KINTORE RESOURCES LIMITED

REPORT ON FIELD INVESTIGATION AND REGIONAL PROSPECTIVITY OF THE DERBY DEEP-LEADS TIN PROJECT, NORTH-EASTERN TASMANIA EL65/2004

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25/11/2008

Contents

1. INTRODUCTION

The Derby Deep Leads Project, comprising Exploration Licence 65/2004, is located in northeast Tasmania, approximately 100km east of Launceston. The project area has been the site of significant historical alluvial tin production, sourced from deep leads that emanate from the Blue Tier Batholith, and form part of the Ringarooma palaeodrainage system. Recorded production from alluvial deposits in northeast Tasmania is about 37,300 tonnes of tin metal, with some 23,522 tonnes sourced from the tenement area.

This report follows a brief field investigation of the project during November, 2008. All of the target areas outlined by Askins and Stewart (2007) were reviewed, leading to an initial broad evaluation of prospectivity and recommendations for further work.

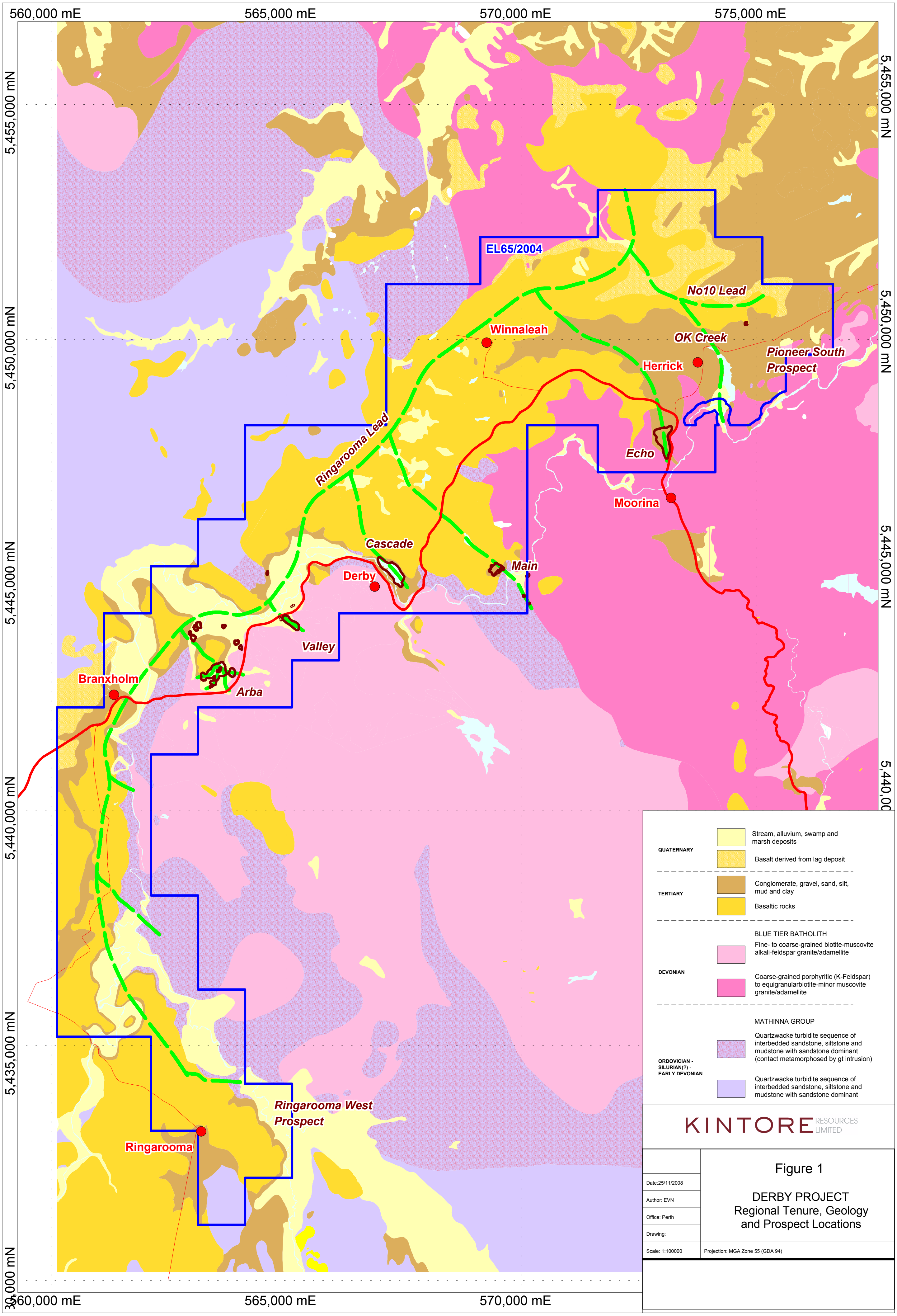
2. REGIONAL GEOLOGY AND MINERALISATION

Basement geology of the area comprises Devonian to Carboniferous granites of the Blue Tier Batholith and Ordovician to Devonian, turbiditic sedimentary rocks of the Mathinna group (Figure 1). Cainozoic fluvial sediments, up to 120m thick, occur through the central Ringarooma Valley area. Basement and Cainozoic lithologies are variably overlain by basalts associated with two periods of volcanism: one in the Middle Eocene and the other in the Middle Miocene.

Tin mineralisation occurs as heavy-mineral concentrations of cassiterite within placer, or “deep-lead” deposits associated with buried alluvial channels within the Cainozoic sediments. The tin is derived from episodic unroofing and erosion of tin-bearing granitoids of the Blue Tier Batholith. The deep-lead concentrations have probably undergone several periods of reworking, dating back to at least the Permian (Askins and Stewart, 2007).

Widespread and intense erosion of the Blue Tier Batholith is believed to have occurred in the Late Cretaceous (ca 75 Ma). During this period, drainages from the batholith, including Black Creek, Cascade River, Main Creek, Weld river and the Wyniford River flowed towards the northwest, carrying large amounts of tin-bearing alluvium. During the Middle Eocene (45Ma), volcanic activity commenced in the Blue Tier and Boobyella areas. The ancestral Ringarooma River, which captured the drainages off the Blue tier, formed as a result of basalt volcanism filling the existing drainages and forcing the river system southwards.

