

First Annual Report
on
EL 12/2012 – Scottsdale

Reporting Period: 12 December 2012 - 11 December 2013
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1 EXECUTIVE SUMMARY

Exploration Licence (EL) 12/2012 "Scottsdale" was applied for by ABx4 Pty Ltd (**ABx4**) in order to facilitate an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics, in an area with old peneplained surfaces preserved as plateaus. The goal of the program is to determine the quality and quantity of the bauxite in the area using an RC drill rig mounted on a light 12 tonne truck.

Surface reconnaissance commenced in January 2013 and focused on exploring targets identified during desktop analysis of geomorphology, geology and remote sensing data. Detailed geological mapping, including geomorphological mapping, was complete for each of the target areas to define the area with best potential for bauxite. Numerous bauxite ore bodies were identified, mapped and sampled and two key locations were identified for drill testing which contained the best areas for bauxite tonnage potential.

In March 2013 ABx4 completed drill testing of the Scottsdale bauxite targets in EL12/2012. The drilling was proposed to determine the grade and extent of bauxite in the area. Drilling was undertaken using the contracting company Underdales who provided Air core rig mounted on a light Mitsubishi 12 tone truck with a driller and offsider. Drilling was carried out in a semi-random pattern. All drill hole locations were surveyed at the time of drilling using hand held GPS, with accuracy of $\pm 5\text{m}$. A total of 68 holes were drilled for 640m. All drill sites were rehabilitated on completion.

Samples were collected at meter intervals. All samples were analysed via Hand held Niton XRF onsite. 104 samples which had positive Niton XRF results were submitted to ALS for whole analysis and an additional 14 samples were submitted for sieved analysis.

The bauxite mineralization in the Scottsdale Tenement is hosted in Tertiary volcanics. The mineralisation occurs as sheets of bauxitised volcanics, which drape the paleo topography. The bauxite occurs at the tops of highly elevated hills which are capped with bauxite mineralisation. The volcanic host has overlain soft tertiary quartz gravels which are heavily eroded and often undercut the bauxite causing it to slump down the hill sides in some locations. The two key targets 'Plantation target' and 'Glennon's target' consisted of small zones of bauxite within the larger target area. Debris was scattered over the plateau via erosion of small hills of bauxite which may have been more extensive in the tertiary period.

The bauxite is predominantly composed of red volcanogenic hematitic vuggy bauxite, which often contains pink gibbsite and infrequent mag-heamite pisolites. It is a gibbsite-rich bauxite mostly in an amorphous phase which is often vuggy with iron depletion around the rims of the vughs and enrichment of iron in zones between vughs. The bauxite contains an increase amount of quartz grains but is usually less than 5%. Quartz is an inert mineral in the processing of bauxite at low temperature, and the only deleterious trait is it dilutes the ore slightly.

The tonnage in the Scottsdale tenement has a total of less than 50,000 Tonnes of low-sub grade bauxite. This is not economically viable and is much less than expected. For the deposit to become economically viable more tonnage need to be discovered and the grade needs to be increased slightly. The lack of tonnage is due to only small amounts of bauxite being discovered in the two key areas of bauxite potential.

Sieving of the Bauxite at Scottsdale is expected to improve the grade to a moderate classification or even high grade in some locations. It is strongly recommended to submit and additional two holes for sieved analysis..

Exploration has been moderately unsuccessful in identifying economically viable bauxite resources in the Scottsdale Tenement EL12/2012. Drilling has identified multiple bauxite ore bodies but grade and tonnage was much lower than expected. The deposits are located in areas generally considered poor quality land of moderate conservation value.

Exploration in 2014 will be focused on regional exploration potential bauxite targets in the far north and south of the tenement. Some work will be completed on processing to improve grade of the current deposit.

2 ABSTRACT

Objective:

Exploration Licence (EL) 12/2012 “Scottsdale” was applied for by ABx4 Pty Ltd (**ABx4**) in order to facilitate an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics, in an area with old peneplained surfaces preserved as plateaus. The goal of the program is to determine the quality and quantity of the bauxite in the area using an RC drill rig mounted on a light 12 tonne truck.

Methodology:

1. Detailed geological mapping, including geomorphological mapping, to define the areas with best potential for bauxite.
2. Systematic sampling of natural outcrops and exposures in road cuts of the lateritic weathering profile.
3. Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive Silica, loss on ignition and other analyses as required in bauxite search.
4. Drill testing of zones with best potential defined by work under 1, 2. and 3, by an RC drill rig mounted on a light 12 tonne truck to get samples representing the whole lateritic weathering profile (from upper-most iron rich zone through alumina rich zone down into mottled and pallid saprolite zone).
5. Systematic drill testing at close spacings to obtain data for resource estimation in the best target areas defined by programme under 4.

Results:

Surface reconnaissance commenced in January 2013 and focused on exploring targets identified during desktop analysis of geomorphology, geology and remote sensing data. Detailed geological mapping, including geomorphological mapping, was complete in each target area to define the areas with best potential for bauxite. Numerous bauxite ore bodies were identified, mapped and sampled and two key locations were identified for drill testing which contained some of the best areas of bauxite tonnage potential.

In March 2013 Australian Bauxite Limited subsidiary company ABx4 completed drill testing of the Scottsdale bauxite targets in EL 12/2012. Drilling was carried out in a semi-random pattern and a total of 68 holes were drilled for 640m.

The bauxite mineralization in the Scottsdale Tenement is hosted in Tertiary volcanics on the old tertiary surface. The mineralisation occurs as sheets of bauxitised volcanics, which drape the paleo topography. The bauxite at Scottsdale occurs as highly elevated hills capped with bauxite mineralisation. The volcanic host has overlain soft tertiary quartz gravels which are heavily eroded and often undercut the bauxite causing it to slump down the hill sides in some locations. The two key targets 'Plantation target' and 'Glennon's target' consisted of small zones of bauxite within the larger target area. Debris was scattered over the plateau via erosion of small hills of bauxite which may have been more extensive in the tertiary period.

The bauxite at Scottsdale is predominantly composed of red volcanogenic hematitic vuggy bauxite, which often contains pink gibbsite and infrequent mag-hemite pisolites. It is a gibbsite-rich bauxite mostly in an amorphous phase which is often vuggy with iron depletion around the rims of the vughs and enrichment of iron in zones between vughs. The Iron is mostly in the form of hematite, and rare goethite banding. The Scottsdale bauxite contains an increase amount of quartz grains but is usually less than 5%. Quartz due to the direct contact with the underlying quartz gravels. Quartz is an inert mineral in the processing of bauxite at low temperature, and the only deleterious trait is it dilutes the ore slightly.

The tonnage in the Scottsdale tenement has a total of less than 50,000 Tonnes of low-sub grade bauxite. This is not economically viable and in much less than expected. For the deposit to become economically viable more tonnage need to be discovered and the grade needs to be increased slightly. The lack of tonnage is due to only small amounts of bauxite being discovered in the two key areas of bauxite potential.

Recommendations for future work:

Recommendation for future work include further:

- Detailed geological mapping, including geomorphological mapping and study of satellite images to define the areas with the best potential for bauxite.
- Systematic sampling of natural outcrops and exposures in road cuts of lateritic weathering profile.
- Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive quartz, loss on ignition and sieving (+0.26mm) at 260 microns as required in the bauxite search.
- Drill testing of zones with best potential with an RC drill rig mounted on a light six wheel truck to get samples representing the whole lateritic weathering profile (from upper-most iron rich zone through alumina rich zone down into mottled and pallid saprolite zone).
- Systematic drilling at close spacings to obtain data for preliminary resource estimation in the best target areas defined by program.
- Sieve testing to find optimal sieve size for Tasmanian bauxites.
- Detailed analysis of assay results to determine assaying strategy for future drilling.

