Lottah Mining Pty Ltd
EL 25/2009 “Highclere”
Annual Report on Exploration
May 2019 to May 2020

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May 2020

Abstract

Work on EL 25/2009 in the reporting year was expected to be a drilling programme to extend the Highclere resource. This drilling was to follow drilling at the Hampshire, L1 and L13 prospects on adjacent tenements and part of the Rogetta Project, however, the need to access drill sites on farmland at Highclere led to a decision to postpone this drilling until the paddocks were dry in early 2020.

Plans to have at least commenced this drilling before the licence's anniversary date have been interrupted by issues associated with the coronavirus lockdown from both practical and financial perspectives.

The coronavirus has also interrupted core re-logging work and s.g. measurements have not commenced.

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1.0 Introduction

1.1 Location/Access/Land Usage

EL 25/2009 "Highclere" is located in Tasmania's northwest approximately 15 to 20km's south of the port of Burnie. Access to the tenement is ideal with the bitumen Murchison Highway passing through the middle of the licence. Access within the licence is by a series of gravel roads which service farms nearer to the highway and provide access to forestry areas on the eastern and western margins of the licence.

The licence area is used for farming, predominantly grazing, and forestry.

1.2 Tenure

Exploration Licence EL 25/2009 "Highclere" was granted to Blythe River Iron Pty Ltd in 2009. Blythe River Iron Pty Ltd was bought out by Forward Mining who in turn was bought by Lottah Mining Pty Ltd.

EL 25/2009 remains in the name of Blythe River Iron Pty Ltd but is owned and managed by Lottah Mining Pty Ltd.

In 2017/18 Blythe River Iron Pty Ltd relinquished 14km2, retaining the remaining 24km2 as shown in figure 1.1.

In 2017/18 the tenement was renewed for two years until May 2020.

1.3 Exploration Rationale

Lottah Mining Pty Ltd has a JORC compliant magnetite iron resource at its Rogetta North project on ML 1996P/M to the southeast of EL 25/2009. Lottah Mining Pty Ltd also has a JORC compliant hematite iron resource deposit on EL6/2005 to the northeast of EL 25/2009.

Lottah Mining Pty Ltd is targeting further magnetite and/or hematite iron deposits to add to its resource inventory.

Lottah Mining Pty Ltd is also targeting any commodities of commercial interest including but not limited to W03, Sn, Bi, Mo, Cu, Pb, Zn, Au, Ag, Li, Ni, REE, wollastonite and facing stone.