A second period of basaltic volcanism during the Middle Miocene is believed to have filled many of the larger valleys in the region, including the ancestral Ringarooma River, resulting in the displacement to its original position. The pre-existing alluvial deposits were buried, and now occupy leads below the basalt. Erosion associated with the current Ringarooma drainage system has exposed some of the deep leads under the basalt, including exposures at Arba, Briseis, and Valley (Figure 1).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5,435,000 mN
EL65/2004
No10 Lead
Winnaleah
OK Creek
Herrick
Pioneer South Prospect
Ringarooma Lead
Echo
Moorina
Cascade
Derby
Main
Valley
Branxholm
Arba
Ringarooma West Prospect
Ringarooma
QUATERNARY
Stream, alluvium, swamp and marsh deposits
Basalt derived from lag deposit
TERTIARY
Conglomerate, gravel, sand, silt, mud and clay
Basaltic rocks
DEVONIAN
BLUE TIER BATHOLITH
Fine- to coarse-grained biotite-muscovite alkali-feldspar granite/adamellite
Coarse-grained porphyritic (K-Feldspar) to equigranularbiotite-minor muscovite granite/adamellite
ORDOVICIAN - SILURIAN(?) - EARLY DEVONIAN
MATHINNA GROUP
Quartzwacke turbidite sequence of interbedded sandstone, siltstone and mudstone with sandstone dominant (contact metamorphosed by gt intrusion)
Quartzwacke turbidite sequence of interbedded sandstone, siltstone and mudstone with sandstone dominant
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Figure 1
DERBY PROJECT
Regional Tenure, Geology and Prospect Locations
Date:25/11/2008
Author: EVN
Office: Perth
Drawing:
Scale: 1:100000
Projection: MGA Zone 55 (GDA 94)

3. BRANXHOLM LEAD (ARBA)

3.1. Introduction

The Branxholm Lead is located 1km northeast of the township of Branxholm. The majority of tin production has come from the Arba Mine, an extensive excavation in the headwaters of the Branxholm lead system, approximately 0.5km north of the Tasman Hwy. A number of smaller, shallow mine workings, including the Groper and Roma excavations, are located around the periphery of Arba Hill (Figure 2). Good access through the project area is provided by established forestry tracks.

3.2. Geology and Lead Characteristics

The Arba mine is located in a broad, north-trending palaeovalley, which forms a southern tributary to the trunk Ringarooma palaeodrainage. The palaeodrainage system at Arba comprises several individual leads originating from the Blue Tier Granite, to the south.

The interpreted position of the mineralised leads at Arba, based on drilling information, excavation patterns, and topography of the adjacent granite basement, is shown in Figure 2. Three main tributary leads are interpreted within the pit area. A broad tongue of remnant alluvial material in the south-western part of the mine is interpreted as a barren/low-grade zone between two tributary lead positions. A significant lead position is also interpreted to coincide broadly with the Black Creek drainage, and is associated with considerable excavation of alluvial material east of the main pit area. The deepest part of the mine workings at Arba is located around the confluence of the interpreted lead positions.

Historical mining operations terminate at the southeast margin of Arba Hill, a small, basalt-capped plateau, rising approximately 35m above the Arba pit floor (Figure 6). The Tertiary basalt cap appears to be fairly thin (<5m) in areas adjacent to the pit crest (Figure 4). This observation contrasts with historical mining records from Arba, which report basalt thicknesses up to 18m. The thickness of basalt cover may increase slightly towards the northern part of Arba Hill.

The continuation of the Arba deep lead system underneath and to the north of Arba Hill and the position of its convergence with the Ringarooma trunk drainage has been investigated by several drilling programmes, although remains poorly defined. Askins and Stewart (2007) suggested that the main palaeochannel axis extends to the north-west, and remains untested by exploratory drilling conducted to the north of Arba Hill. However, NanoTEM data, collected on a single traverse over Arba Hill suggests that the palaeodrainage axis may extend towards the northeast. The broad NNE orientation of the basalt cap, which may coincide with palaeodrainage orientations, is consistent with this trend. Further geophysical surveys or drilling on Arba Hill will be required to confirm the leads orientation.

A number of small workings (e.g. Groper, Roma) are concentrated around the eastern and western margins of Arba Hill (Figure 2). These shallow workings typically occur as non-extensive, isolated patches and represent recent surficial deposits, coinciding with modern drainages.

The area to the north of Arba Hill has been the focus of several extensive drilling campaigns, targeting the Ringarooma palaeochannel and the northern extension of the Branxholm lead system. The majority of drilling has intersected sequences of low gradient material across and on the periphery of the Ringarooma trunk palaeochannel. The majority of drilling intercepted uneconomic grade in such areas, suggesting that economic cassiterite mineralisation higher gradient headwater regions in proximity to the source granitoids. Of all the drilling in this area, the best grades were intercepted in holes close to the northeast of Arba Hill where basement topography is of moderate to steep gradient. It is possible that this zone represents the northern extension of the Arba lead system.

3.3. Land Tenure and Access

The Arba prospect is located on private property, owned and managed by Gunns Plantations Ltd, with the entire area presently under various stages of plantation. Within the main Arba pit area, the majority of the pit floor is under juvenile pine plantation. The majority of this area is fairly accessible, apart from several small lakes adjacent to the northern pit face, and large waste dumps on their southern margin (Figure 3). The northern pit face is largely inaccessible owing to thickness of vegetation and lakes.

North of the Arba Mine, the Arba Hill area comprises semi-mature (<3m) established blue gum plantations, with lesser juvenile (30cm) blue gum plantations (Figure 6). Several main access tracks occur throughout the plantation area, including one close to the crest of the pit. These would provide good access for an initial drilling program, without significant disturbance to the existing plantations. However, some clearing/levelling of tracks would be required to allow rig access.

Good access to the west and north of Arba hill is provided by established tracks through blue gum plantations. Much of the historic drilling to the north of Arba Hill was conducted adjacent to these tracks.

3.4. Recommendations

Drilling conducted to date in the northern section of the Arba Mine suggests a significant cassiterite resource may remain within the lower palaeochannel sequence, below the existing pit floor, and continuing to an undefined extent north under Arba Hill. Minor drilling, carried out on Arba Hill immediately north of the pit crest, has defined significant thickness of low-grade cassiterite mineralisation (e.g. drill-hole No.25: 75m @ 0.27kg/m^3). However, the detail and position of higher grade zones within the mineralised sequence remains untested, and estimations of resource potential and expected strip-ratios are not viable given the quality of historical data.

It is recommended that several traverses of drilling be carried out over the northern part of the Arba pit area and over Arba Hill to test the nature and extent of palaeochannel mineralisation. Sampling on 1 or 2m intervals is necessary to define economics of resource and essential that the appropriate drilling technique be applied to achieve this. First pass drilling could be conducted on existing tracks throughout the plantation area to maintain minimal disturbance.

To test the hypothesis of a NW-trending palaeochannel system, it is also recommended to conduct a drill traverse to the northwest of Arba Hill in topographic low associated with the present course of the Branxholm Creek.

Better targeting of drill traverses at Arba could be achieved by application of further geophysics. An additional east-west line of NanoTEM over the central part of Arba hill could provide useful targeting information (geophysics to date has not tested the possibility of a north-west orientation of the palaeochannel system under Arba Hill). The location also represents a good site to trial other ground-based geophysical techniques, such as IP (gradient array and dipole-dipole), resistivity, ground penetrating radar or shallow seismic methods.