3 INTRODUCTION

Exploration Rationale

ABX4 Pty Ltd the holder of Category 1 Exploration Licences EL12/2012 wholly owned subsidiary of Australian Bauxite Ltd. Australian Bauxite Limited (ABx) (ASX: ABZ) is an exploration company that holds the core of the Tasmanian Bauxite Province with all tenements selected on 3 principles:

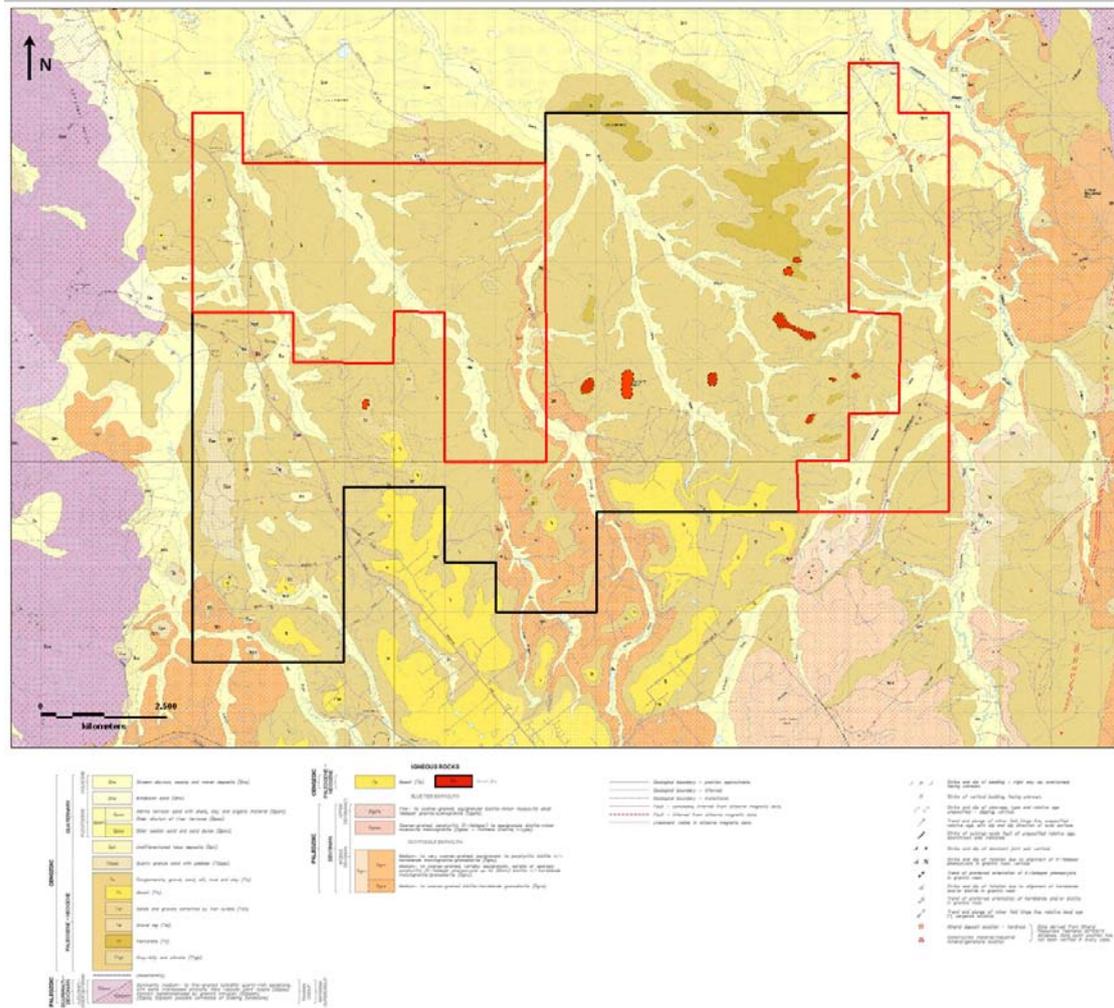
- Quality – good quality bauxite with potential for significant resource tonnages;
- Proximity – easy access to infrastructure connected to export ports; and
- Accessibility – free of socio-environmental or native title land constraints.

Land within the tenement consists of freehold agricultural land with some forests and plantations. Bauxite targets are located mostly on Crown land.

EL 12/2012 “Scottsdale” was applied for in order to facilitate an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics in an area with old peneplained surfaces preserved as plateaus. The goal of the program was to determine the quality and quantity of the bauxite in the area using an RC drill rig mounted on a light 12 tonne truck.

Geological Setting

Bauxite mineralization is generally confined to hills, ridges, plateaus, and channels of bauxitised volcanoclastic which drape the paleo-topography. The bauxite was formed during the Lower Tertiary period when volcanism commenced and extreme tropical climatic conditions prevailed – at the boundary between the Cretaceous Era and the onset of the Tertiary Era which is often referred to as the K-T boundary commonly associated with the extinction of the dinosaurs, approximately 60 million years ago. The bauxite occurs on the old lateritic surface, where the processes of laterisation in the Tertiary period has removed silica from the rock, leaving mainly Aluminium and Iron rich minerals behind.



Map 1 - EL12/2012 geological map with tenement outline and area to be relinquished.

Base map - McClenaghan, M.P., Vicary, M.J. 2010. Digital Geological Atlas 1:25000 Scale Series, Sheet 5445. Pearly Brook. Mineral resources Tasmania.

Tenement Information

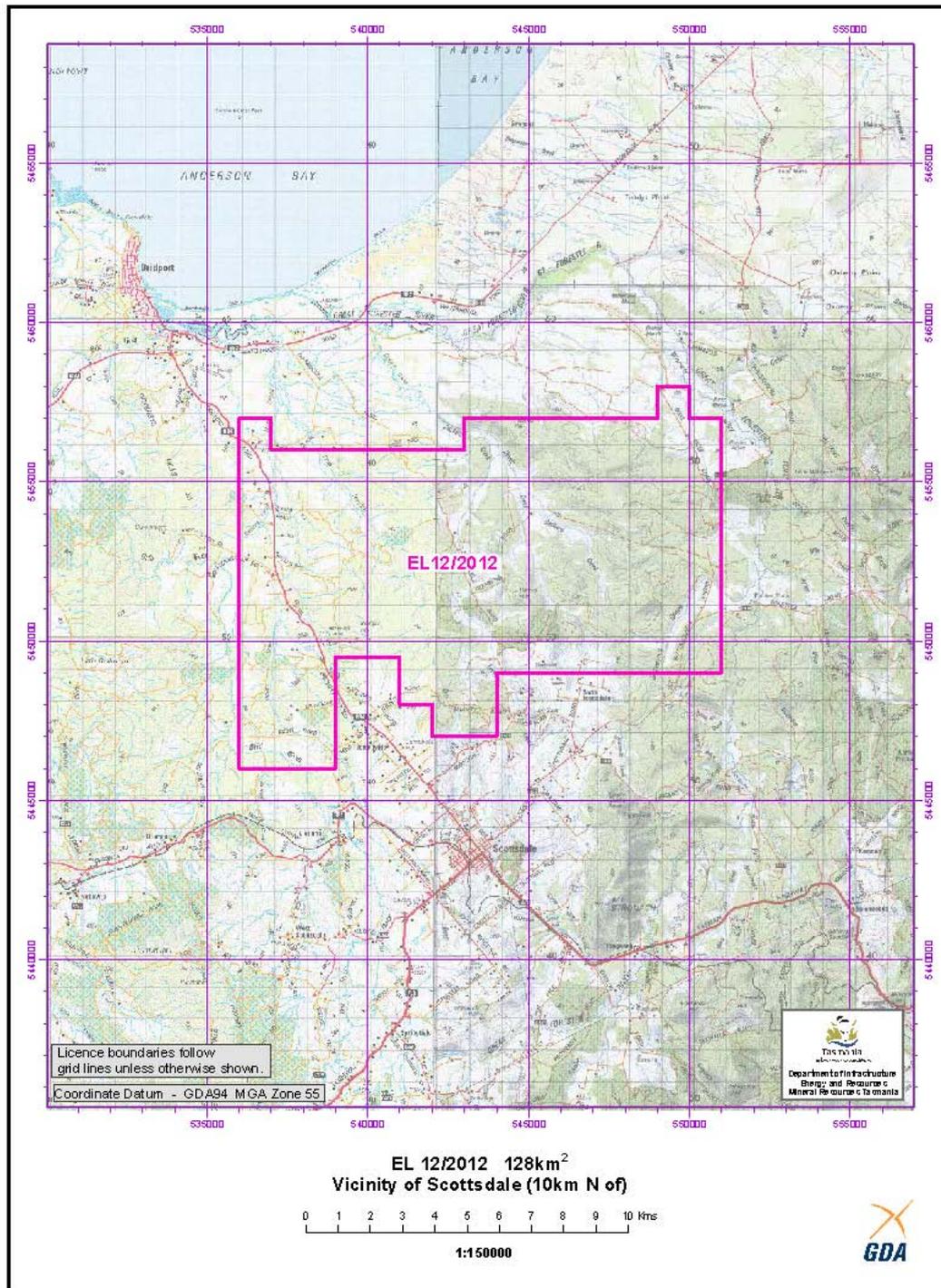
EL 12/2012 “Scottsdale” was granted on and from 12 December 2011 for a period of 5 years to ABx4. This is the Annual Report for the reporting period 12 December 2012 - 11 December 2013 incorporating the results of work completed over the first year of tenure.

