

Third Annual Report
on
EL 9/2010 – DELORAINE

Reporting Period: 14 September 2012 – 13 September 2013
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Date: 1 August 2013

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NOTE: All Garmin maps use WGS – 84

APPENDICES

Appendix A: “Blackwood Park” Reedy Marsh Botanical & Fauna Habitat Survey

1 ABSTRACT

Objective:

Exploration Licence (EL) 9/2010 “Deloraine” 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 Mitsubishi 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 lateritic weathering profile.
3. Chemical analyses of samples, including specialist analyses to determine total and available alumina, total and reactive quartz, 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 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:

A drilling proposal was submitted to the Department in July 2012 to complete first pass drill testing of Bauxite targets in the Reedy Marsh area of Northern Tasmania. Three principal targets (referred to as Blackwood Target) were located east of Porters Bridge Road north of Exton on EL9/2010 (see Map 3). Individual drill hole locations were listed and included as an excel spread-sheet as seen in Table 2. Detailed maps of targets were also included as seen in Map 4 and Map 5. The targets were located on freehold farm land and on Gunns Plantations, with a maximum of 84 short Auger drill holes planned (hole lengths likely to be no more than 8-12m). ABx4 planned to undertake the drilling in September 2012 and have the holes completed by December 2012.

The work program however was put on hold due to the insolvency of Gunns Plantations Limited (**Gunns**) who owned the plantations where the key drill targets are situated. The drilling proposal will be completed pending the resolution of the insolvency and the claim by various parties over the land.

In preparation for the drilling program, the following exploration activities were undertaken prior to the Gunns insolvency issue:

- Some track clearing was undertaken (with plans to drill between the plantation rows).
- Our community relations personnel notified landowners of ABx4’s intentions and received approval for site access. ABx has a policy of not exploring on freehold land without landowner consent.

ABSTRACT Ctd

- Phil Milner (Botanical Consultant) completed a Flora, Fauna and Heritage clearance survey of the proposed drill site. Phil's report is included as Appendix A.

Recommendations for future work:

Recommendations for future work include completing the proposed drilling program on Blackwood Target pending the resolution of the Gunns insolvency issue.

In addition, the following exploration activities are planned for other target areas in EL 9/2010:

- 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 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 sampling and drilling at waypoints with best bauxite potential.
- Sieve testing to find optimal sieve size for Tasmanian bauxites.
- Detailed analysis of assay results to determine assaying strategy for future drilling.

2 INTRODUCTION

Exploration Rationale

Exploration Licence (EL) 9/2010 “Deloraine” 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 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.

Geological Setting

In the Deloraine area, the occurrences of bauxite are located in areas with Tertiary basaltic volcanics.

Study of geomorphology based on a Digital Terrain Model led to the conclusion that Tertiary basalt flows are preserved on remnants of old surface which form larger plateaus or smaller ‘mesas’.

Bauxite formed in certain layers of Tertiary basaltic volcanics. Process of formation of bauxite remains a matter of discussion between company geologists. However practical experience is that in areas like Penrose (SE NSW) bauxite is found as erosional remnants in higher parts of the terrain. Farmers generally decide to leave trees in areas with bauxite because the ground is not suitable for cultivation. If trees have been cut down, bracken tends to grow in areas with bauxite so that the bauxite areas are not suitable for grazing. By mining bauxite and rehabilitation one can increase the value of land.

In exploration for bauxite practical criteria like geomorphology and study of vegetation are used instead of geological theories. Company geologists and field technicians have acquired a great deal of practical experience in finding bauxite and they use a Niton instrument to test samples to determine whether they are bauxitic to speed up exploration for new deposits.

The bauxite mineralization in the Deloraine tenement is generally confined to hills, ridges and plateaus of bauxitised volcanoclastic deposits. There are multiple different forms of bauxite in Tasmania which results in different geochemical characteristics in individual deposits.

Tenement Information

EL 9/2010 “Deloraine” was granted on and from 14 September 2010 for a period of 5 years to ABx4.