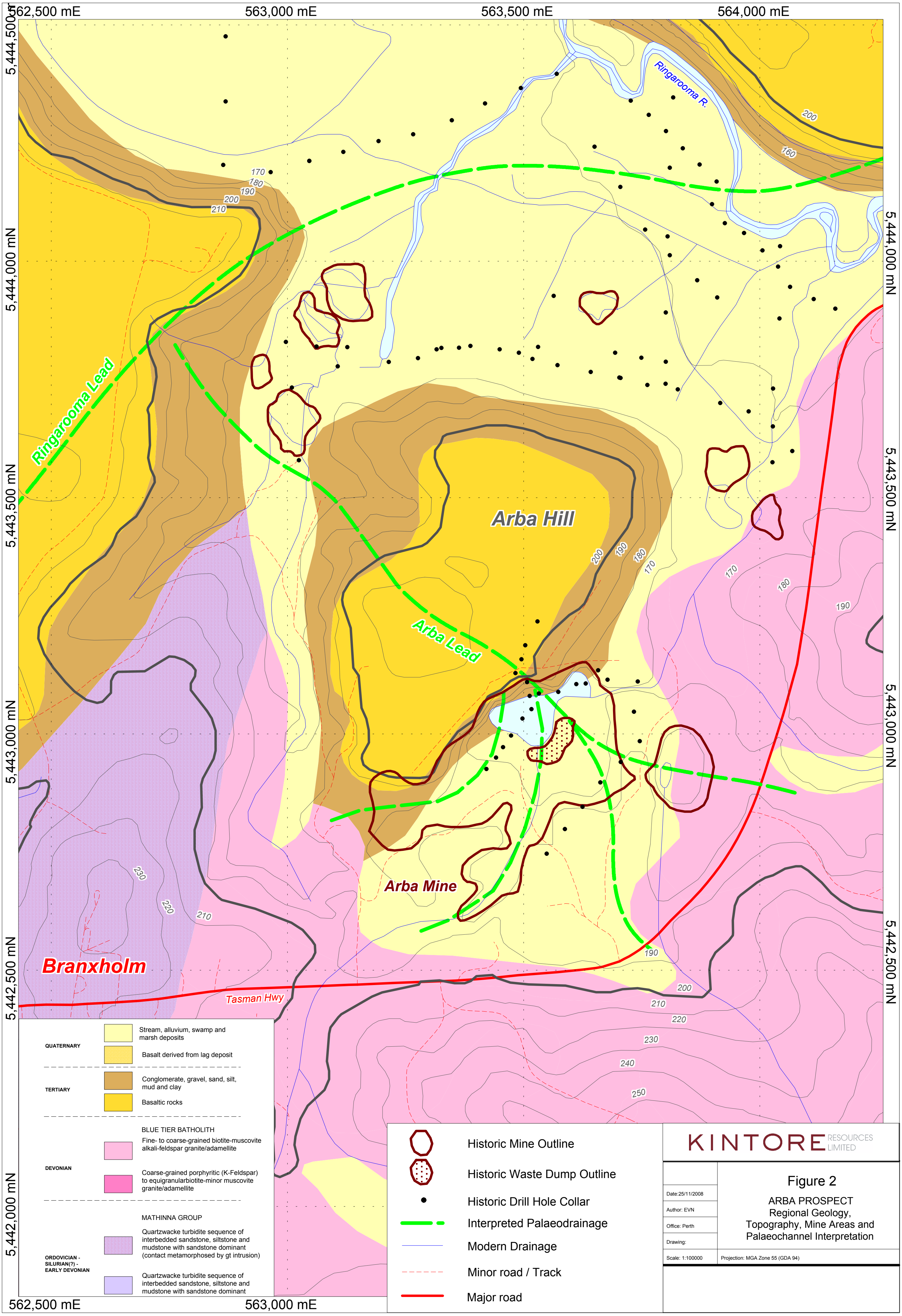


Figure 2
ARBA PROSPECT
Regional Geology, Topography, Mine Areas and Palaeochannel Interpretation

Figure 3: Arba Mine looking south from northern pit crest showing granitoid hills of the Blue Tier Batholith in the background

Figure 4: Abandoned north face of Arba Mine with Tertiary basalt cover extending about 5m below the pit crest

Figure 5: Exposure of remnant quartz-rich alluvium with pebble beds, Central Arba Mine

Figure 6: View of Arba Hill from the west, showing Branxholm Creek valley and Groper workings in the foreground, and granitoid hills of the Blue Tier Batholith in background

4. VALLEY LEAD AND FRASER FLATS

4.1. Introduction

The historic Briseis Central mine is located on the Valley Lead, immediately south of the Ringarooma River and adjacent to the Tasman Highway, approximately 3km northeast of Branxholm (Figs 1 & 7). Total production from the lead is estimated at 519 tons of tin ore (Askins and Stewart, 2007).

4.2. Geology and Lead Characteristics

The Briseis Central mine is presently flooded and inaccessible, and no specific aspects of the lead geology were observed. The area immediately to the north of the mine and south of the Ringarooma River is scattered with numerous small shallow workings. These are typically less than 2m depth and have exploited recent, surficial mineralised wash, comprising coarse quartzitic sands interbedded with poorly sorted, polymictic sandy gravels (Figure 8). At several location, coarse (+1mm) cassiterite is observed within the gravels.

The north-western extension of the Valley Lead is untested within the Fraser Flats area to the north of the Ringarooma River. The precise position of the Ringarooma palaeochannel in this area is uncertain and thus the downstream extent of the Valley Lead prior to its confluence with the Ringarooma palaeochannel is unknown. Subcropping Ordovician metasediments in pastoral land at approximately 564200mE/5445000mN, confines the axis of the Ringarooma palaeochannel to a course south of this point. However, thick sequences of sandy channel-fill material (>25m), observed in a small quarry on the Derby Back Road about 1km north of the Briseis Central mine (Figure 9), suggests that the Ringarooma palaeochannel axis probably lies beneath Tertiary basalt cover, several hundred metres to the north of the Ringarooma River. This proposed course is consistent with results of a recent NanoTEM survey through Fraser Flats (Stephens, 2008).

4.3. Land Tenure and Access

The area covering the Briseis Central mine and northwest extension as far as the Ringarooma River comprises crown land tenure, presumably state forrest. Thick forrest regrowth and swampy ground conditions significantly inhibit access throughout this area. On the northern side of the Ringarooma River, the inferred northwest extension of the Valley Lead through Fraser Flats passes through freehold pastoral property, for a distance of about 300m to the edge of a major Tertiary basalt rise. To the northeast, the majority of the Fraser Flats area is privately owned pastoral land, with good, although most likely seasonal, access.

4.4. Recommendations

The northwest extension of the Valley Lead through Fraser Flats on the northern side of the Ringarooma River represents a valid, although small, exploration drill target. Prior to considering a drill traverse, ground-based geophysical methods, such as a NanoTEM or shallow seismic surveys, are recommended to more clearly define the dimensions of the palaeochannel system.

Given the apparent paucity of cassiterite mineralisation within the Ringarooma Lead to the north of Arba Hill, evaluation of the Ringarooma Lead through the Fraser Flats area is not considered a high exploration priority at this stage. If extensions to the Valley Lead were successfully defined, then the potential of the Ringarooma Lead would need to be reassessed.

It is likely that additional shallow, tin-bearing leads, emanating from the Blue Tier Granite towards Fraser Flats, occur to the northeast of the Briseis Central mine, between the Valley and Cascade Leads. However, the proximity to the Ringarooma River, and limited strike length of any potential leads, eliminates this area as a valid exploration target.