Total area of the original licence is 128sq km. ABx4 however is relinquishing 46sq km to bring the total remaining area to 82sq km. The Mineral Category of EL 12/2012 is 1 – Metallic Minerals and Atomic Substances.

Location

The Scottsdale tenement is centred on the Scottsdale State forest and is approximately 4km north of Scottsdale. 60km to the port of bell bay by road which is a large operating port. There is also a railway through Scottsdale which is currently decommissioned. The Scottsdale tenement is ideally located for both rail and road transport to the port.

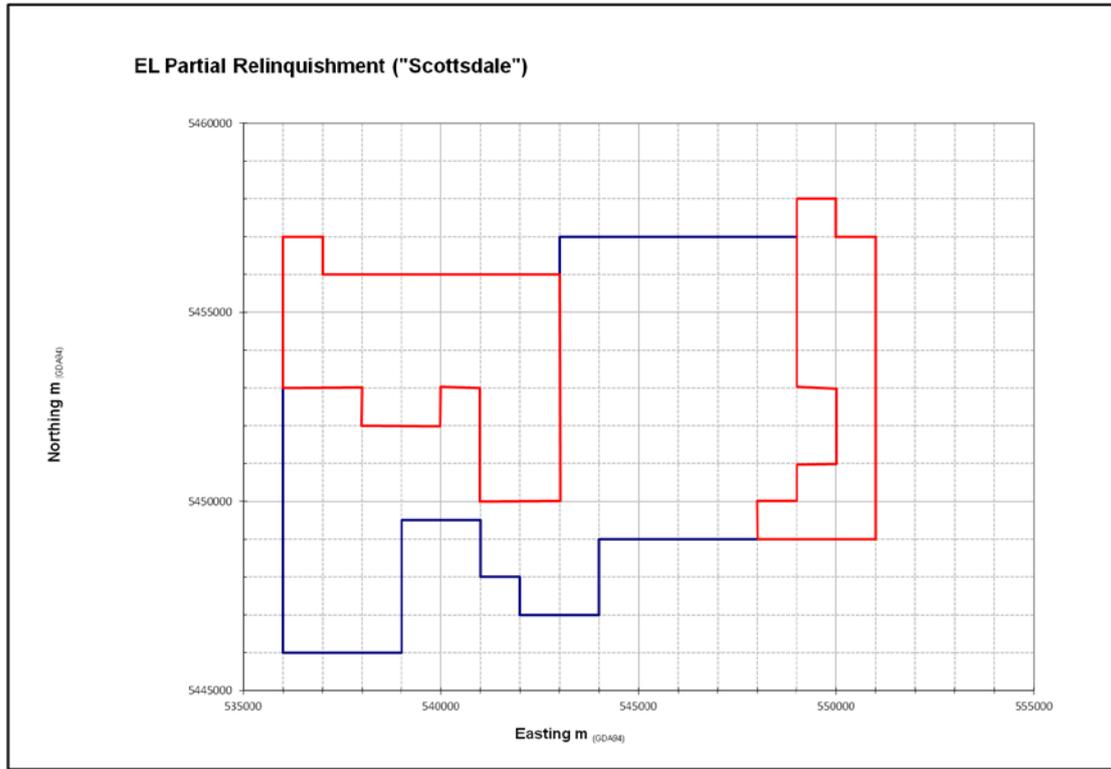
The majority of the land usage is Plantation, State forest and agricultural land. Gaining access to farming properties has been very successful; with all landowners contacted by ABx4 allowing exploration on their land.



Map 2 – EL 12/2012 licence map

Tenure, including joint venture details and title transfers

EL 12/2012 “Scottsdale” is 100% owned by ABx4 which is a fully owned subsidiary of Australian Bauxite Limited.



Map 3 – EL 12/2012 relinquishment areas marked by red outline

4 REVIEW OF PREVIOUS WORK

Prior to Current Tenement

No Historical references for bauxite have been identified for the Scottsdale Tenement.

5 EXPLORATION COMPLETED DURING THE REPORTING PERIOD

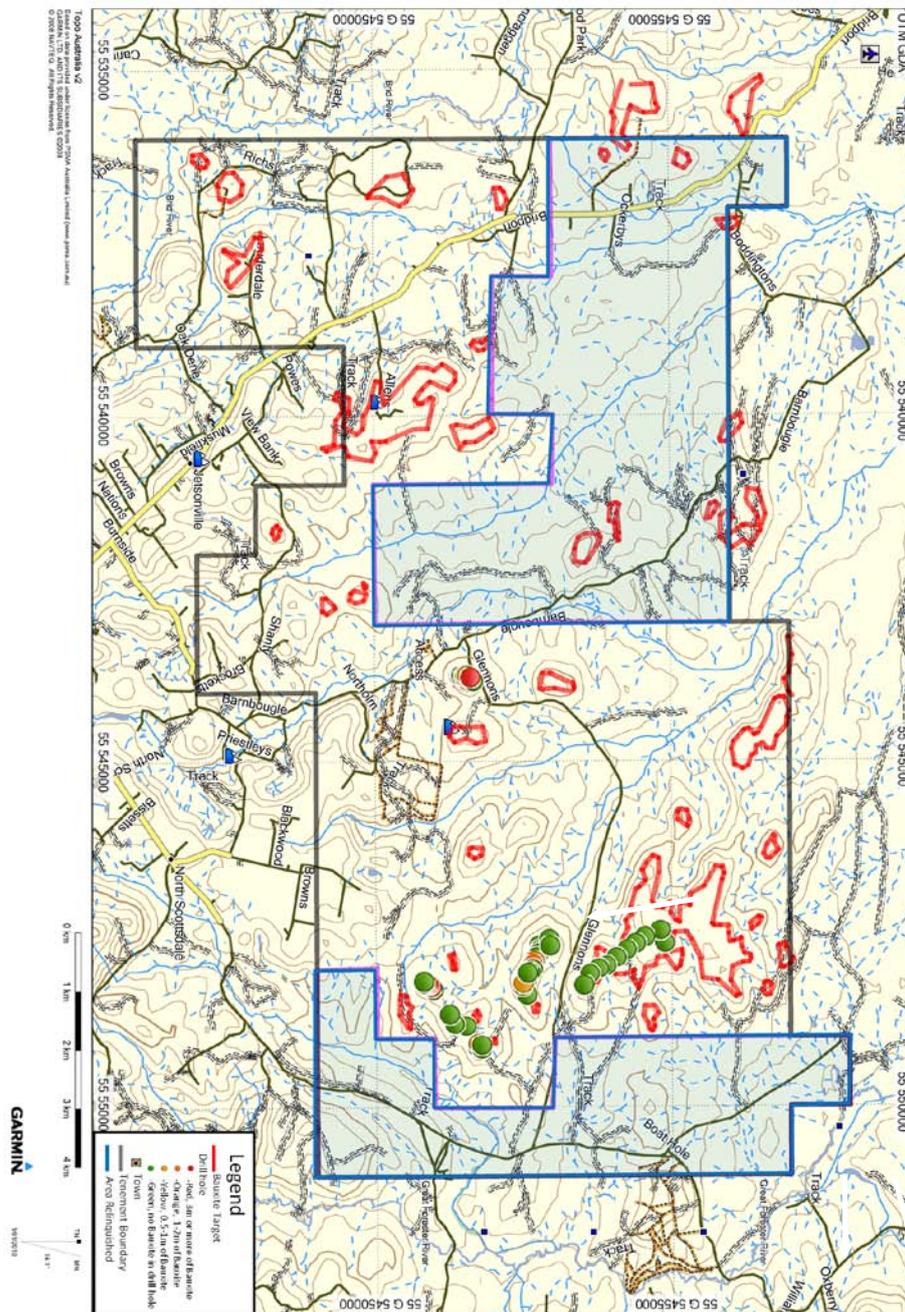
Literature Review

No reports on bauxite have been identified in the Scottsdale Tenement.