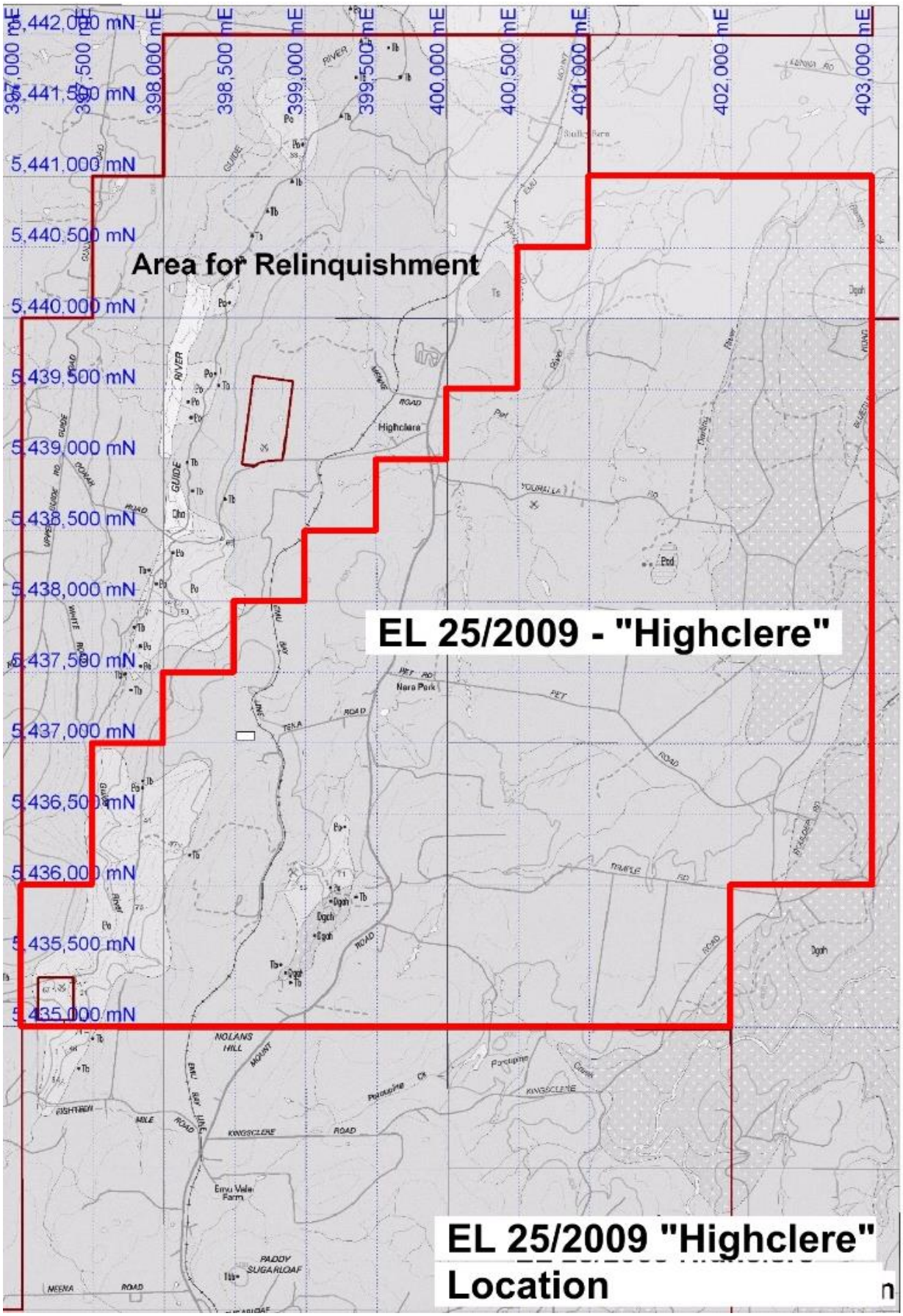

Figure 1.1: EL 25/2009 "Highclere" areas for relinquishment and retention.

1.4 Geology

Regionally the geology of the Rogetta Project area is dominated by a basement of Proterozoic metasediments (and minor mafic volcanics) of the Oonah/Burnie Formations unconformably overlain by a sequence of Cambro-Ordovician volcanics and sediments, both intruded by the Devonian Housetop Granite, all obscured by a veneer of Tertiary basalt.

Proterozoic rocks are the host to skarn mineralisation at Buckby's prospect within the tenement, as well as the Natone prospect further to the east. Some workers (Blake, 1928) also attribute the Highclere skarn host rocks to the Proterozoic, though more current interpretations see these rocks to be from the Cambro-Ordovician sequence. The deep weathering superimposed on texturally destructive skarn alteration must make any interpretation of these host rocks uncertain.

The basal unit of the Cambro-Ordovician sequence consists of the Mt Read Volcanics, correlated with the Tyndall Group. These are overlain by the Owen Group sediments.

The basal member of the Owen Group is a quartz pebble conglomerate with local additions of volcaniclastic detritus. The conglomerates are overlain by the Moina Sandstone which has a gradational contact with the overlying Gordon Group Limestone, becoming more calcareous towards the contact.

These calcareous upper Moina Sandstone rocks and the overlying Gordon Group limestones and dolomites are the host to skarn mineralisation at Kara to the south of the licence and most other skarns in the district.

These basement rocks were deformed in the Middle Tabberrabberran Orogeny under a largely east-west compressive stress regime. This resulted in the development of north to north-northeast striking F2 folds superimposed on much broader east-west F1 folding.

Late in the orogeny the I-type Housetop Granite was emplaced passively and underlies most of the Rogetta Project tenements.

Skarn mineralisation was introduced into calcareous rocks by fluids derived from this granite with rarer vein style mineralisation also associated with this intrusive.

In the Tertiary topographic lows were filled by basal sediments followed by thick Tertiary basalt flows which spilled over onto more undulating topography as a thin veneer.

Within EL 25/2009 the basement rocks are obscured for ~90% of the surface area by Tertiary basalt. The exceptions to this are the Proterozoic rocks exposed in a north-south trending series of windows in the Guide River valley near the western boundary of the licence, and the granite outcropping along the eastern boundary of the licence.

2.0 Review of Previous Exploration Work on the Area of EL 25/2009

2.1 Exploration Prior to Current Tenement

The existence of deposits of magnetite and hematite iron in the northern part of Tasmania has been known since the late 19th century.

Modern exploration commenced in the late 1950's with regional geophysical surveys (Keunecke, 1959).

The Tasmanian Mines department assessed the deposit for its iron ore potential in the early 1960's carrying out a ground magnetic survey followed by the drilling 5 (effectively 4 as hole 2B was drilled immediately adjacent to hole 2 in order to resample the upper 13.1m of hole 2 which had been lost) diamond drill holes for 126.8m at the Highclere Prospect in 1964 (Jack, 1965). The drill holes intersected nodules and lenses of hematite-magnetite mineralisation hosted in limonitic/goethitic clays. The Mines Department holes did not appear to extend to the granite basement.

Table 2.1: Better iron assays from Mines Department holes.

Hole_ID	From (m)	To (m)	Interval (m)	Fe %
H1	1.8	28.3	26.5	40.71
H2	13.1	26.5	13.4	62.22
H2B	0	13.1	13.1	53.3
H3	0	27.7	27.7	43.48
including	12	23.15	11.15	52.78
H4	0	21.2	21.2	43.14

Iron assays from the Mines Department holes were encouraging however the recoveries were poor suggesting some of the clay may have washed away, biasing the iron analyses.

The area of EL 25/2009 "Highclere" was further explored for its Sn and WO3 potential by ANZECO in the 1970's (Brandt, 1973, 1974), Comalco in the late 1970's (Askins, 1978 and 1980) and Shell in the 1980's (Lawton, 1982). A focus of this work was the Highclere iron deposit.