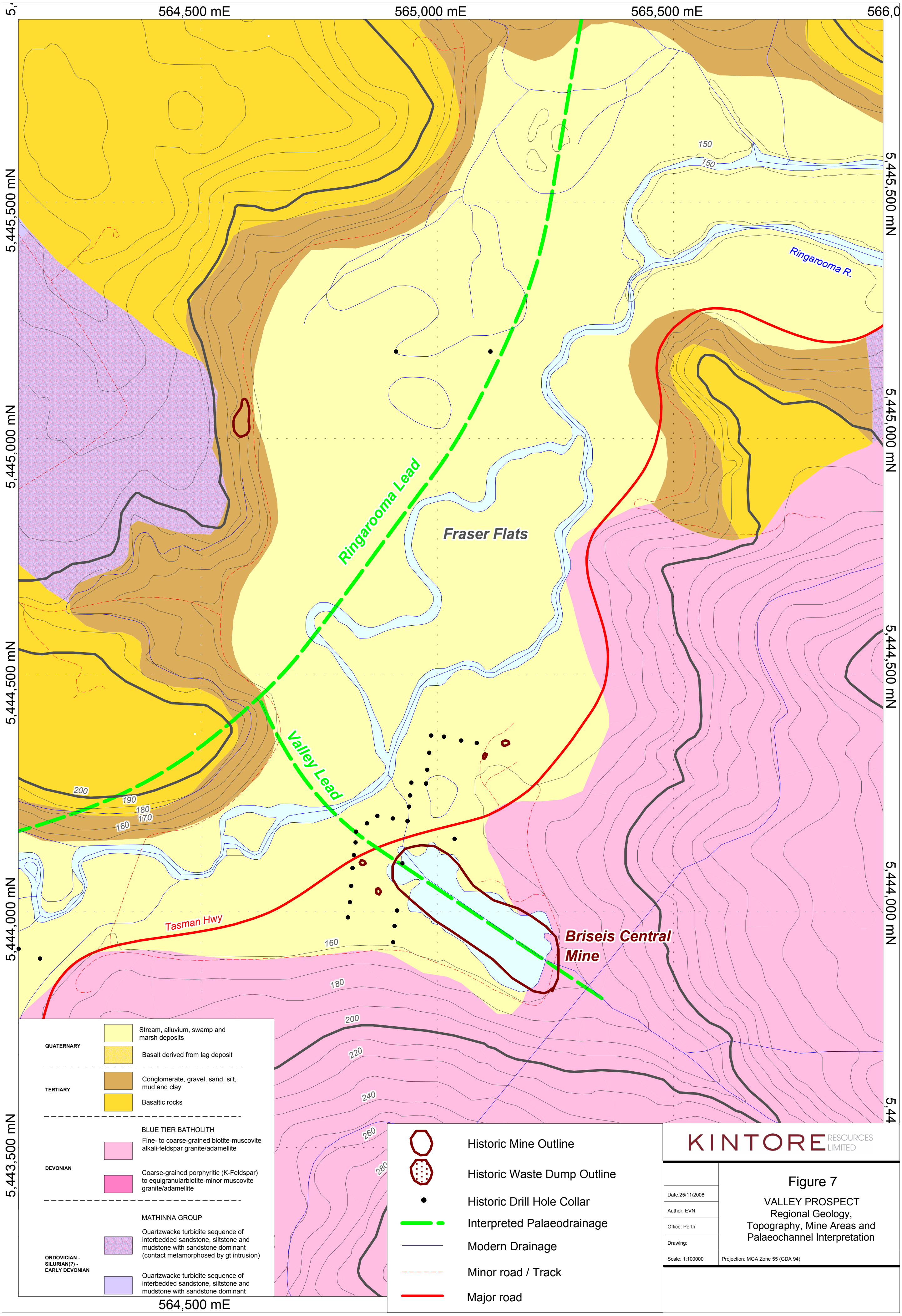


Figure 7

VALLEY PROSPECT
Regional Geology, Topography, Mine Areas and Palaeochannel Interpretation

Figure 8: *Flat-bedded quartz sands and interbedded polymictic pebble beds, small surface workings NE of Briseis Central Mine*

Figure 9: *Flat and cross-bedded clay-iron-rich alluvium interbedded with kaolinite horizons up to 30cm, Quarry: Derby Back Road, 1km NNW of Briseis Central mine*

5. CASCADE LEAD

The Briseis mine is presently flooded and inaccessible, and no specific aspects of the Cascade Lead geology were observed as part of this study. Historical drill records show that mineralisation remains open to the north of the abandoned pit face. Whilst the potential for a significant resource exists to the north of the mine area, the substantial thickness of basalt cover (+ 70m) precludes exploration in the short term, and the lead is considered a low priority exploration target at this stage. If exploration drilling is to be considered, reasonable access is afforded via established tracks through commercial tree plantations to the north of the mine area.

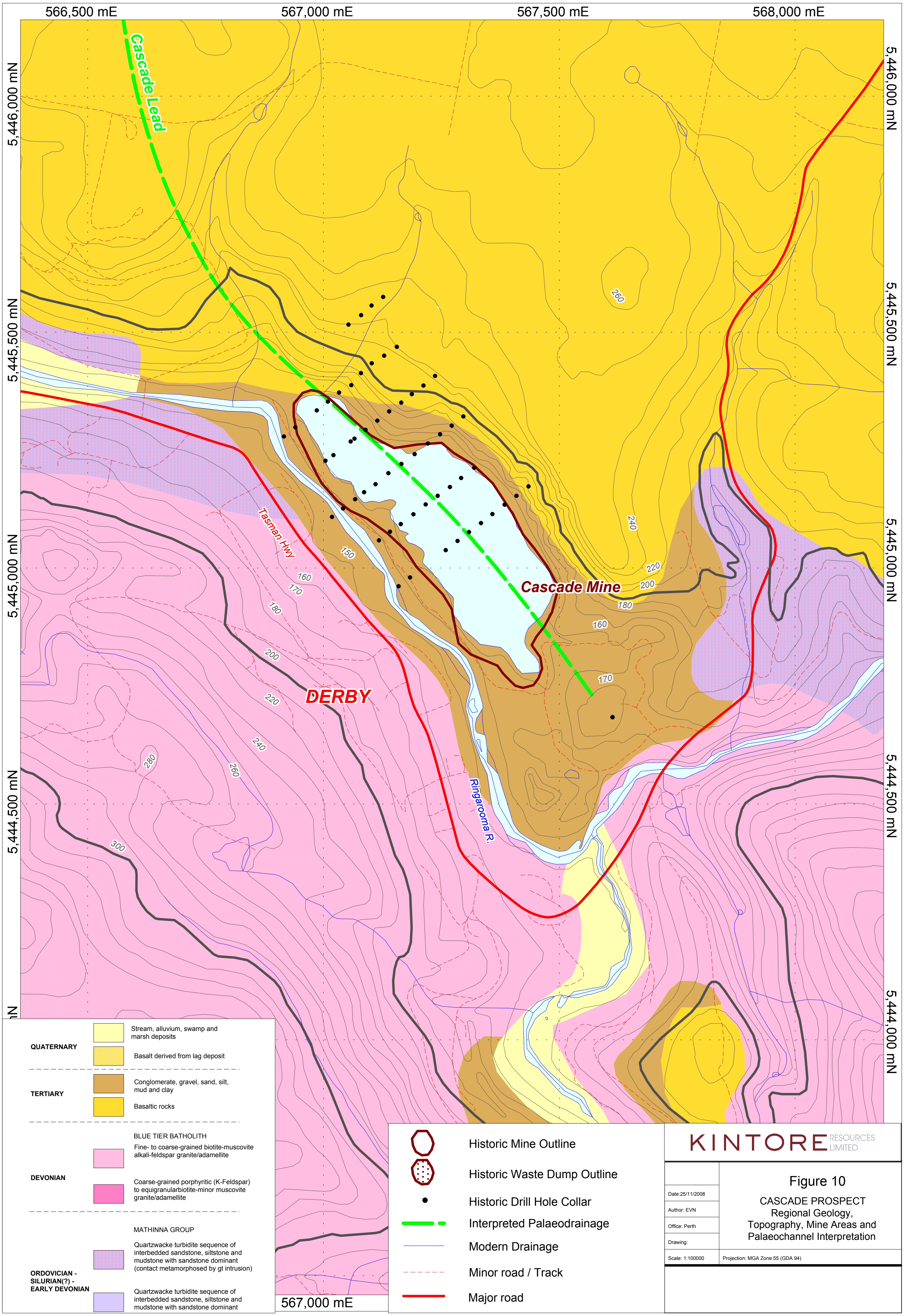


Figure 10
CASCADE PROSPECT
Regional Geology, Topography, Mine Areas and Palaeochannel Interpretation