Geological Maps composed by Mineral Resources Tasmania:

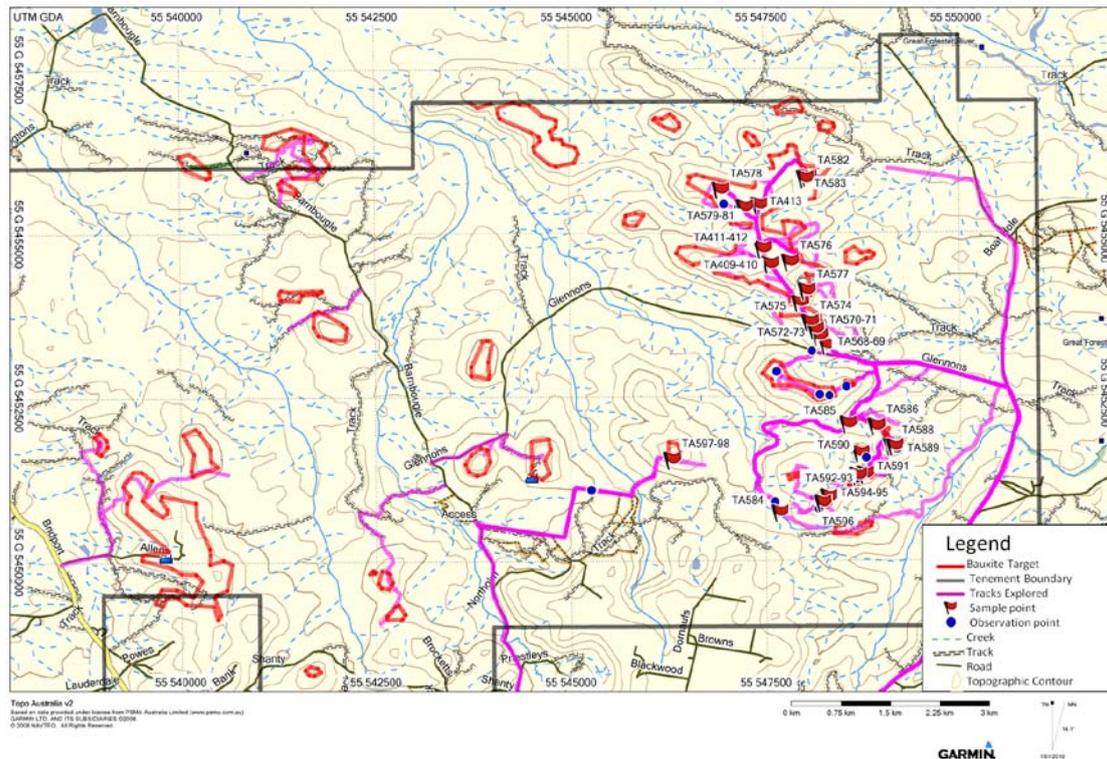
- McClenaghan, M.P., Vicary, M.J. 2010. Digital Geological Atlas 1:25000 Scale Series, Sheet 5445. Pearly Brook. Mineral resources Tasmania.

Regional Exploration Activities



Map 4 –Map showing location of EL 12/2012, areas to surrender and bauxite exploration activities

Surface Reconnaissance



Map 5 - Map of areas covered during Reconnaissance

Surface reconnaissance commenced in January 2013 and focused on exploring targets identified during desktop analysis of geomorphology, geology and remote sensing data. Reconnaissance was completed by means of driving on roads, tracks, and by exploring on foot when track were not available. Exploration was complete with a 2 person team made up of a geologist and land owner consultant driving a small 4WD.

Detailed geological mapping, including geomorphological mapping, was complete in each target area to define the areas with best potential for bauxite. Outcrops of bauxite and lateritic horizons were systematically sampled and submitted to ALS for chemical analyses. The Analysis include specialist analyses to determine total and available alumina, total and reactive quartz, loss on ignition and other analyses as required in bauxite search. (The complete assay results can be found in Appendix A)

Numerous bauxite ore bodies were identified, mapped and sampled. Many of these ore bodies outcropped at surface and sampling confirmed that DSO quality bauxite was present (Table 1). Some surface samples contained more than 50% Available Alumina which is uncommonly high in Volcanogenic Bauxite.

Two key locations were identified for drill testing which contained some of the best areas of bauxite tonnage potential. These targets were the 'Plantation targets' and 'Glennon's Targets - Deposit A' (SE-056). These locations are both large plateaus covered in red soil with bauxite debris and numerous bauxite outcrops. Drilling of these targets was highly recommended.

Table 1 - Assay results for samples taken during Reconnaissance

Sample information				Assay Results					
Sample ID	Easting	Northing	Elevation	Al2O3avl	Rx SiO2	Al2O3	SiO2	Fe2O3	LOI
				%	%	%	%	%	%
TA408	548083	5453610	200	41.7	2.9	49.8	4.0	16.5	25.0
TA409	547572	5454506	169	30.9	5.2	40.4	6.2	24.8	24.6
TA410	547572	5454506	169	3.8	13.3	20.5	15.0	46.7	14.3
TA411	547477	5454737	44	25.7	2.2	33.5	3.2	36.7	22.3
TA412	547477	5454737	44	27.7	7.4	40.1	8.6	25.2	23.0
TA413	547441	5455410	54	4.9	10.8	18.1	52.7	15.4	12.0
TA568	5453265	548302	115	1.7	8.3	8.5	80.5	3.0	7.4
TA569	5453265	548302	115	0.8	8.7	7.7	83.1	2.5	6.2
TA570	5453403	548198	136	0.9	15.7	13.0	77.3	3.2	5.8
TA571	5453403	548198	136	2.0	11.3	12.5	67.6	9.2	9.2
TA572	5453500	548147	132	13.0	4.7	17.8	68.8	3.2	9.8
TA573	5453500	548147	132	18.7	3.0	24.1	63.8	1.5	10.1
TA574	5453624	548078	137	51.5	2.1	55.3	2.8	10.7	30.5
TA575	5453914	547952	145	1.7	27.0	25.9	29.8	25.4	13.7
TA576	5454538	547831	150	31.8	12.9	47.7	14.5	13.4	20.8
TA577	5454097	548042	148	40.7	3.4	47.8	3.9	15.5	27.8
TA578	5455640	546940	146	0.5	14.5	11.4	64.4	14.0	7.1
TA579	5455375	547247	149	2.3	13.3	15.3	62.8	8.9	10.9
TA580	5455375	547247	149	1.0	4.9	2.9	89.2	3.5	2.8
TA581	5455375	547247	149	0.4	9.6	2.6	90.5	3.6	2.1
TA582	5455832	548058	156	7.8	7.5	16.4	59.4	12.7	10.1
TA583	5455808	548030	156	10.8	7.0	16.8	71.2	2.6	9.0
TA584	5450725	547672	116	1.7	15.9	16.9	65.3	6.4	9.4
TA585	5452073	548554	104	6.4	18.7	26.0	37.4	8.8	26.3
TA586	5452034	548923	136	4.0	6.9	12.1	61.8	17.3	7.1
TA587	5451737	549111	161	16.9	0.8	23.3	2.4	50.5	16.9
TA588	5451720	549120	161	19.0	5.6	28.1	8.8	39.1	17.7
TA589	5451719	549154	161	33.2	1.5	37.6	1.9	31.7	23.1
TA590	5451622	548712	157	37.7	1.8	44.5	2.4	23.6	25.2
TA591	5451305	548775	159	2.7	9.9	14.4	29.5	43.1	11.6
TA592	5451275	548677	154	51.7	3.0	58.3	3.4	3.7	31.4
TA593	5451275	548677	154	52.6	2.2	58.9	3.7	3.6	31.1
TA594	5450954	548309	158	38.5	4.9	45.3	5.6	18.9	26.1
TA595	5450954	548309	158	41.6	1.0	45.0	1.5	21.7	27.1
TA596	5450867	548226	163	39.9	1.3	43.3	1.6	24.0	26.4
TA597	5451528	546296		40.2	2.0	45.3	2.8	20.6	26.8
TA598	5451528	546296		41.8	3.3	48.0	3.8	16.9	27.7