ANZECO completed systematic grid based ground magnetics, and mapping surveys over the prospect and re-assayed the Mines Department core for Sn-WO3 with only minor tungsten mineralisation observed (Brandt, 1974). Most of the drill core was re-logged as limonitic clay. A series of short auger holes were drilled (AH1 to AH25 and AH127 to AH133), most intersecting highly weathered granite with only 6 holes intersecting highly weathered calc-silicate skarn with minor hematite-magnetite mineralisation. The holes were assayed for WO3 and Sn but not Fe. Minor localised Scheelite mineralisation was described at the prospect (Brandt, 1974).

They concluded that the deposit consists of small roof pendants of highly weathered calc-silicate skarn with minor magnetite mineralisation.

Comalco (Askins, 1978) assessed the potential of the northern part of the Highclere Iron deposit magnetic anomaly with ground based gravity, magnetics and IP. They also re-logged the Mines Department core noting the very low recoveries. They concluded that the discontinuous nature of the magnetic and chargeability - resistivity anomalies suggest there is very limited potential for significant mineralisation in the northern part of the Highclere Iron deposit.

Most of Comalco's work concentrated on Buckby's Prospect located several kilometres southwest of the Highclere Iron deposit. They completed a similar program of ground based magnetic, IP, soil sampling and geological mapping follow up by diamond drilling. The drill holes intersected a thick sequence of dolomitic limestone and calcareous sediments, variable metasomatised to diopside skarn

with minor magnetite and pyrrhotite skarn. All holes ended in granite basement. No significant Sn-WO3 or Fe mineralisation was observed.

Shell/Billiton re-assessed the magnetics of the district, targeting Kara style magnetite skarn mineralisation. They drilled several percussion holes into magnetic anomalies in basalt and one extra hole into the Highclere Iron deposit, HD1, for 102m. They concluded that the magnetic signature of the basalt cover obstructed the delineation of magnetite skarn and discontinued work in the district.

2.2 Exploration Work During Current Tenement

Forward Mining targeted the iron potential of the Highclere deposit drilling 4 diamond holes (H5 to H8) totalling 220.2m in early 2012. Better results from their drilling are shown below in table 2.

Table 2.2: Better Intersections Forward Mining 2012 Drilling

Hole_ID	From (m)	To (m)	Interval (m)	Fe %
H5	1.4	26	24.6	44.66
including	1.4	8	6.6	56.92
including	12	19	7	51.2
H6	1.5	67	65.5	36.6
H6	1.5	13	11.5	56.51
H6	13	16	3	0
H6	16	17	1	51.5
H6	17	28	11	0
H6	28	37.8	9.8	48.62
including	32	36.5	4.5	61.37
H6	37.8	42	4.2	0
H6	42	67	25	48.77
including	43.5	46	2.5	62.78
H7	1.5	3.6	2.1	59.78
H8	8.7	30	21.3	43.81

Lottah Mining Pty Ltd completed four diamond drill holes (DD14HC010 to DD14HC013) for 206.3m on the Highclere tenement in mid-2014. The drill holes intercepted deeply weathered skarn with varying thicknesses of magnetite and hematite and limonitic/goethitic clays.

Table 2.3: Better Intersections Lottah Mining 2014 Drilling

Hole_ID	From (m)	To (m)	Interval (m)	Fe %
DD14HC010	9	41	32	49.59
including	9	35	26	53.63
DD14HC011	1	50	49	46.94
including	1	21	20	62.59
including	33	40	7	56.49
DD14HC012	4	55	51	50.16
including	4	11	7	55.87
including	13	20	7	55.22
including	39	55	16	45.96
DD14HC013	15	50	35	35.9