Figure 11: Briseis Mine (left, flooded) and township of Derby viewed from the north showing hills of the Blue Tier Batholith and Cascade River Valley in the background

Figure 12: View of NE wall of Briseis Mine, Derby showing substantial thickness (~30m) of basalt cover overlying alluvium; Ringarooma River in foreground

6. MAIN LEAD

6.1. Introduction

The Main Lead has been extensively worked in several locations adjacent to the Ringarooma River, approximately 3km east of Derby. In this area, production was sourced from the headwaters of the regionally extensive Main Lead, which include various small tributary leads emanating from around Mutual Hill. However, no records of historical production from the area appear to exist in open file reports.

6.2. Geology and Lead Characteristics

Three main areas of historic alluvial tin mining are observed in the Main Creek area: the Sarah Ann and Mutual Hill tin mines, both located south of the Ringarooma River, and an extensive area of production following the downstream trend of the Main Lead, to the northwest of the Ringarooma River (Figure 13).

The Sarah Ann tin mines are located about 600m southeast of the Ringarooma bridge crossing and straddle the margin of the Kintore tenement area. They comprise a set of discontinuous shallow pits, now flooded, on the margins of Main Creek. These deposits probably represent the headwaters of the Main Lead – they are narrow, shallow occurrences and do not reflect significant economic potential.

The Mutual Hill deposits are an extensive set of shallow workings located on the western margin of Mutual Hill, immediately to the east of Main Creek. Access to the worked areas is very limited owing to the thickness of vegetation. The majority of workings are associated with small tributaries emanating from Mutual Hill. Workings are typically narrow, steep-sided and shallow (<5m) and like the Sarah Ann deposits, probably represent headwaters to the original Main Lead.

The Main Lead has also been worked on a moderate scale in a narrow (300m x 200m), steep-sided valley to the northwest of the Ringarooma River (Figs 13 to 15). The exact distribution and scale of workings cannot be determined owing to the degree of vegetation cover, although the size and abundance of mullock dumps suggests they were fairly extensive. Some of the accessible workings in the base of the valley expose very coarse, sub-angular polymictic gravels (clast size up to 10cm; Figure 16). These are interpreted to represent basal channel-fill material, although no exposures of bedrock were observed in the workings.

A substantial thickness of Tertiary basalt cover, overlying the Tertiary alluvium, is exposed in the upper parts of the valley. The basalt cover is approximately 50m thick and the basalt/alluvium contact is about 40m above the base of the valley. Many of the excavated areas are developed extensively up the valley and terminate at the basalt contact although it is not clear if any adits were driven below the basalt. The Main Lead is interpreted to continue to the northwest under the basalt cover (Figure 13).

Large areas of granitoid outcrop, centred at 569870mE/5445050mN, outcrop on the banks of the Ringarooma River, about 130m east of where the interpreted position of the Main Lead crosses the river. This suggests that the gutter of the Main Lead in this area is a fairly narrow zone, and that much of the excavation has been at or close to the basal units of channel fill.

6.3. **Land Tenure and Access**

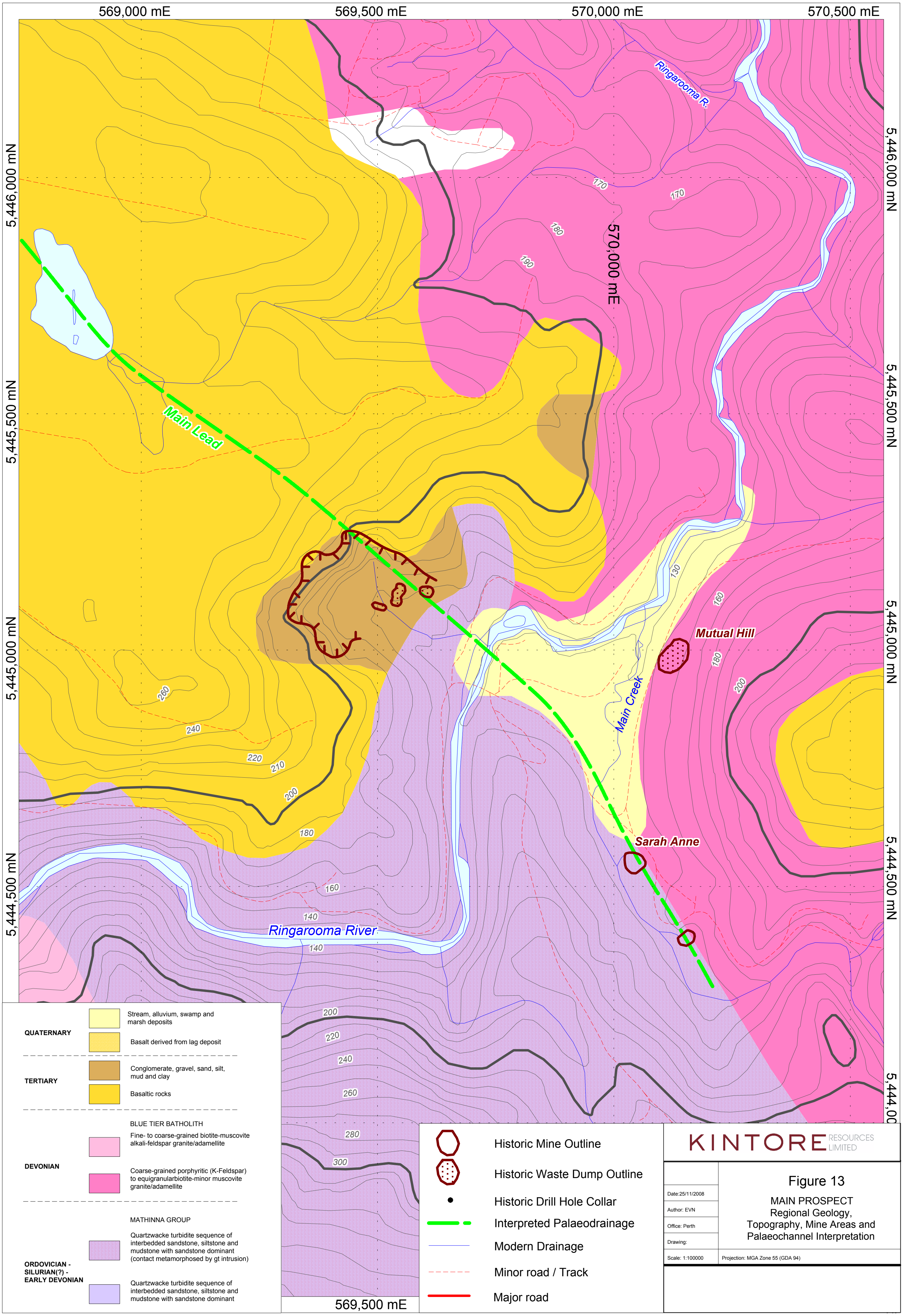
Access throughout the mined areas is very limited owing to the extent of vegetation cover. To the south of the Ringarooma River, the land tenure is state forrest with small segments of private property on the periphery of the Main Lead trend.