Exploration Drilling

In March 2013 Australian Bauxite Limited subsidiary company ABx4 completed drill testing of the Scottsdale bauxite targets in EL 12/2012 located 14km by road north east of Scottsdale. The drilling was proposed to determine the grade and extent of bauxite in the area. Areas were initially surveyed by a geologist to determine best drilling areas then a second survey was completed by Philip Milner (Botanical Consultant) to complete Flora, Fauna and Heritage clearance survey. Based on the outcomes of both surveys; a work proposal for drilling was submitted to, and approved by MRT.

Drilling was undertaken using the contracting company Underdales who provided Air core rig mounted on a light Mitsubishi 12 tone truck with a driller and offsider. The Rig accessed drill sites via access roads, fire trails and fence lines. All machinery and equipment was washed down before and after accessing each target. All personnel were briefed and given relevant documentation before commencing work. No fires were permitted on site. Drilling was carried out in a semi-random pattern with typical spacing's between 20-200m. Drilling recovery is generally good and consistent and all drill hole locations were surveyed at the time of drilling using hand held GPS, with accuracy of $\pm 5m$. A total of 68 holes were drilled for 640m. All drill sites were rehabilitated on completion including removal of all rubbish, samples and plugging and backfilling of drill holes.

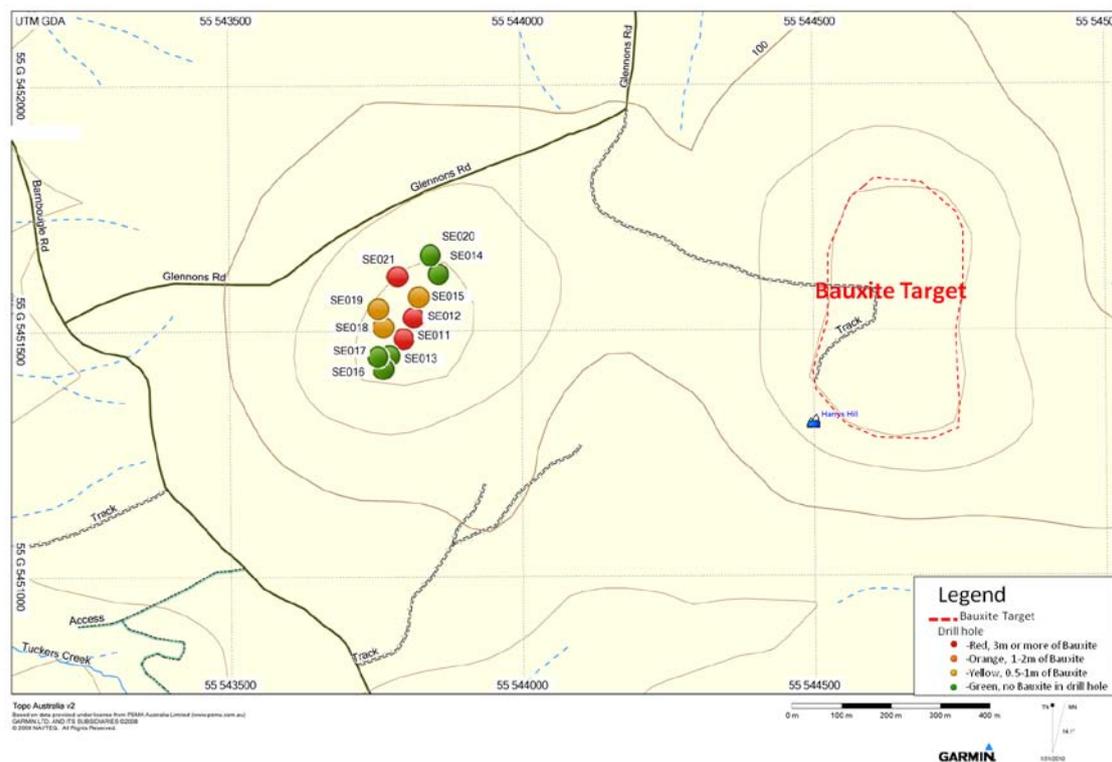
Samples were collected at meter intervals. Bauxite samples were firstly mixed well by hand then split for analysis at the ALS laboratory in Brisbane. Additional samples were taken for Hand held Niton XRF analysis onsite and large samples were taken for metallurgical testing at a later date. A small sample was also added to a chip tray at metre long intervals. All Bauxite and non-bauxite samples, and chip trays are stored in a nearby storage shed. 104 samples which had positive Niton XRF results were submitted to ALS for whole analysis and an additional 14 samples were submitted for sieved analysis.

Photo 1 (left)- Example of the bauxite textures in the Scottsdale state forest. Red Haematic bauxite with long yellow vughs filled with paler bauxite.



Photo 2 (above)- Drill rig moving site in a Paddock filled with bauxitic soil and lumps of bauxite on Rex Lethborg's property.

Lethborg's Bauxite Targets



Map 6 - Map of drilling on Rex Lethborg's property and undrilled bauxite target

Lethborg's bauxite target is located 7.7km directly north of Scottsdale, 500m along Glennons Road (off Barnbougale Road). The primary land use for this property is cropping, plantation and grazing. The drilling was proposed to determine the grade and extent of bauxite in the area. Work was focused on the cleared ploughed paddock at the top of a steep hill. A total of 11 holes (SE011-SE021) were drilled for 107m. The Drilling was carried out in a semi-random pattern with typical spacing's between 20-65m. The recovery of drill chips was generally good and consistent down hole.

Most samples from drill holes were tested using the hand held Niton XRF. 40 samples from this target which had positive Niton XRF results have been submitted to ALS for whole analysis and an additional 12 samples were submitted for sieved analysis.

The bauxite mineralization is generally confined to the first few meters of the flat topped hill and consists of bauxitised volcaniclastic which drapes the paleo-topography. The bauxite dips in a northerly direction, potentially due to slumping caused by erosion of the soft underlying material undercutting the bauxite layer. The bauxite mineralisation is approximately 150mx50m which is the approximate size of the hill top.

The bauxite mineralisation for Lethborg's Deposit averaged 2.8m thick with a maximum thickness of 4m. The Average whole sample grade is 26.0% Available Al₂O₃, 7.0% Reactive SiO₂, 37.6% total Al₂O₃, 9.9% total SiO₂, 24.3% Fe₂O₃, 5.1% TiO₂ and 22% loss of ignition. This deposit is classified as low grade without sieving. There is not enough sieved data for estimating sieved grade but a comparison between whole and sieved grades shows that sieving will increase tonnage and grade. It would be likely that sieving will increase the grade to a classification to moderate-high grade. See Table 2.