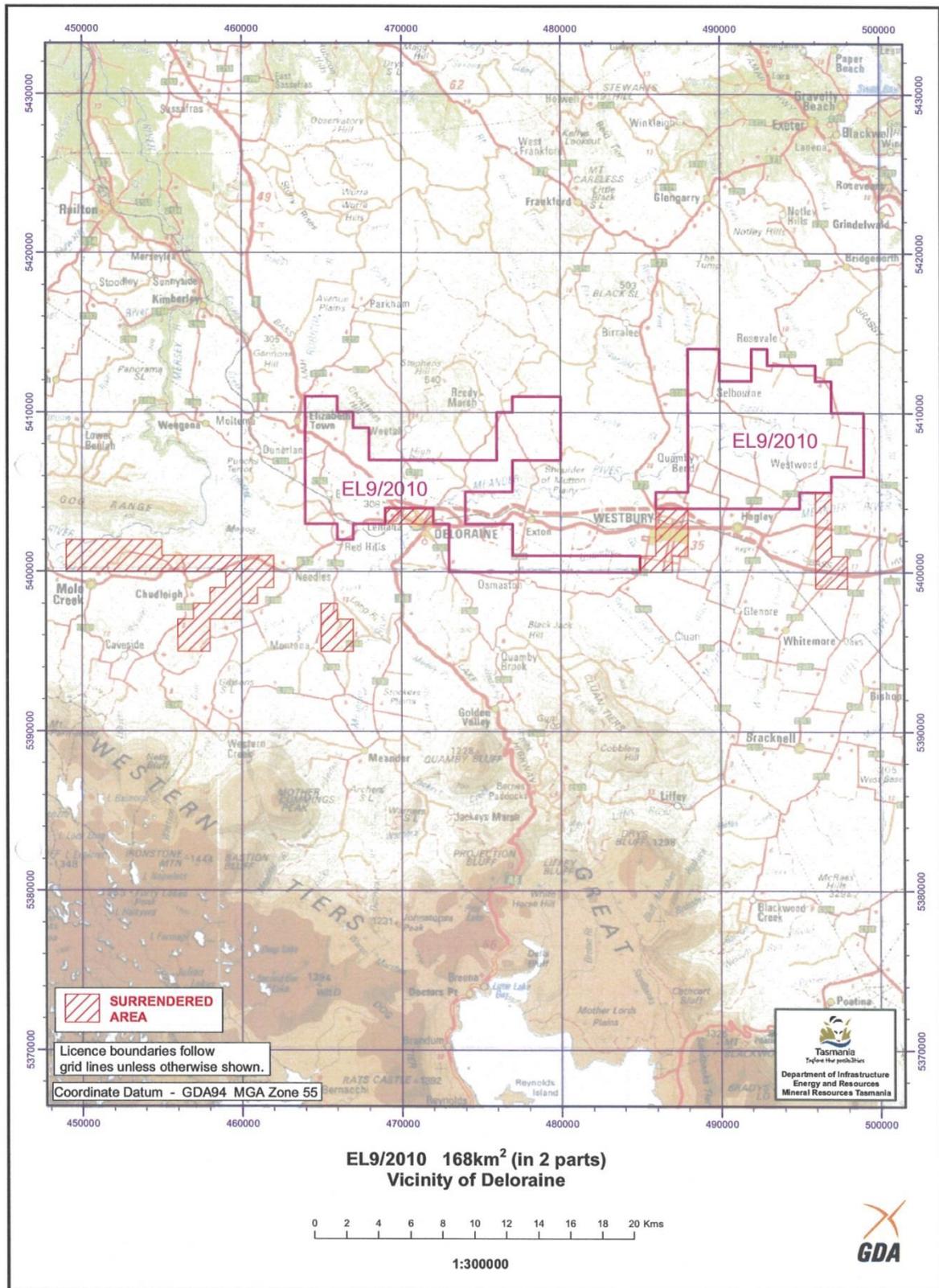
This is the Third Annual Report for the reporting period 14 September 2012 - 13 September 2013 incorporating the results of work completed during the third year of tenure.