The main area of workings on the northern side of the Ringarooma River is on private land owned by Tasmania Plantations Pty Ltd (subsiduary of Forrest Enterprises Australia). In the vicinity of the worked areas, the terrain is very steep and largely inaccessible owing to thick forrest and undergrowth. However, the higher ground to the north of the worked valley is a basalt-covered plateau, with juvenile blue gum plantation extending for about 1km along the interpreted strike of the lead. Reasonable access is afforded in this area via established forrestry tracks. Further to the north, the interpreted position of the Main Lead lies beneath privately owned pastoral properties.

6.4. **Recommendations**

Minor potential exists for economic tin mineralisation in the upper reaches of the Main Lead palaeochannel system, where the inferred lead position lies beneath narrow valleys to the NW and SE of the Ringarooma River. However, remnant deep-lead mineralisation in this area is not likely contribute significant tonnage. Combined with environmental issues and cultural sensitivity associated with proximity to the Ringarooma River, this area is considered a low priority exploration target.

The main potential for significant deep-lead mineralisation of the Main Lead lies in the north-western extension under basalt cover. However, the grades are unknown and deep drilling to penetrate over 50m of basalt would be required to assess the target. If a geophysical technique could be applied to accurately locate the channel gutter, the cost of drilling would be significantly reduced.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Ringarooma R.
Main Lead
Mutual Hill
Main Creek
Sarah Anne
Ringarooma River
170
180
190
130
160
200
260
240
220
210
140
280
300
QUATERNARY
Stream, alluvium, swamp and marsh deposits
Basalt derived from lag deposit
TERTIARY
Conglomerate, gravel, sand, silt, mud and clay
Basaltic rocks
DEVONIAN
BLUE TIER BATHOLITH
Fine- to coarse-grained biotite-muscovite alkali-feldspar granite/adamellite
Coarse-grained porphyritic (K-Feldspar) to equigranularbiotite-minor muscovite granite/adamellite
ORDOVICIAN - SILURIAN(?) - EARLY DEVONIAN
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Quartzwacke turbidite sequence of interbedded sandstone, siltstone and mudstone with sandstone dominant (contact metamorphosed by gt intrusion)
Quartzwacke turbidite sequence of interbedded sandstone, siltstone and mudstone with sandstone dominant
Historic Mine Outline
Historic Waste Dump Outline
Historic Drill Hole Collar
Interpreted Palaeodrainage
Modern Drainage
Minor road / Track
Major road
KINTORE RESOURCES LIMITED
Date:25/11/2008
Author: EVN
Office: Perth
Drawing:
Scale: 1:100000
Projection: MGA Zone 55 (GDA 94)
Figure 13
MAIN PROSPECT
Regional Geology,
Topography, Mine Areas and
Palaeochannel Interpretation

Figure 14: View of partially excavated valley on Main Lead palaeochannel, NW or Ringarooma River with basalt-dominated waste dumps in foreground; viewed looking NW

Figure 15: View of Ringarooma River valley overlying course of the Main Lead palaeochannel; view looking SE, with Mutual Hill in background

Figure 16: Exposure of coarse, polymictic basal(?) gravel horizon in Main Lead, NW of Ringarooma River

Figure 17: Exposure of flat to cross-bedded sands and interbedded polymictic gravel beds within the Main Lead, south bank of Ringarooma River

7. ECHO (WELD RIVER) LEAD

7.1. Introduction

The upper reaches of the Echo (Weld River) Lead have been extensively mined in a narrow, NNW-trending valley, located 1km north of the township of Moorina. The majority of production occurred between 1902 to 1922, with in excess of 265 tons of tin concentrate produced.

7.2. Geology and Lead Characteristics

The Echo mine area covers a strike of about 650m strike, extending to depths of up to 40m (Figure 18). In the southern, more upstream area, the pit floor is narrow (<100m wide), but widens to approximately 500m in the northern part, where it probably incorporates numerous tributaries from the adjacent granitoid hinterland.

The degree of vegetation cover and flooding allows only limited access to the pit area (Figure 19). On the northern pit face, upper 10-15 m of the alluvial sequence is accessible, exposing clay-rich, well bedded quartz sands.

Historic reports (e.g. Munro, 1982) suggest that the Echo mine did not work the basal mineralisation, but a perched zone of mineralisation above a horizon of clay-rich sediments. Drilling by the Mines Dept (1930), conducted about 150m to the north of the abandoned working face intercepted stanniferous sediments overlying granitic basement, containing grades up to 16.8m @ 212g/m^3 in a narrow gutter zone. A single traverse of drilling conducted to the north of the Tasman Highway, approximately 700m north of the abandoned working face, intersected grades of about 100 g/m3 over a thickness of about 30m, below 50m of overburden. However, this traverse appears to have only tested the eastern margin of the palaeochannel, with the gutter assumed to be located further to the west (Figure 18).

The proposed downstream extension of the Echo Lead is in a north-westerly direction, passing beneath basalt cover to join the trunk Ringarooma Lead, approximately 4km northwest of Herrick. At Davids Creek, a tributary to the Ringarooma River running between Winnaleah and Herrick, back-cutting has incised basalt flows and exposed the upper part of the underlying Tertiary alluvial sequence (Figure 20). Drilling of a traverse of RC holes along the valley base by Australian Anglo American Ltd was largely unsuccessful, with most holes partially penetrating the basal wash, but failing to reach basement. The depth to basement at the intersection of the drill traverse and the proposed Echo palaeochannel axis was estimated at 58m, suggesting a pronounced flattening of the channel gradient to the north of the Echo mine.

7.3. Land Tenure and Access

The upper reaches of the Echo Lead, comprising the Echo mine and area south of the Tasman Highway are located within State Forrest. Several 4WD tracks allow limited access to the northern pit face and areas to the north of the mine (Figure 18). Access used for historic drill campaigns immediately to the north of the Echo mine (1930) is no longer apparent.

To the north of the Tasman Hwy, the area overlying the proposed extension of the Echo Lead comprises privately owned, freehold pastoral properties, with minor areas under commercial forrest plantation. The area affords reasonable access along established farm tracks. Davids Creek is a steep-sided east-west trending valley extending from Winnaleah to Herrick. The base of the valley narrows from east to west and is largely accessible, with established farm tracks having been utilised for a previous drilling campaign.

7.4. **Recommendations**

If, as suggested by previous explorers, that the Echo Lead was not mined to the base of the Tertiary sequence, an undefined resource my still exist below the current pit area. However, thick forrest regrowth and flooding of the pit floor at Echo would significantly hamper exploration for such a resource. If access can be established to the southern end of the pit, a small-scale drilling operation could possibly be undertaken in this area.