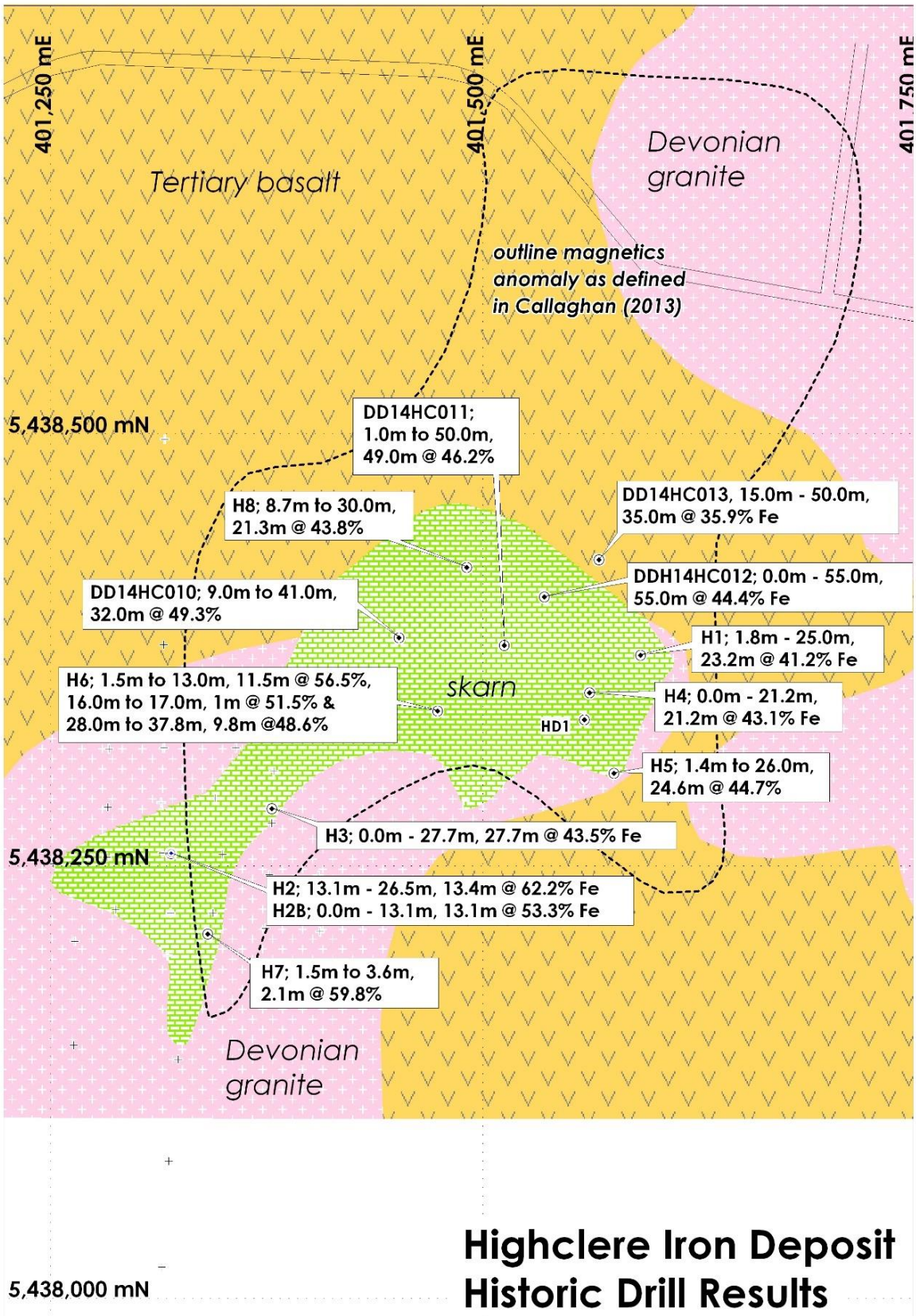

Figure 2.1. Map of Highclere drill holes with Fe intersection assays (+ = ANZECO auger holes).

In the 2016/2017 year exploration completed on EL25/2009 during the reporting period consisted of:

1. Compilation of all historic exploration data with a focus on the Highclere Deposit.
2. Commencement of the generation of a JORC compliant resource estimate for the Highclere Deposit.

In the 2017/18 year work consisted of:

- Data compilation
- Generation of a JORC (2012) resource for the Highclere deposit.
- Reconnaissance field mapping/sampling at Pet Road.
- Digitisation of 1978 Comalco ground magnetics data covering Pet Road and Buckby's Prospects.

Data compilation is ongoing and largely in-house. An ACCESS database of all drill holes has been constructed and is in use. There is still the need for an audit before the database work is considered complete. A number of the images generated from that work are included here as figures 2.2 to 2.4.