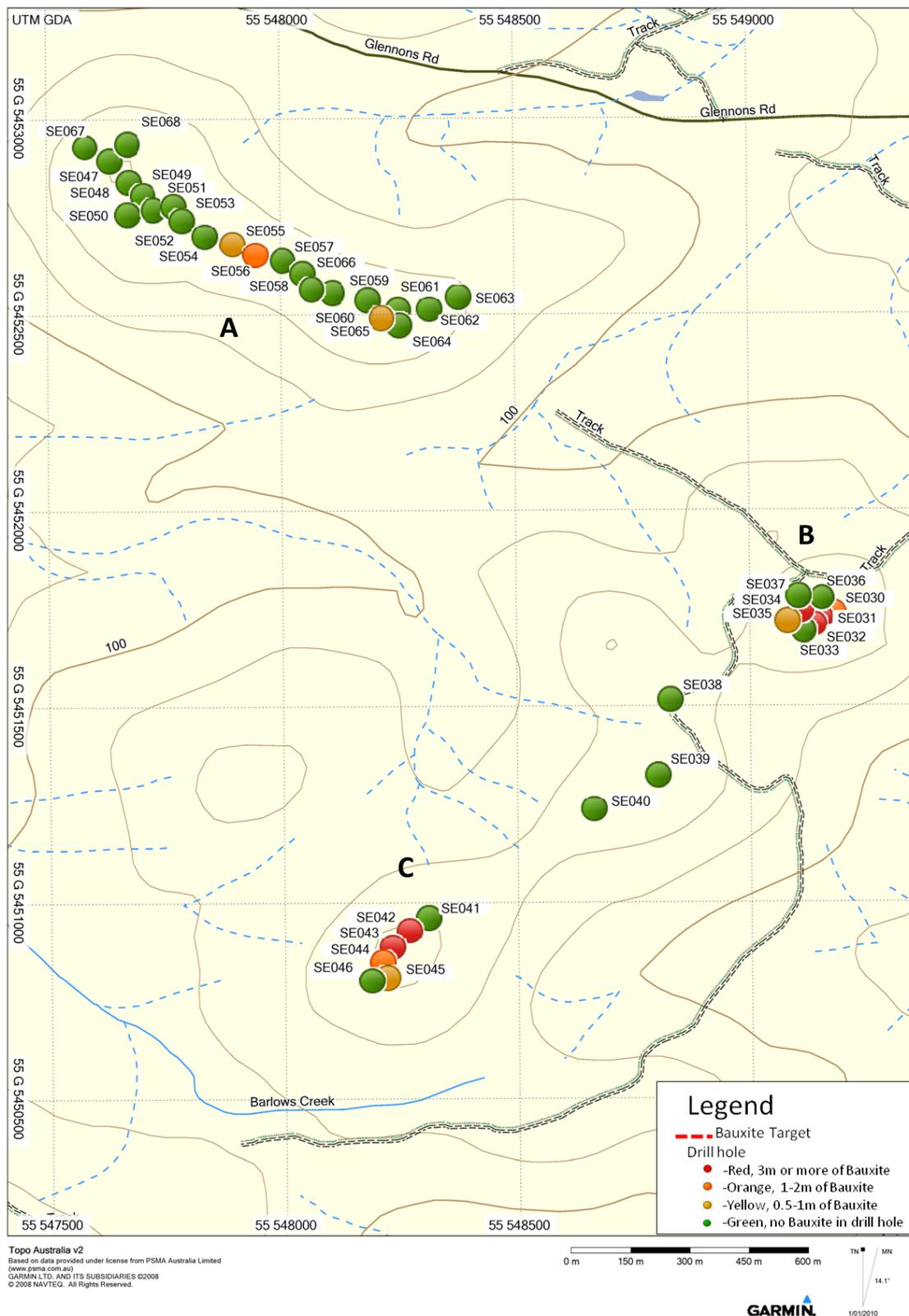
Table 2 - Hole SE021 Comparison of whole vs Sieving samples, Upgrading with sieving.

Sample No.	Sieved at 0.26mm								Recovery
	Al2O3avl %	Rx SiO2 %	A/S Ratio	Al2O3 %	SiO2 %	A/S Ratio	Fe2O3 %	LOI %	
SE02101	30.5	6.4	4.8	39.4	18.2	2.2	15.0	21.8	30.9
SE02102	32.0	9.9	3.2	44.2	11.8	3.8	14.7	23.1	49.6
SE02103	46.6	5.9	7.9	52.7	6.4	8.3	8.8	28.5	58.2
SE02104	15.8	8.9	1.8	27.9	10.0	2.8	36.6	18.4	26.3
SE02105	36.9	6.6	5.6	45.4	7.3	6.3	17.2	25.5	63.4
SE02106	28.3	6.4	4.4	37.9	7.1	5.3	26.7	22.1	41.7
SE02107	8.5	6.9	1.2	15.7	58.6	0.3	14.2	9.3	36.7

Sample No.	Whole Sample							
	Al2O3avl %	Rx SiO2 %	A/S Ratio	Al2O3 %	SiO2 %	A/S Ratio	Fe2O3 %	LOI %
SE02101	10.5	13.3	0.8	23.9	46.5	0.5	12.9	12.4
SE02102	22.7	11.6	2.0	37.0	15.8	2.3	19.6	19.4
SE02103	30.5	9.2	3.3	43.9	10.5	4.2	16.4	24.0
SE02104	11.4	13.3	0.9	27.9	15.3	1.8	32.6	16.7
SE02105	28.2	7.9	3.6	41.0	9.0	4.6	21.5	23.1
SE02106	20.7	8.6	2.4	33.5	9.9	3.4	29.9	19.9
SE02107	10.2	14.3	0.7	24.6	37.5	0.7	19.0	14.3

The complete assay results can be found in Appendix D

Glennon's Bauxite Target



Map 7 - Drilling completed in the Scottsdale state forest

Glennon's bauxite targets are located 8-10km north east of Scottsdale, 1.7km along Glennons Road (off Old Waterhouse Road). These targets are located in crown land classified as State Forest Reserve. The drilling was proposed to determine the grade and extent of bauxite in the area. Work was focus on

drilling along fire trails and bike tracks through the forest. A total of 36 holes (SE041-SE068 & SE030-SE037) were drilled for 333m. Drilling was carried out in a semi-random pattern with typical spacing's between 20-75m. The recovery of drill chip is generally good and consistent down hole.

Most samples from drill holes were tested using the hand held Niton XRF. 54 samples from these targets which had positive Niton XRF results have been submitted to ALS for whole analysis and an additional 2 samples were submitted for sieved analysis.

The bauxite mineralization in the Glennon's targets is generally confined to the top of the hills and consists of bauxitised volcanoclastic which drapes the paleo-topography.

Deposit A (SE047-SE068)

22 holes were drill into Deposit A of the Glennon's targets. The bauxite mineralisation was intersected several times but only intersected economic grades in two holes. Table 3 shows the result for SE056 which was an economic grade hole with sieving. It also demonstrates the thickness and grade of bauxite can be significantly increased with sieving but recovery is quite low.

The bauxite at deposit A does not occur on the highest point of the plateau which is the typical location to find the thickest quantities of bauxite. The bauxite occurs in the centre of the plateau and a tiny bit in the east where it outcrops.

Table 3 - Hole SE056 Comparison of whole vs Sieving samples, Upgrading with sieving.

Sample No.	Sieved at 0.26mm								Recovery
	Al ₂ O ₃ avl %	Rx SiO ₂ %	A/S Ratio	Al ₂ O ₃ %	SiO ₂ %	A/S Ratio	Fe ₂ O ₃ %	LOI %	
SE05601									
SE05602	31.4	4.6	6.8	40.4	6.0	6.8	26.0	23.5	43.4
SE05603	35.6	3.8	9.4	43.6	4.6	9.5	21.5	25.4	42.7
SE05604									

Sample No.	Whole Sample							
	Al ₂ O ₃ avl %	Rx SiO ₂ %	A/S Ratio	Al ₂ O ₃ %	SiO ₂ %	A/S Ratio	Fe ₂ O ₃ %	LOI %
SE05601								
SE05602	20.9	13.2	1.6	37.5	15.9	2.4	21.4	21.2
SE05603	25.2	6.2	4.1	35.8	7.4	4.8	29.1	21.6
SE05604								

The complete assay results can be found in Appendix D

Deposit B (SE030-SE037)

8 holes were drilled into Deposit B, 4 of these holes intersected economic bauxite mineralisation. The mineralisation averaged 2.4m thick with a maximum thickness of 3m and covered an area of about 70m x 100m.