Very little successful exploration has been carried out to the north of the abandoned pit face (only one traverse of drill holes has properly tested the sequence [Mines Dept, 1930], immediately north of the Echo mine). The area between the northern pit face and Tasman Hwy comprises a strike of 500m and represents high exploration potential. This area is largely unaffected by cultural features allowing the use of electrical geophysical methods.

To the north of the Tasman Highway, the regional northwest extension of the Echo Lead is a valid, although largely conceptual, exploration target. Given the assumed low regional gradient of the palaeochannel axis the potential for significant mineralisation is considered to be low, particularly in more northerly areas. The Davids Creek valley, and several tributary valleys to the south lack significant basalt cover and represent suitable sites to apply geophysical or drilling methods. Exploration priority should be given to the more southern target areas in closer proximity to the granitic source.

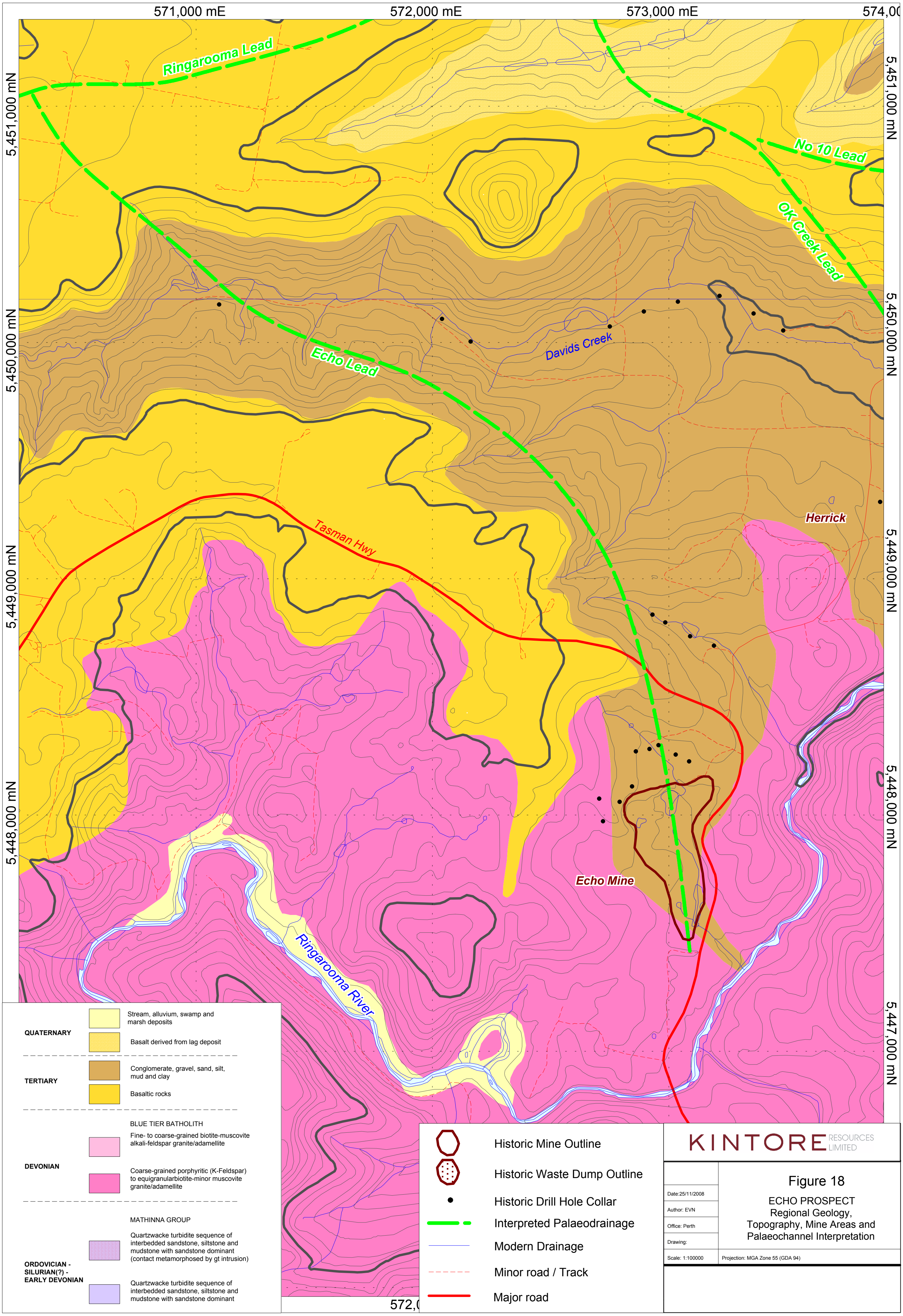

Figure 18

ECHO PROSPECT
Regional Geology, Topography, Mine Areas and Palaeochannel Interpretation

Figure 19: Northern part of historic Echo Mine (flooded), viewed from NW crest

Figure 20: Upper part of Davids Creek valley, looking east towards Herrick; Tertiary basalt cover in foreground

8. OK CREEK LEAD

Owing to access issues and paucity of historical data, the OK Creek lead was not observed as part of this assessment. The lead is inferred to pass under the area of the Surray Lagoon, east of Herrick. Nye (1925) documented the occurrence of small workings, about 100m across, located 1.2km SSE of Herrick. The Mines department of Tasmania conducted minor drilling to the west of Surray Lagoon, although no open file results have been located.

The OK Creek lead is inferred to continue beyond Herrick in a north-westerly orientation beneath significant thickness of Tertiary basalt cover, and intersect with the trunk Ringarooma palaeochannel some 3km NW of Herrick (Figure 1; Askins and Stewart, 2007). The relationship between the OK Creek and No 10 Lead, to the west, is uncertain.

No immediate exploration is recommended for the OK Creek Lead. As suggested by Askins and Stewart (2007), the historic drill data conducted by the MRT west of Surray Lagoon should be obtained prior to further assessment.

9. No. 10 LEAD

The No. 10 Lead is postulated as an east-west trending, basalt-covered tributary to the OK Creek Lead, located in the eastern part of the project area (Figure 1).

Very little information is available on the course of this lead, although it is suggested to be a possible western extension to the Pioneer Lead system (Askins and Stewart, 2007). Given the apparent orientation of the Pioneer Lead, this is improbable and the headwaters of the No. 10 Lead are more likely to be located to the southeast.

A small (50m x 100m) roadside quarry centred at 574760mE / 5450350mN exposes a +10m thick sequence of coarse, well-bedded clay rich quartz sands overlain, by 1m of brown basaltic soils. No basement is exposed and the sequence may represent the southern margin of the No. 10 lead system.

Two NanoTEM ground-based geophysical traverses conducted over the assumed No. 10 lead position suggest the presence of a meandering channel system, although the orientation is not confirmed.

Further ground-based geophysics is recommended to more fully define the nature and extents of the channel sequence. The area is characterised by an undulating basalt capped topography comprising privately owned, freehold pastoral properties.

10. REGIONAL TARGETS

10.1. East Ringarooma Area

An expansive floodplain area approximately 3km east of the township of Ringarooma, between the Ringarooma River and the Blue Tier granitoids to the east, broadly corresponds to Target No. 1, defined by Askins and Stewart (2007). This broad floodplain potentially conceals tin-bearing palaeodrainages, that emanated from the Blue Tier granitoid to the northeast, and flowed towards the ancestral Ringarooma palaeodrainage.