Total current area of the licence is 168 sq km. ABx4 relinquished 56sq km in the second year of tenure. The Mineral Category of EL 9/2010 is 1 – Metallic Minerals and Atomic Substances.

Location

EL 9/2010 is located around the town of Deloraine (Map 1) where there is a rail line which connects all the ports of Tasmania to each other. Ports and rail way lines in Tasmania are generally under capacity and the Deloraine Tenement is only 42km from Devonport. EL 9/2010 is close to the city of Launceston and could offer a wide range of services and skilled work force.

INTRODUCTION Cont



Map 1 – Location Map of EL 9/2010 “Deloraine”

Tenure, including joint venture details and title transfers

EL 9/2010 “Deloraine” is 100% owned by ABx4 which is a fully owned subsidiary of Australian Bauxite Limited.

3 REVIEW OF PREVIOUS WORK

Prior to Current Tenement

Exploration for Bauxite was conducted by C.R.A Exploration Pty Limited (**CRA**) in the late 1960s and early 1970s. CRA decided to relinquish its tenement in central northern Tasmania as no worthwhile results were obtained.

Two reports were composed by CRA:

1. Miss S.E. Close, Feb 1970, Scintillometer Search for Bauxite, Northwest Tasmania, *CRA Exploration Pty Limited*
2. Miss S.E. Close, June 1971, Final Report on Bauxite Search, Devonport E.L. 36/70 Tasmania, *CRA Exploration Pty Limited*

The following is an extract from the second report, summarizing CRA's findings:

Final Report on Bauxite Search, Devonport E.L. 36/70 Tasmania

Final testing of this area in central northern Tasmania was carried out using a Gemco Model 210A auger drill. A total footage of 1148 feet was drilled in 57 holes and 206 samples were sent to Zinc Corporation for Al_2O_3 , SiO_2 and Fe_2O_3 analysis.

Drilling was concentrated on the two most promising areas, near Sassafras and near Deloraine, although all areas of soil over basalt within the E.L. were tested.

CONCLUSION

It is recommended that the E.L. be relinquished before the renewal date of 24th June, 1971. A memo has already been written to this effect.

No worthwhile results were obtained. Most of the 206 samples contained less than 30% total alumina, while 8 contained between 30 and 40% total alumina, but were also high in Fe_2O_3 and SiO_2 . The higher values occurred in holes B20 and B25.

GENERAL DISCUSSION

As stated before, the drilling was carried out on all the areas of soil over basalt within the E.L. These have been described in preceding reports.

REVIEW OF PREVIOUS WORK Ctd**During current Tenement (from first year of tenure onwards)**

Over the period 14 September 2010 – 13 September 2012, a total of 129 holes were drilled for 837m. Most holes intercepted bauxite mineralization averaging 3m in thickness to a maximum of 9m but varied from very high to very low grade. A total of 480 samples were selected for analysis by XRF and analysed for available alumina and reactive silica after wet screening at 260 microns. An additional 82 samples were selected for analysis without screening.

Blackwood Target:

Bauxite at Blackwood Target appears to overly dolerite very extensively through the Gunns Plantations forests at Allen's bush. The bauxite profile has a Poorly Diffracting Material (**PDM**) rich bauxite layer at surface, often with a breccia texture. Tubular vughs appear just below the surface layer and are filled with a gibbsite/clay mix. At the base of the bauxite zone, high grade, yellow friable, densely vuggy bauxite occurs with strong relic crystal structures which look similar to dolerite textures. The bauxite quickly grades into the mottled zone and apart from the vughs, this zone looks very similar to high grade bauxite. Large dolerite boulders occur within and above the bauxite layer particularly around the edges of the deposits. Dolerite boulders become more common in the mottled zone and often have 2inch crusts of mottled material as a rim. Overall the bauxite appears to be iron rich with very low silica. Iron often migrates to the surface so drilling may uncover larger amounts of lower iron bauxite beneath if the Blackwood Targets have significant thickness.