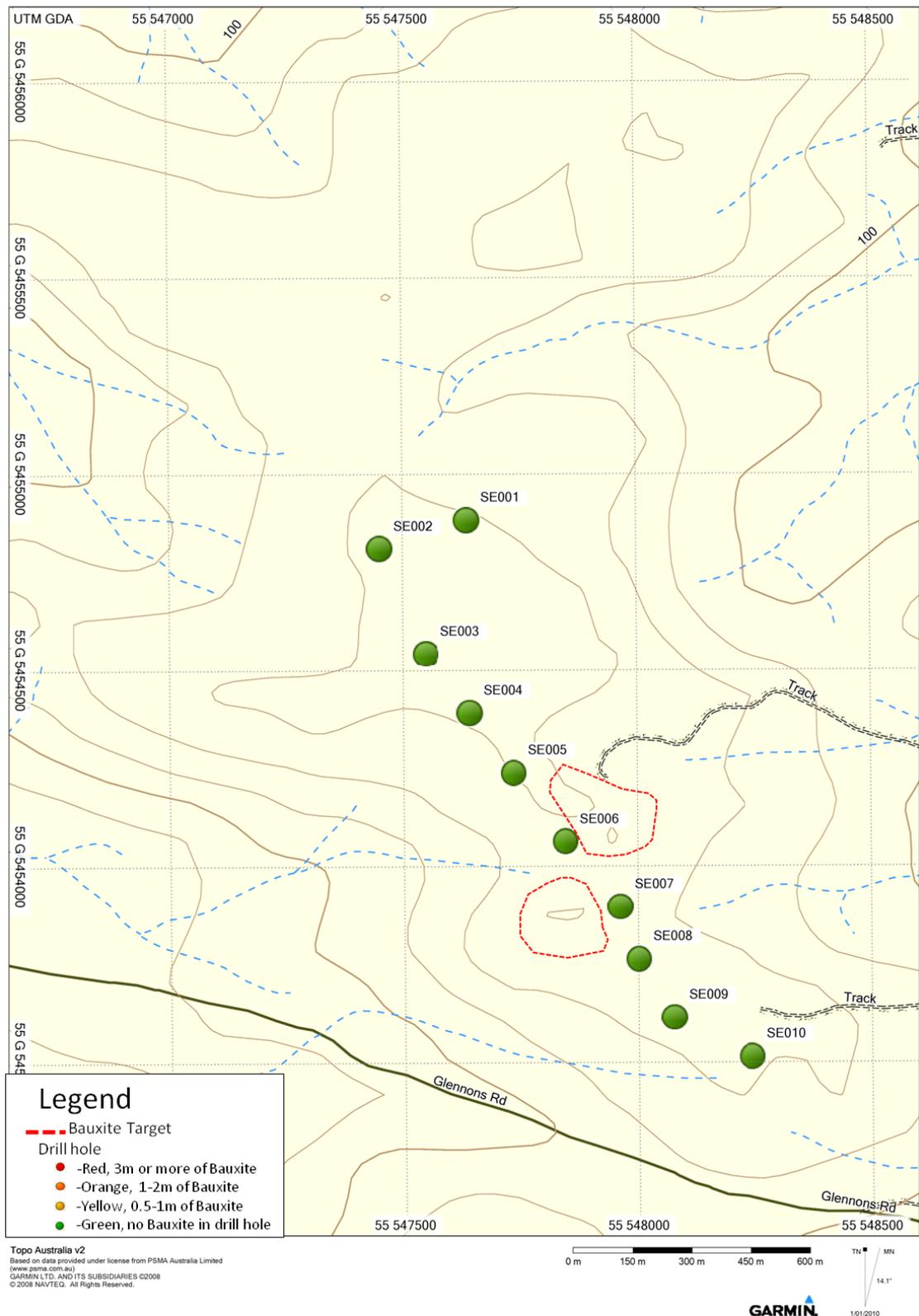
Average grade for Deposit B is 25.7% Available Al₂O₃, 3.6% Reactive SiO₂, 33.3% total Al₂O₃, 8.7% total SiO₂, 31.5% Fe₂O₃, 5.0% TiO₂ and 20.4% loss of ignition. This deposit would be classified as low-sub grade but it is expected that grade would increase significantly with sieving. It is recommended that some samples be submitted for Sieved analysis.

Deposit C (SE041-SE046)

6 holes were drilled into Deposit C, 4 of these holes intersected economic bauxite mineralisation. The mineralisation averaged 2.4m thick with a maximum thickness of 4m and covered an area of about 50m x 150m.

Average grade for Deposit C is 24.6% Available Al_2O_3 , 5.9% Reactive SiO_2 , 34.5% total Al_2O_3 , 9.7% total SiO_2 , 29.1% Fe_2O_3 , 5.2% TiO_2 and 20.5% loss of ignition. This deposit would be classified as low-sub grade but it is expected that grade would increase significantly with sieving. It is recommended that some samples be submitted for Sieved analysis.

Plantation Bauxite Target



Map 8 - Map of Drilling completed in state forest plantation

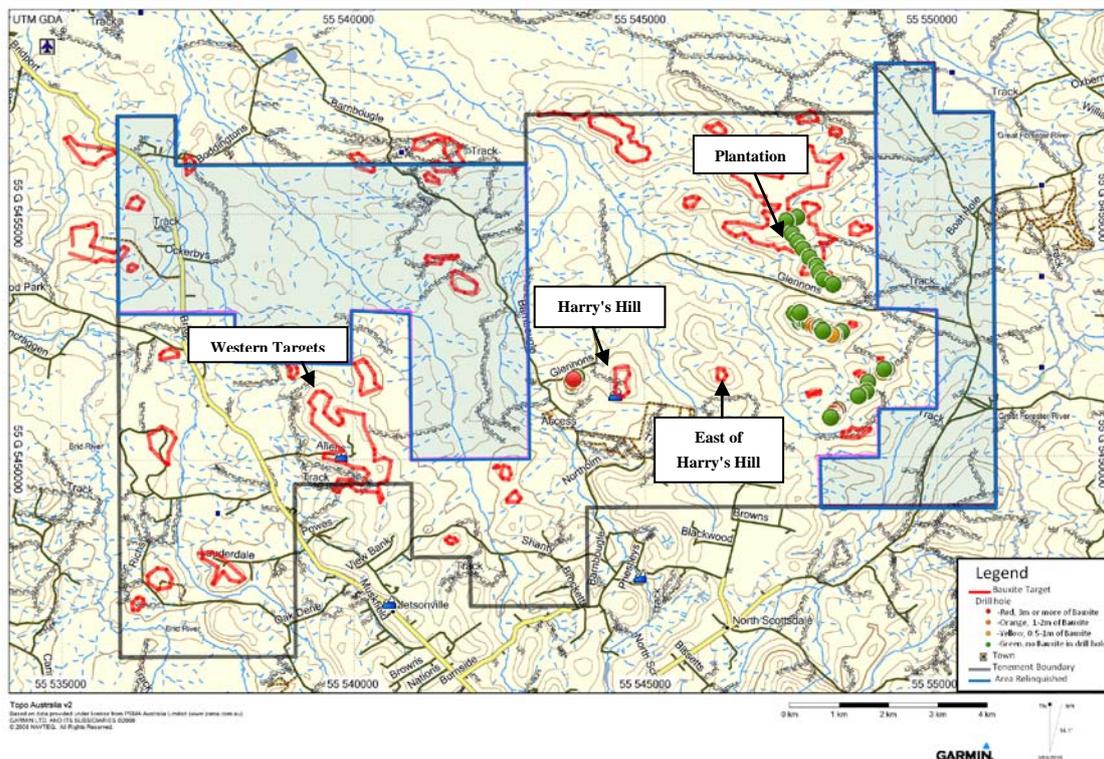
The Scottsdale Plantation targets are located in the State Forest Reserve 11km north east of Scottsdale 2km down Glennons Road (off Old Waterhouse Road). The target is located on Crown land in the Scottsdale State Forest Reserve which has been lease to Gunn's for selective logging and plantation. The drilling was proposed to determined the grade and extent of bauxite in the area. A total of 10 holes

(SE001-SE010) were drilled for 109m. Drilling was focused on the main track through the plantation with a typical spacing's between 150-300m. The recovery of drill chips is generally good and consistent down hole.

Most samples from drill holes were tested using the hand held Niton XRF. No samples were determined to be bauxite by means of visual examination or Niton analysis hence no samples warranted analysis at ALS laboratories.