Whilst the hinterland of basement rocks to the northeast partly includes granitoid lithologies, the area is largely dominated by Ordovician metasedimentary rocks. This would downgrade the prospectivity of the palaeodrainage system relative to granitoid-dominated areas in the north and east of the tenement area.

There is no recorded tin production or exploration from the East Ringarooma area. The terrain is mainly low-relief, freehold pastoral properties that would afford good access for shallow drill traverses or geophysical surveys (Figure 21).

10.2. Pioneer Area

In the eastern-most part of the tenement, the area to the south of the Herrick-Pioneer Road is considered moderately prospective for shallow, tin-bearing palaeodrainages emanating from the Blue Tier granitoids, to the south (see Figure 1). Furthermore, the headwaters of the No. 10 lead are possibly located in this area.

The area comprises state forrest on the northern side of the Ringarooma River. Quartz-clay-rich alluvium, up to 5m thick (no basement observed) is exposed in road cuttings and a small quarry to the north of the Herrick-Pioneer Road (Figure 22).

There is no recorded tin production or exploration from this area, which represents a moderately prospective grass-roots target. The terrain is flat to slightly undulating and is accessible by several forrestry tracks that may provide access for drill traverses or geophysical surveys.


Figure 21: Ringarooma East Target area, viewed looking east, Ringarooma River in foreground

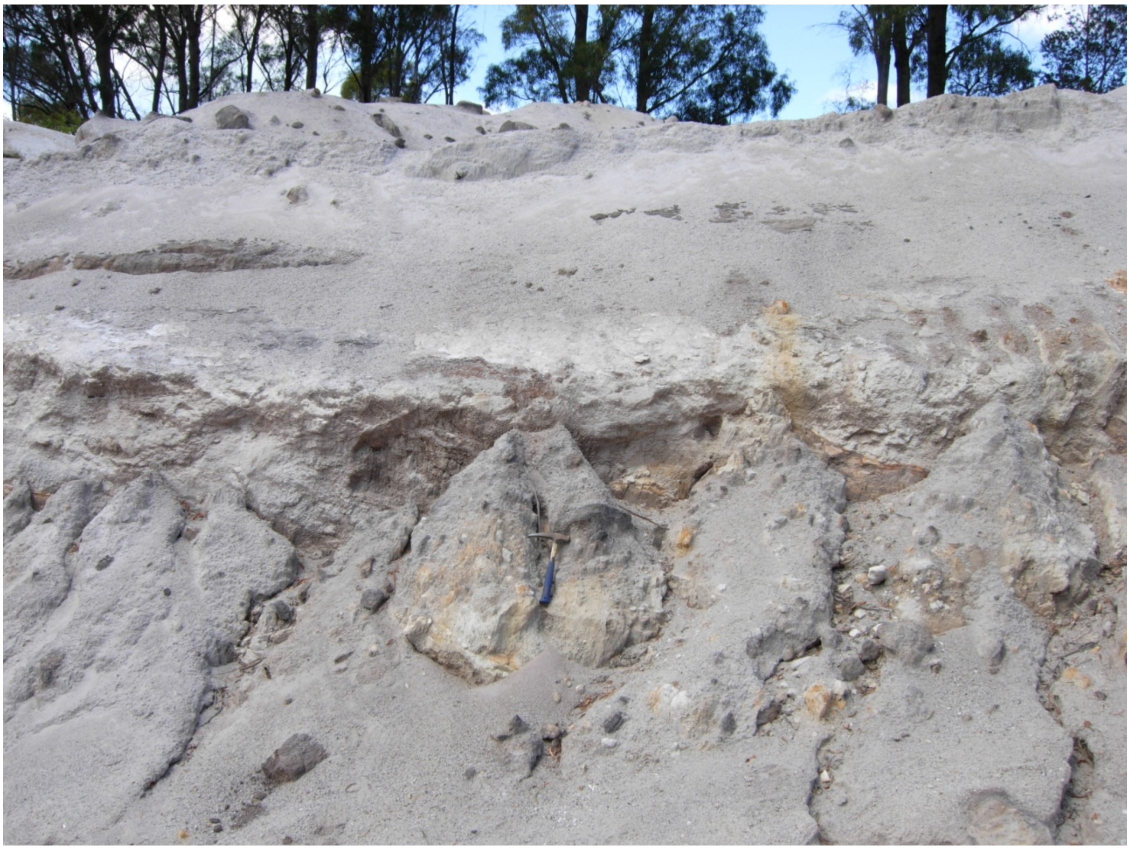
Figure 22: Poorly sorted sandy gravels exposed in small quarry on Herrick-Pioneer road

11. CONCLUSIONS

The nature and distribution of palaeoplacer tin deposits in northern Tasmania suggests that the areas of greatest prospectivity are the higher gradient headwaters of palaeodranaiges, adjacent to granitoid source rocks (specifically within 1 - 2 km). More downstream, higher order palaeodrainages, represent low gradient, lower energy fluvial environments and hold less potential for economic cassiterite concentrations. Episodic reworking of alluvium during the evolution of fluvial systems may have contributed to mineralisation in downstream sections, although such areas are not considered to be an exploration priority. Thus, targets adjacent to existing deposits, or unexplored conceptual targets in palaeo-headwater environments, represent the greatest exploration potential in the tenement area.

A review of the Derby Project tenement has assessed, where possible, the geological characteristics of the major lead systems (Arba, Valley, Cascade, Main and Echo leads) and a number of less advanced to grass-roots target areas. Of the more major systems, the Arba and Echo leads represent the greater potential for discovery of an economic resource. The immediate downstream strike extensions to these lead systems, and remnant alluvial horizons below previously mined areas, are largely untested. They also lack significant basalt cover in the immediate downstream extents from mined areas, which would add to the economic viability of a resource discovery.

The Valley lead has moderate exploration potential over a limited area northwest of the historic Briseis mine, south of its confluence with the trunk Ringarooma palaeochannel. Given the paucity of cassiterite mineralisation within the Ringarooma Lead to the north of Arba Hill, evaluation of the Ringarooma Lead through the Fraser Flats area is not considered a high exploration priority at this stage.

The Cascade and Main leads both have high exploration potential for discovery of significant resource extensions along strike from previously mined areas. However, the substantial thickness of basalt cover precludes further exploration drilling at this stage. If a suitable geophysical technique could be determined to accurately locate the channel gutter in such systems, drilling costs could be minimised by specifically targeting potentially higher grade zones.

Greenfields target areas such as Pioneer and East Ringarooma, represent quality conceptual targets, in the more prospective, upper reaches of palaeodrainages adjacent to source rocks.

It is strongly recommended that ground-based geophysics be applied to specific targets prior to initial drilling campaigns. The optimum geophysical exploration technique has not yet been established for this style of mineralisation, and several methods may need to be trialled. Possible techniques, in addition to the previously trialled NanoTEM, include gradient array and dipole-dipole IP, ground-penetrating radar, and shallow seismic methods. Arba Hill, the Echo lead and the Pioneer conceptual target afford reasonable access with minimal cultural interference, and represent suitable sites to apply initial geophysical techniques.

12. REFERENCES

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