Table 1 – Assay results for surface samples from Blackwood Target

Sample No	Al ₂ O ₃ Avl%	Rx SiO ₂ %	Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	LOI	Avl/Rx Ratio	A/S Ratio
TA444	29.6	1.2	33.7	1.72	35	20.82	24.7	19.6
TA445	27.9	1.2	31.8	3.55	42.4	17.07	23.3	9
TA447	27	0.7	32.3	1.57	42	18.28	38.6	20.6
TA448	24.6	0.6	29.1	1.51	48	15.93	41	19.3
TA449	14	2.4	28.5	9.98	48.5	9.13	5.8	2.9
TA450	24.4	2.5	31.2	8.32	37.9	17.37	9.8	3.8
TA451	31.5	1.2	35.5	4.7	32.9	19.73	26.3	7.6
TA452	21	8.5	34.3	17.05	26.8	20.16	2.5	2
TA453	34.1	3				25.5	11.4	
TA454	20.1	7.9				19.41	2.5	
TA455	27.1	4.3				18.92	6.3	
TA456	20.8	1.6				14.68	13	

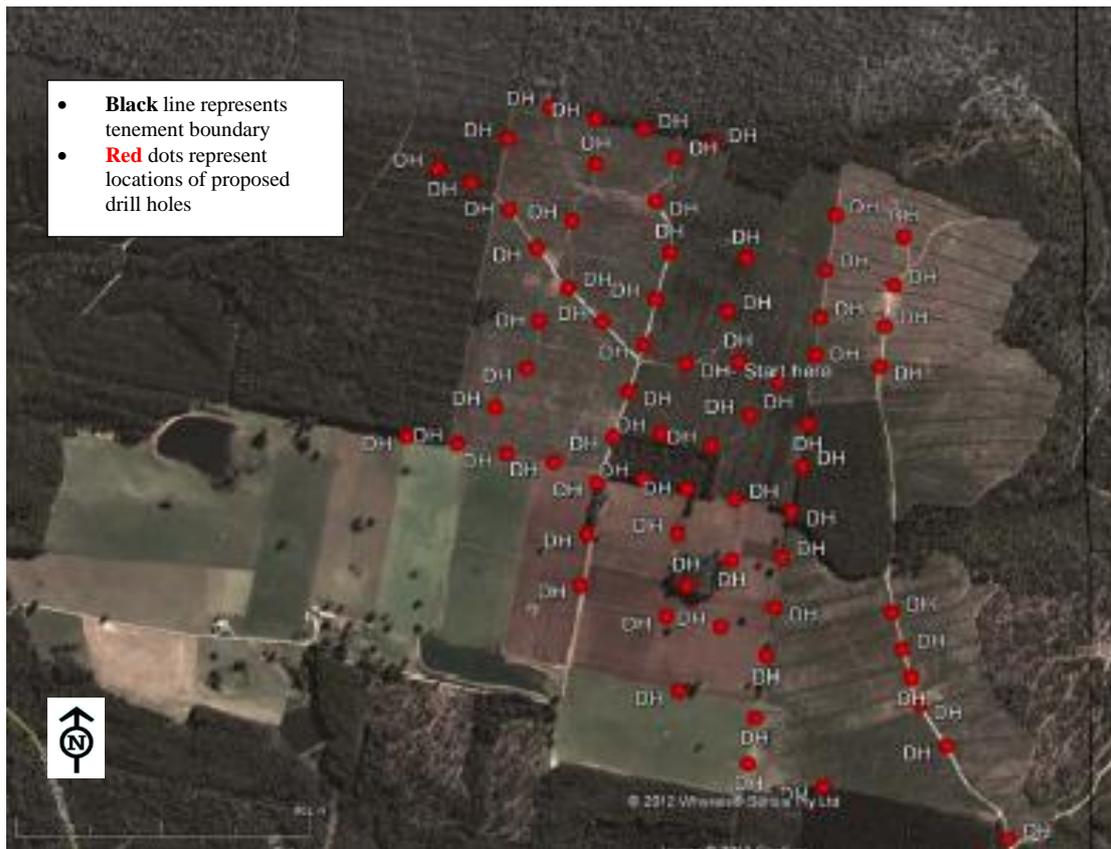
Complete assay results are found in Appendix A of the Second Annual Report for EL 9/2010.

