and loam sampling program was conducted in August 2009 to collect a larger "bulk" sample over the same area. The same 36

termite mounds were resampled for a combined weight of 308kg and a 77kg combined sample of lag and loam was collected from areas devoid of termite mounds. This bulk termite sample produced 33.3 grams of heavy mineral concentrate for observation, whereas the loam sample produced 19.7 grams of heavy mineral concentrate for observation (Appendix VII).

The combined concentrate was observed down to 0.2mm and revealed the following: one 125 micron, multi-twinned colourless, transparent diamond that was recovered from the +0.5mm concentrate after fusion of the heavy mineral rejects (Figure 8). Two black-brown, dull, well rounded, anhedral, Cr-spinel with bright granular interiors of possible kimberlite origin, four brown, dull, finely frosted, hyercinitic-spinels of improbable kimberlite origin, and Several Fe-oxide and Fe-oxihydroxides, epidotes, ilmenites and spessartines.

4.3.4 Drilling

A 45 hole (VSAC09 prefixed) 2196 m, RC drill program (Figure 17) was conducted in November 2009 to test the cluster of magnetic features at the Vesper Prospect. One thousand one hundred and fourteen (1114) samples were taken on 2m composites with geological logging occurred on a meter scale. Assaying was performed by ALS Chemex in Townsville using ME-ICP61 – 33 element four acid ICP-AES method. All samples were homogenized in situ, and approximately 3 to 5 kg was sieved in the field for a <250 micron fraction. Duplicate samples were collected at a rate of 3 per 100 soil samples and a standard was inserted every 33rd sample for QAQC purposes.

The drilling revealed that brecciated volcaniclastics and fine-grained mafic intrusives were responsible for the magnetic anomalies. Trace amounts of pyrite, bornite and <1% malachite were observed over a one metre interval in drill hole VSAC09036. This drill hole returned a 38m interval of 345ppm Cu from 14m including two metres at 1035ppm Cu from 28m. Nb, Cr, Ni, La and Ce concentrations were not anomalous in any of the drill holes confirming that none of the pipe-like magnetic features were of ultramafic affinity.

Five, >25kg composite samples from five drill holes considered to contain the most likely candidates for kimberlite material were submitted to Diatech Laboratories and North Australian Diamond Labs for heavy mineral separation and observation. None of the three samples revealed the presence of diamonds or diamond indicator minerals (Appendix VII). Several minerals were identified as being possible indicator minerals and therefore required microprobing to determine their species. However, it was concluded that the garnets were all almandine or spessartine, the olivine was in fact sphene and the brown minerals were amphibole not pyroxene. The Vesper prospect will not be considered for follow-up exploration. However, it is clear that the microprobe geochemistry data for the heavy minerals extracted from the termite mounds is significantly different from the data obtained from heavy minerals in the RC drill chips. This suggests that the origin of the three micro-diamonds and four indicator minerals found in the termite samples has not been determined and it is proposed that future work on Anglo American tenements in the southern Georgetown area will incorporate some aspect of diamond exploration.

The hole locations are presented on Figure 17, the digital data is located in Appendix IX and the code definitions of lithologies are include in Appendix I.

4.3.5 Petrology

AAEA commissioned Anthony Ahmat to complete a petrographic report on representative samples from the RC drill holes completed in 2009. The report reveals that the main rock type in most drill holes is a hornblende lamprophyre of intermediate composition. This lamprophyre intrudes granitoids, gneisses, cataclastic quartzo-feldspathic rocks, intrusive breccias and amphibolites. Several of the rocks are highly altered and veined by alkali feldspar and carbonate. The diamond potential of the area based on the petrological report is reduced by the lack of evidence for kimberlite, lamproite or ultramafic lamprophyre. However, the mere presence of lamprophyre is significant. Diamonds have been linked to lamprophyric minettes in some parts of the World. The report is presented in Appendix X.

4.4 YEAR 4 EXPLORATION - 2010

Exploration work carried out during the fourth year of the tenement has been limited to office based studies due to inclement weather conditions throughout the year thus rendering the tenement inaccessible. Activities have focussed on the processing, interpretation and target generation of the Spectrem Aerial geophysical survey.

4.4.1 Interpretation of Aerial Geophysics

In late 2009, Spectrem Air Limited conducted an Airborne Geophysical survey over The Lynd - Block 1 area and a total 1584 line km was flown within EPM15646. The survey delivered Airborne Electromagnetic (AEM) data including: Tau Z, EMX channels 1 to 8 and EMZ channels 1 to 8; conductivity grids at various depths; magnetic data, terrain DEM; radiometric data TC, K, U, Th, and CDI data of individual lines.

Conductivity-depth images (CDI's) were generated for all the flight lines in the surveyed area, however no targets were identified within the surrender area.

4.5 YEAR 5 EXPLORATION - 2011

No exploration work carried out during the fifth year of the tenement due to extreme weather conditions experienced throughout the year.

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