No bauxite was intersected in drill holes, targeting the main plateau area. Later field assessments identified the source of the bauxite debris on the lateritic plateau as two small hills concealed in the plantation which have been heavily eroded over time. These two small targets have not been drilled to date. The bauxite mineralization is confined to the tops of hills and consists of bauxitised volcaniclastic which drapes the paleo-topography. The morphology of this deposit is consistent with all the identified bauxite deposits in the Scottsdale Tenement.

Other Bauxite Targets - not drilled



Map 9 - Undrilled bauxite targets location map

Harry's Hill

Harry's Hill was covered by the Flora and fauna survey completed by Philip Milner in 2013. The Hill was excluded from drilling because it was in close proximity to threatened Flora. Bauxite appears to be present on two elevated hills with the threatened flora occurring in the saddle of the two hills where the bauxite was not present.

East of Harry's Hill

There is another bauxite hill that occurs directly 1.7km east of Harry's Hill. The bauxite forms a small thick knob of bauxite perched on a high hill with steep sides. Drilling cannot be conducted without significant road works and a track mounted drill rig.

Plantation Targets

Two targets identified late in the drilling program in the plantation were not drilled. These targets are small hills of bauxite concealed in the Gunn's Plantation.

Western Target

A small bauxite target was Identified in the western part of the State Forest Reserve near the Scottsdale show grounds on the edges of category 3 farming land. This target occurs in thick bush and would require some track clearing for drilling.

6 DISCUSSION OF RESULTS

Geology and Structure

The bauxite mineralization in the Scottsdale Tenement is hosted in Tertiary volcanics on the old tertiary surface. The mineralisation occurs as sheets of bauxitised volcanoclastics, which drape the paleo topography. The bauxite appear to have formed in the Lower Tertiary period when volcanism commenced and extreme wet-tropical climatic conditions prevailed. The bauxite occurs on the old surface, where processes in the Tertiary period has removed silica from the rock, leaving mainly Aluminium and Iron rich minerals behind.

The bauxite at Scottsdale occurs as highly elevated hills capped with bauxite mineralisation. The volcanic host has overlain soft tertiary quartz gravels which are heavily eroded and often undercut the bauxite causing it to slump down the hill sides in some locations. The two key targets 'Plantation target' and 'Glennon's target' consisted of small zones of bauxite within the larger target area. Debris was scattered over the plateau via erosion of small hills of bauxite which may have been more extensive in the tertiary period.

The bauxite layer was frequently in direct contact with the underlying quartz gravels with no mottled zone present in most cases. This indicates the original volcanic host layer was predominantly very thin. The presence and thickness of the mottled zone (mottled red clays) increases toward, and on the plantation plateau target indicating this area was probably closer to the volcanic vent or that multiple vents were present in this area.

Bauxite types and Mineralogy

The bauxite at Scottsdale is predominantly composed of red volcanogenic hematitic vuggy bauxite, which often contains pink gibbsite concretions infrequent mag-hemite pisolites. Gibbsite forms as either, clear white crystals up to 1mm or as amorphous pink gibbsite – the pink colour being fine grained particles of hematite. The other minerals are hematite-rich masses, minor clay kaolinite clay and titania minerals including anatase and trace ilmenite. This bauxite has retained strong volcanic textures such as volcanic breccias and relic crystal distribution and structures.

It is a gibbsite-rich bauxite mostly in an amorphous phase which is often vuggy with iron depletion around the rims of the vughs and enrichment of iron in zones between vughs. The Iron is mostly in the form of hematite, and rare goethite banding. The bauxite near the base of the layer has an increase amount of clay and quartz but is more gibbsitic. The bauxite has very strong relic volcanic texture and tiny pervasive vughs.

The Scottsdale bauxite contains an increase amount of quartz grains but is usually less than 5%. Quartz due to the direct contact with the underlying quartz gravels. Quartz is an inert mineral in the processing of bauxite at low temperature, and the only deleterious trait is it dilutes the ore slightly.

Grade, Sieve Yields and Tonnage

The tonnage in the Scottsdale tenement has a total of less than 50,000 Tonnes of low-sub grade bauxite. This is not economically viable and in much less than expected. For the deposit to become economically viable more tonnage need to be discovered and the grade needs to be increased slightly. The lack of tonnage is due to only small amounts of bauxite being discovered in the two key areas of bauxite potential.

Sieving of the Bauxite at Scottsdale is expected to improve the grade to a moderate classification or even high grade in some locations. It is strongly recommended to submit and additional two holes for sieved analysis for Glennon's Targets B & C. It is expected that; reactive silica will decrease by approximately half and will increase Available Alumina by a third. This will result in a proportionally low recovery.

7 CONCLUSIONS AND RECOMMENDATIONS

Exploration has been moderately unsuccessful in identifying economically viable bauxite resources in the Scottsdale Tenement EL12/2012. Drilling has identified multiple bauxite ore bodies but grade and tonnage was much lower than expected. The deposits are located in areas generally considered poor quality land of moderate conservation value.

Exploration in 2014 will be focused on regional exploration potential bauxite targets in the far north and south of the tenement. Some work will be completed on processing to improve grade of the current deposit.

Recommendations for future work include:

1. Detailed geological mapping, including geomorphological mapping and study of satellite images to define the areas with the best potential for bauxite.
2. Contacting landowners to gain access to properties for exploration.
3. Systematic sampling of natural outcrops and exposures in road cuts of lateritic weathering profile.
4. Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive quartz, loss on ignition and sieving (+0.26mm) at 260 microns as required in the search of bauxite.
5. Conducting Botanical and heritage surveys and submitting for work programs focused on Drilling.
6. Drill testing of zones with best potential with an RC drill rig mounted on a light six wheel truck to get samples representing the whole lateritic weathering profile (from upper-most iron rich zone through to the alumina rich zone and down into the mottled and pallid saprolite zone).
7. Submitting additional sample to ALS for testing upgrading via screening.

8 ENVIRONMENT

Surface Disturbing Operations:

ABx4's surface disturbing operations are minimal.

Drilling is conducted by an RC drill rig mounted on a light Mitsubishi 12 tonne truck. All drill holes are filled immediately after completion.

Existing tracks are used wherever possible. In the event that any specific access is required for drill rigs and/or service vehicles, track construction will be minimised and in accordance with directions of landowners and professional advice.

Surveys (archaeological, botanical):

A botanical survey has been conducted by Philip Milner Consultant Pty Ltd covering all drilling areas in EL 12/2012.

Please refer to Appendix H for the complete Surveys.

Rehabilitation:

All drill holes are filled immediately after completion.

All landholders are consulted at the completion of each program confirming their satisfaction with the rehabilitation completed.

9 EXPENDITURE

Table 4 – Exploration Activity and Expenditure Table for reporting period 12th December 2012 –11th December 2013

Exploration Category	Description of Activity	Quantity	Expenditure
Office Administration			
Authority Management	Land Holders Compensation		
	Tenement management		\$1,355
Office Activities	Data Processing & Interpretation		
Field Activities	Geological Mapping	Days or Ha	
	Sampling	Number of samples	\$3,514
	Equipment Hire	Vehicle Hire 3 days	\$1,941
	Accommodation/Field Camp	Days	\$17,709
	Travel		\$2,536
	Land Holder Liaison		
	Field Supplies		\$2,807
	Other	Freight Charges	\$128
	Other	Mineralogical	
	Geophysics		
	Airborne		
	Type	Line kms	
	Ground		
	Type	Line kms	
	Drilling (program cost)		
	RAB/AC	Holes/total metres	
	RC	68 holes for 640 m	\$14,139
	Diamond	Holes/total metres	
	Other	Engineering	
Laboratory	ME-XRF 13B, Reactive Silica & Available Alumina	110 samples	\$5,678
Salaries / Wages	Contractors - consultants		\$81,197
	Contractors - field assistants		\$22,661
	Employees		
		Grand Total	\$153,665

Note: Office Administration was met by parent company – Australian Bauxite Limited.

10 REFERENCES

H.B. Owen, 1954, *Bauxite in Australia*, Bulletin 24

McClenaghan, M.P., Vicary, M.J. 2010. *Digital Geological Atlas 1:25000 Scale Series, Sheet 5445. Pearly Brook*. Mineral resources Tasmania.