EXPLORATION COMPLETED DURING THE REPORTING PERIOD Cont

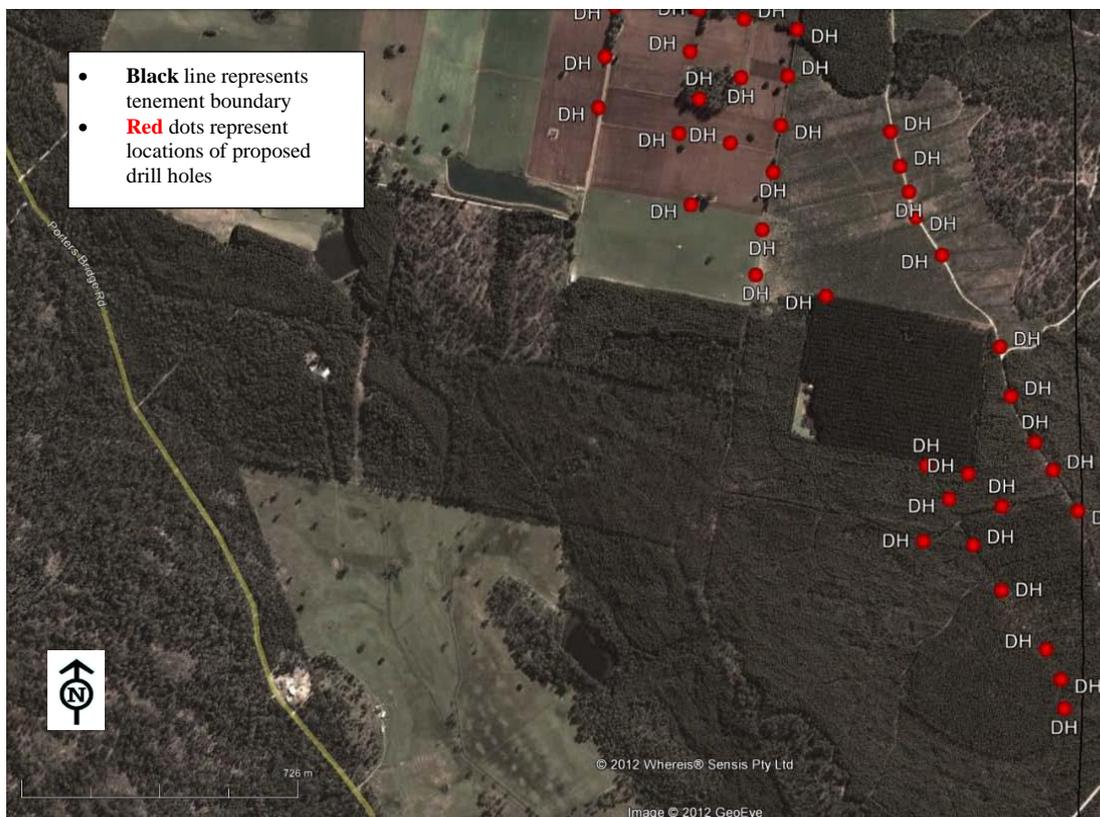


Map 3 – Google Earth close-up view of Blackwood target areas in EL 9/2010

EXPLORATION COMPLETED DURING THE REPORTING PERIOD Cont



Map 4 – EL 9/2010 detailed Google Earth Map of proposed drill holes, northern part of Blackwood Target



Map 5 – EL 9/2010 detailed Google Earth Map of proposed drill holes, southern part of Blackwood Target