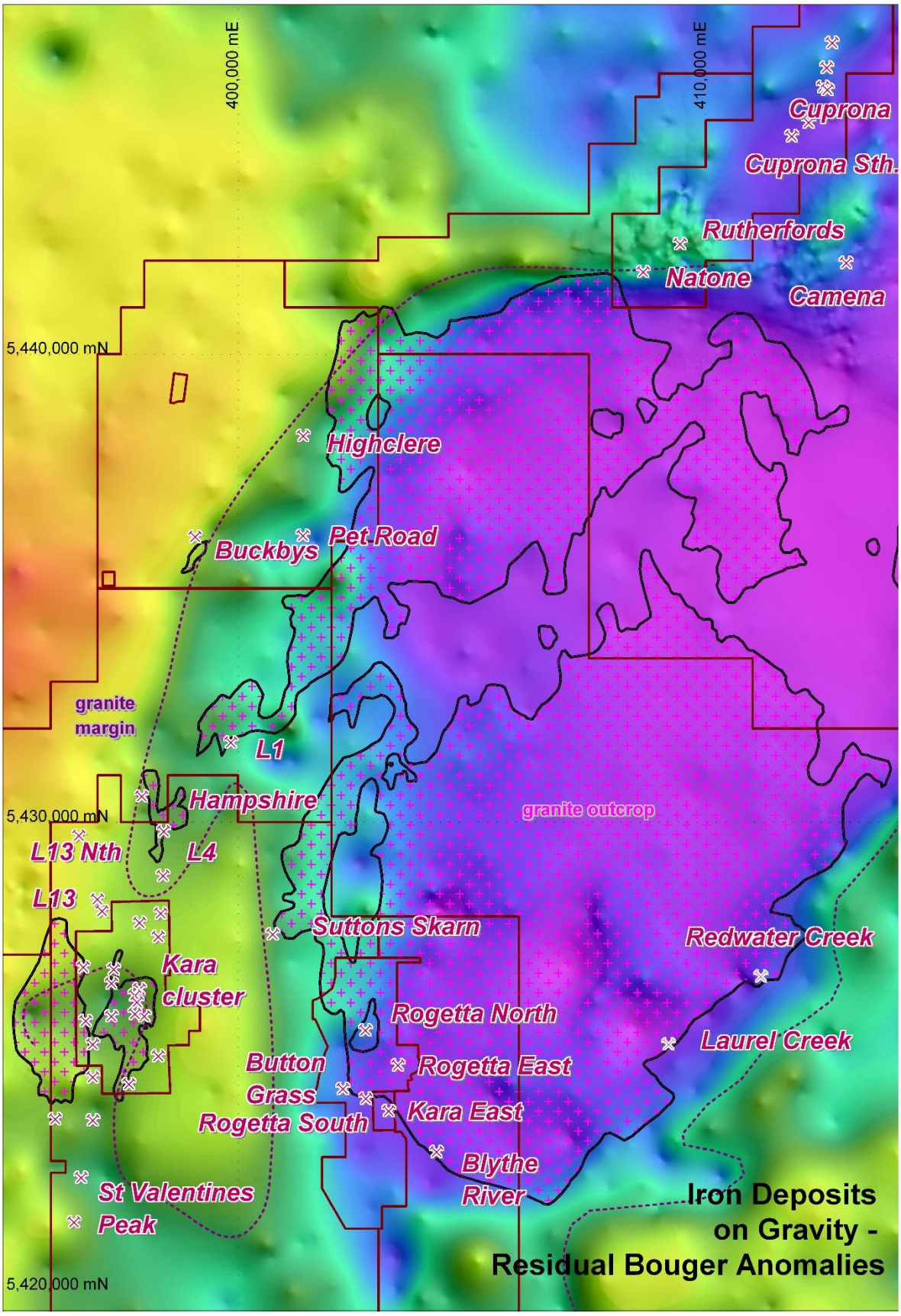

Figure 2.2: Regional gravity image showing iron deposits and tenements. EL 25/2009 is the tenement upper left containing the Highclere, Pet Road and Buckby's Prospects.

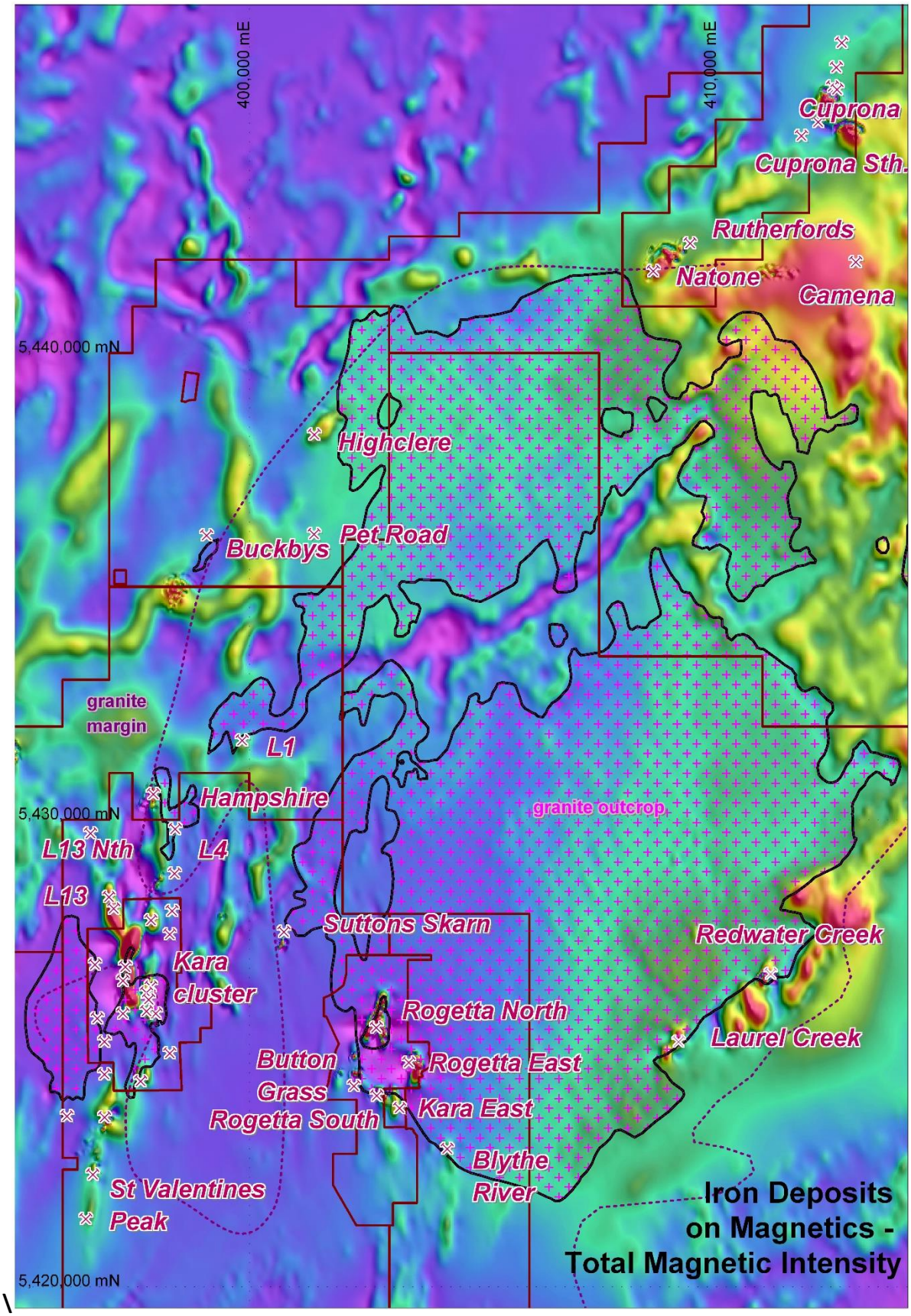

Figure 2.3: Regional total magnetic intensity image showing iron deposits and tenements. EL 25/2009 is the tenement upper left containing the Highclere, Pet Road and Buckby's Prospects.