EXPLORATION COMPLETED DURING THE REPORTING PERIOD Cont

Table 2 – Approximate Drill Hole Co-ordinates for Blackwood Target

North GDA94	East GDA94	North GDA94	East GDA94
5409355	478712	5410171	478291
5409221	478685	5408438	479780
5409313	479067	5408024	479632
5409340	478944	5407908	479565
5409087	478666	5407993	479987
5408909	479149	5407623	479894
5409783	479285	5407460	479949
5409796	479046	5408685	479614
5410294	478705	5409020	479472
5410198	478909	5408631	479103
5410059	478483	5408753	479120
5410134	478381	5409034	479170
5409959	478557	5409165	479188
5409768	478726	5409657	479438
5409508	479252	5409399	479238
5409710	478831	5409686	479272
5409667	479075	5409763	479452
5409869	479476	5409998	479503
5409285	479211	5410053	479326
5409615	479176	5409158	479059
5408857	479523	5408985	479031
5407901	479699	5409010	478890
5408103	479918	5408821	478923
5408178	479871	5409095	478945
5410324	478588	5409225	478920
5408114	479570	5409549	478447
5408303	479807	5409651	478529
5408006	479776	5409366	478831
5408093	479684	5409771	478563
5410267	478829	5410179	478705
5409476	478755	5410231	479008
5409909	479299	5410081	478859
5409827	478862	5409590	478793
5409856	478637	5409530	479103
5409935	479094	5409453	478347
5409947	478898	5409429	478475
5408926	479498	5409407	478599
5410029	478647	5409452	479005
5408789	479543	5407779	479776
5409482	478876	5410245	478477
5407542	479936	5409661	478940
5408574	479297	5409472	478216

5 DISCUSSION OF RESULTS

The bauxite mineralization in Deloraine is generally confined to hills, ridges and plateaus of bauxitised volcaniclastics or dolerites. There are multiple different forms of bauxite in Tasmania which result in different geochemical characteristics in individual deposits. Tasmanian bauxites are generally very friable, often without the typical cementitious nature of bauxite and have a very similar consistency to clay. The main sort of bauxite with these characteristic is a fine grained yellow vuggy bauxite which is generally friable and contains numerous tiny vughs. This bauxite is often richer in silica and low in Iron. High grade zones of this material can be indicated by the density of small vughs or the increasing cementitious nature of the bauxite. The presence of the grey volcanic bauxite is also associated with high grade zones and can be mistaken for vuggy basalt. The distinctive difference between vuggy basalt and grey volcanic bauxite is that the bauxite will have an SG 1.8; the vughs will also be coated in red and yellow clay. The grey volcanic bauxite can also have white blebs and spots of pure gibbsite. This bauxite contains around 1% Reactive silica, 5% iron and >50% total alumina. Rare quartz rich bauxites were also drilled in the southern area of Quamby View but these were located mostly at surface and had less quartz and higher grade bauxites at depth.

Classic Inverell bauxite was common to the Quamby View targets along with the Yellow volcanic bauxite. Typical Inverell style bauxite is generally bright red with 24% iron and 4% reactive silica and has yellow coated vughs in high grade areas. In one or two targets a similar bauxite contained shiny black pisolites in a red matrix, this was typically very high in Iron >40%.

Bauxites overlying dolerite have a Pisolitic cap (PDM) with red very Iron rich bauxite at surface and then grades into a brecciated Red/Yellow massive bauxite which is sometimes vuggy and often has tubular vughs filled with a low iron gibbsite/clay mix. Yellow friable vuggy bauxite very similar to the volcanic material is common near the base of the bauxite layer and will often contain strong relic crystals structures. The bauxite layer grades into a yellow mottled zone with similar relic crystal structures. Large weathered dolerite boulders occur within and above the bauxite layer particularly around the edges of the deposits. Dolerite boulders become more common in the mottled zone and often have 2inch crusts of mottled material as a rim.

Table 3 – Example of assay results for the different types of bauxite

Sample No.	AvlAl ₂ O ₃	RxSiO ₂	Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	LOI	Avl/Rx	A/S	TiO ₂	ZrO ₂
Doleritic Bauxite	29.6	1.2	33.7	1.72	35	20.82	24.7	19.6	7.65	0.06
Volcanic Bauxite	43.1	1.6	48.8	2.53	18.1	27.41	26.9	19.3	2.61	0.03

6 CONCLUSIONS AND RECOMMENDATIONS

A drilling proposal was submitted to the Department in July 2012 to complete first pass drill testing of Bauxite targets in the Reedy Marsh area of Northern Tasmania. Three principal targets (referred to as Blackwood Target) were located east of Porters Bridge Road north of Exton on EL9/2010 (see Map 3). Individual drill hole locations were listed and included as an excel spread-sheet as seen in Table 2. Detailed maps of targets were also included as seen in Map 4 and Map 5. The targets were located on freehold farm land and on Gunns Plantations, with a maximum of 84 short Auger drill holes planned (hole lengths likely to be no more than 8-12m). ABx4 planned to undertake the drilling in September 2012 and have the holes completed by December 2012.

The work program however was put on hold due to the insolvency of Gunns who owned the plantations where the key drill targets are situated. The drilling proposal will be completed pending the resolution of the insolvency and the claim by various parties over the land.

In preparation for the drilling program, the following exploration activities were undertaken prior to the Gunns insolvency issue:

- Some track clearing was undertaken (with plans to drill between the plantation rows).
- Our community relations personnel notified landowners of ABx4's intentions and received approval for site access. ABx has a policy of not exploring on freehold land without landowner consent.
- Phil Milner (Botanical Consultant) completed a Flora, Fauna and Heritage clearance survey of the proposed drill site. Phil's report is included as Appendix A.

Recommendations for future work include completing the proposed drilling program on Blackwood Target pending the resolution of the Gunns insolvency issue.

In addition, the following exploration activities are planned for other target areas in EL 9/2010:

- 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 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 sampling and drilling at waypoints with best bauxite potential.
- Sieve testing to find optimal sieve size for Tasmanian bauxites.
- Detailed analysis of assay results to determine assaying strategy for future drilling.

7 ENVIRONMENT

Surface Disturbing Operations:

No surface disturbing operations were undertaken during the third year of tenure. Traversing was undertaken only on existing tracks and public roads.

ABx4's surface disturbing operations are minimal.

Drilling is conducted by an RC drill rig mounted on a light 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 any landowners who may be affected.

Surveys (archaeological, botanical):

A botanical survey was conducted by Philip Milner Consultant Pty Ltd covering the Blackwood Target – please see Appendix A.

Rehabilitation:

No rehabilitation was required during the third year of tenure – only desktop review was undertaken.

ABx4 has a policy that all drill holes and tracks are fully rehabilitated immediately after drilling. Drill-holes are plugged using octo-plugs at a depth of 1.5m and re-filled using innocuous material from the drill hole.

8 EXPENDITURE

Table 4 – Exploration Activity and Expenditure Table for reporting period 14 September 2012 – 1 August 2013

Exploration Category	Description of Activity	Quantity	Expenditure
Office Administration			
Authority Management	Rent		\$9,660
	General tenement management		\$1,594
Office Activities	Data processing and compilation		\$78,308
Field Activities	Geological Mapping		
	Mapping		
	Equipment Hire	Vehicle hire	\$5,706
	Accommodation/Field Camp	Days	\$20,408
	Travel		\$31,077
	Land Holder Liaison		
	Field Supplies	Equipment	\$25,421
	Field Reconnaissance		\$34,078
	Other	Freight	\$2,649
	Geophysics		
	Airborne		
	Type	Line kms	
	Ground		
	Type	Line kms	
	Drilling (program cost)		
	RAB/AC	Holes/total metres	
	RC	Holes/total metres	
	Diamond	Holes/total metres	
	Other	Holes/total metres	
Laboratory	ME-XRF 13B, Reactive Silica & Available Alumina	Surface Samples	
Salaries / Wages	Geological contractors		\$63,012
	Geological employees		\$42,028
		Grand Total	\$313,941

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

Please note that the expenditure statement in Table 4 above is an extract from our accounting records where entries have been allocated on a project basis. EL 9/2010 Deloraine forms part of ABx4's key projects and has been included in engineering and transport studies for the ABx4 tenements. During the reporting period a total of \$1.7 million has been spent on the project area. Accordingly it is only possible to estimate the expenditure related to EL 9/2010.

9 REFERENCES

Miss S.E. Close, Feb 1970, Scintillometer Search for Bauxite, Northwest Tasmania, *CRA Exploration Pty Limited*

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