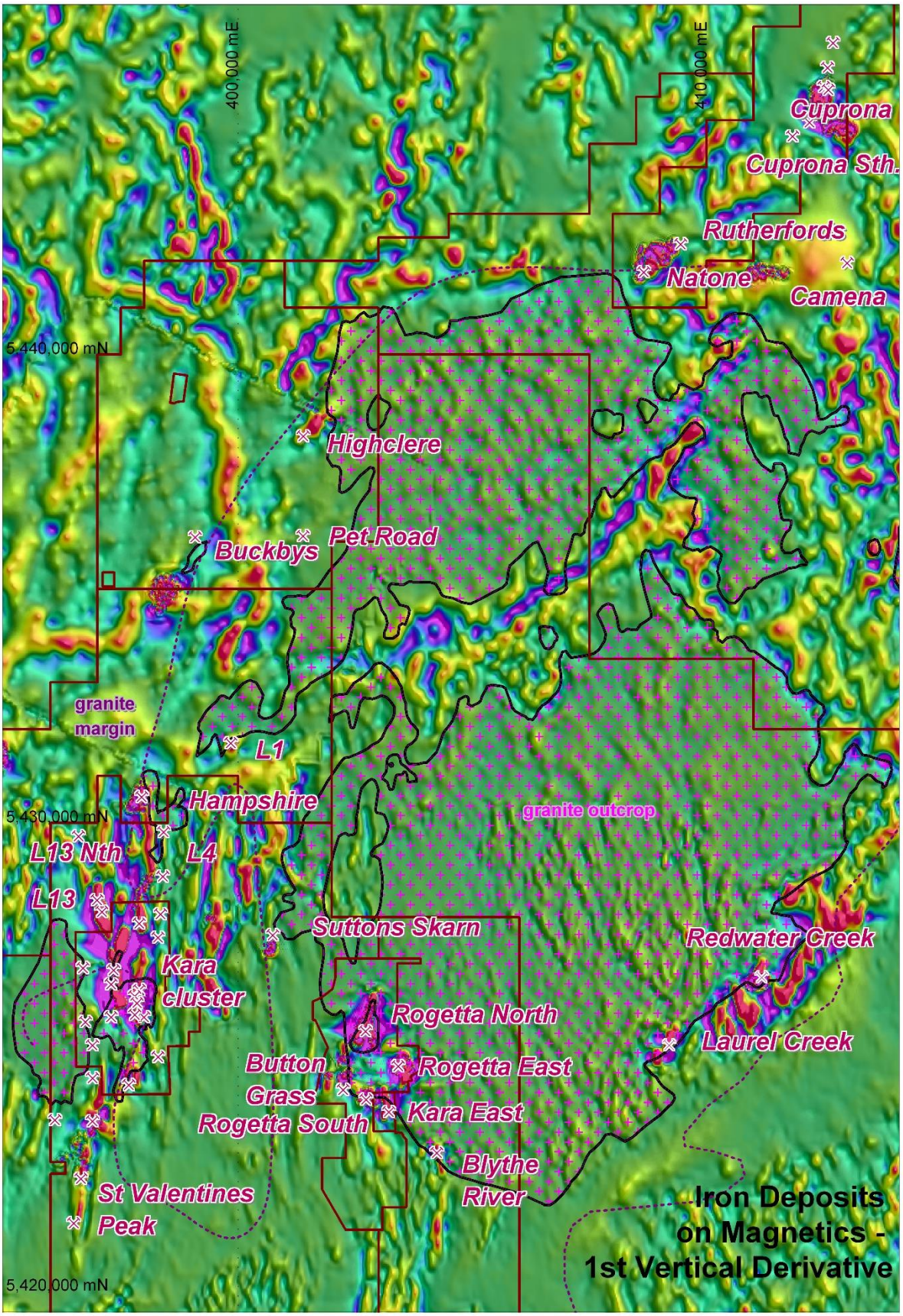

Figure 2.4: Regional 1st vertical derivative of magnetic intenstiy image showing iron deposits and tenements. EL 25/2009 is the tenement upper left containing the Highclere, Pet Road and Buckby's Prospects.

A resource has been estimated for the Highclere hematite + magnetite + limonite iron deposit in Tasmania's northwest. The resource is classified as Inferred based on deficiencies with the data sets used in the estimation, in particular the lack of any bulk density measurements, for an orebody which contains a range of iron species from highly weathered clays to massive magnetite, makes tonnages only approximate being +/- 20%. For this reason the resource is considered preliminary and requires bulk density measurements in order to determine a more precise tonnage. Volumes have been cited in the resource as more precise measure.

A total resource of 1,288,438m^3 equating to, at an approximated bulk density of 3.5t/m^3, 4,510,000t @ 42.48% Fe has been estimated.

The resource is defined by the nominal 30% Fe iron mineralisation envelope and excludes overlying and underlying low grade calc—silicate skarn intersections. It is only estimated to 5,438,475mN (MGA94). The resource consists of a mixture of highly weathered limonitic clayey material and massive magnetite+/-hematite.

Table 2.4: Tons and grade for model excluding non-iron mineralised skarn

Cut Off Grade Fe%	Volume (m3)	Tons	Fe %
0	1288438	4509531	42.48
25	1278906	4476172	42.63
30	1224844	4286953	43.3
35	1157781	4052234	43.95
40	889594	3113578	45.92
45	378063	1323219	50.41
50	152000	532000	55.22
55	87750	307125	57.45

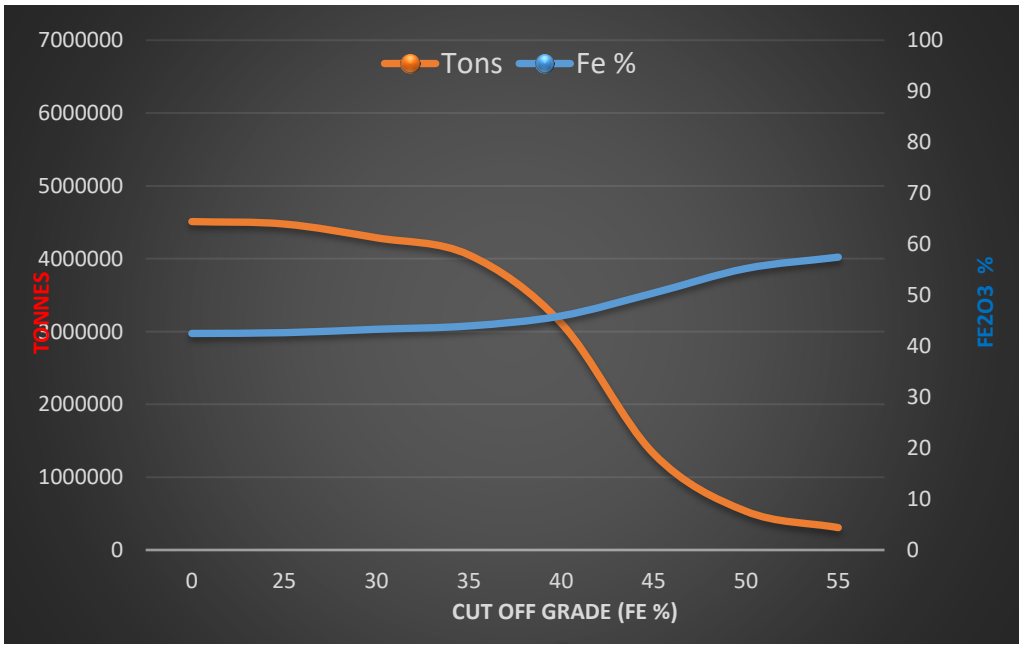

figure 2.5: Tons and grade curve model excluding non-iron mineralised skarn

The resource was remodelled and re-estimated including all skarn i.e. overlying and underlying calc-silicate rocks, as a check. Similar volumes, tons and grade were in this second estimation at the higher grades though overall the resource is lower grade though larger volume/tonnage.

Table 2.5: Tons and grade for model including non-iron mineralised skarn

Cut Off Grade Fe%	Volume (m3)	Tons	Fe %
0	1799688	6298906	36.64
25	1649750	5774125	38.66
30	1363688	4772906	40.87
35	1015094	3552828	43.61
40	753531	2637359	45.71
45	294063	1029219	50.86
50	131344	459703	55.8
55	87313	305594	57.46

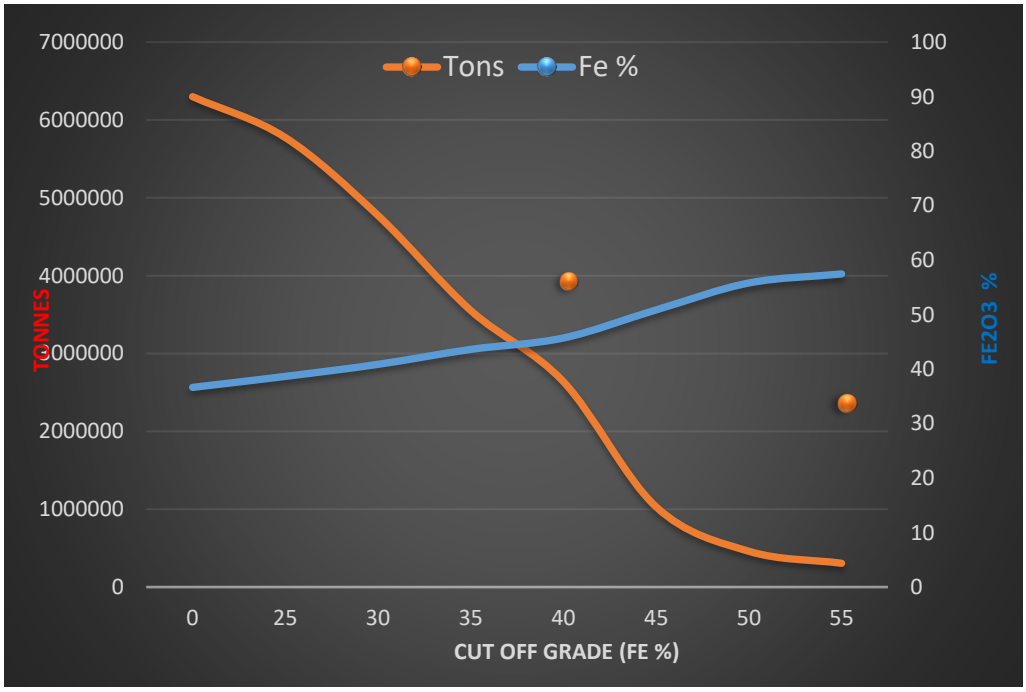

figure 2.6: Tons and grade curve model including non-iron mineralised skarn.

Geology

The Highclere iron deposit is an at-surface body of mixed limonitic to goethitic clays, and massive to semi-massive magnetite and/or hematite, formed as skarn in a basin shaped roof pendant in underlying Devonian Housetop granite.

The basin trends northeasterly and apparently extends for 560m's, being drilled in the southwesternmost 350m's, and is up to 200m wide, narrowing to the southwest.

Data

Date was taken from the following drill programmes:

- 1965 Tas. Mines Department, 4 (5) diamond drill holes H1, H2/2B, H3 and H4 for 126.8m, Fe assays and geology
- 1974 Anzeco, 32 auger holes AH1 to AH25 and AH127 to AH133, only geology, no Fe assays
- 1982 Shell, 1 percussion hole PDH1 for 102m, only geology, no Fe assays

- 2012 Forward Mining, 4 diamond drill holes H5, H6, H7 and H8 for 220.2m, Fe assays and geology
- 2014 Lottah Mining, 4 diamond drill holes, DD14HC010, DD14HC011, DD14HC012 and DD14HC013 for 206.3, Fe assays and geology

10m contour topographical data was taken from the Tasmanian Governments theLIST database online.

Resource Modelling

The resource was modelled using SURPAC's block modelling function.

A block model was created with blocks 20m in the X direction, 20m in the Y direction and 5m in the Z direction was created. Sub-blocking to 5mX x 5mY x 1.25mZ was permitted.

The same block model was used for both estimations.

Estimation was by Inverse Distance Squared with three passes;

- pass 1 200m spherical search ellipse, minimum 1 sample, maximum 40
- pass 2 200m spherical search ellipse, minimum 3 samples, maximum 40
- pass 3 100m spherical search ellipse, minimum 10 samples, maximum 40

8 discretisation points per block with points spaced 3X x 3Y x 2Z.

Potential to Add to Resource

The resource was only modelled south of 5,438,475mN (MGA94) where there has been drilling. North of here the resource remains open for ~150m before granite outcrops.

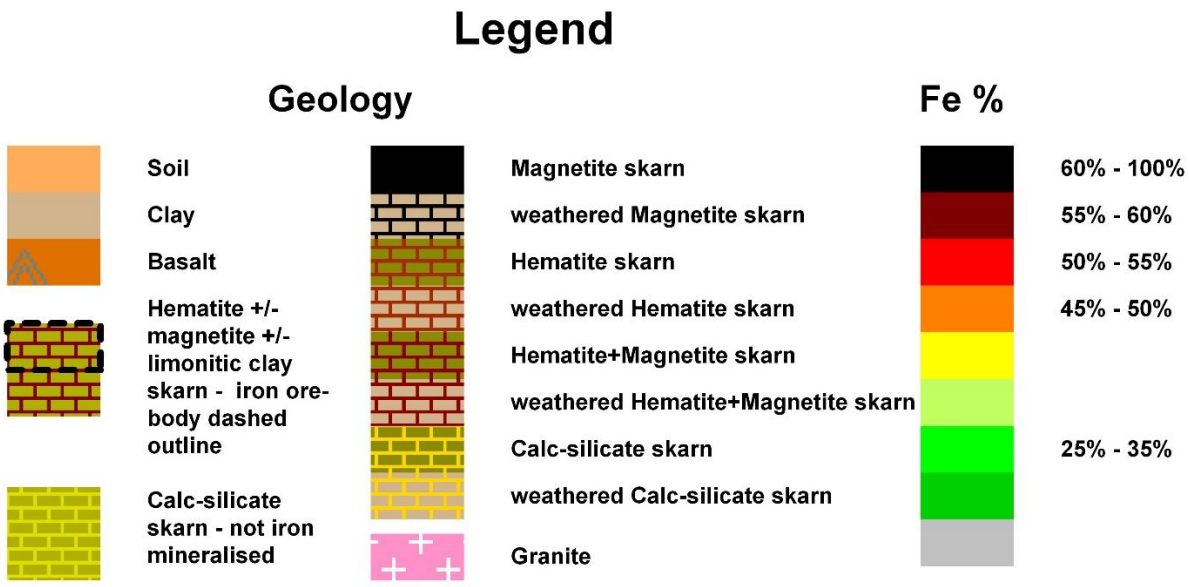

Figure 2.7: Legend for figure 2.8.

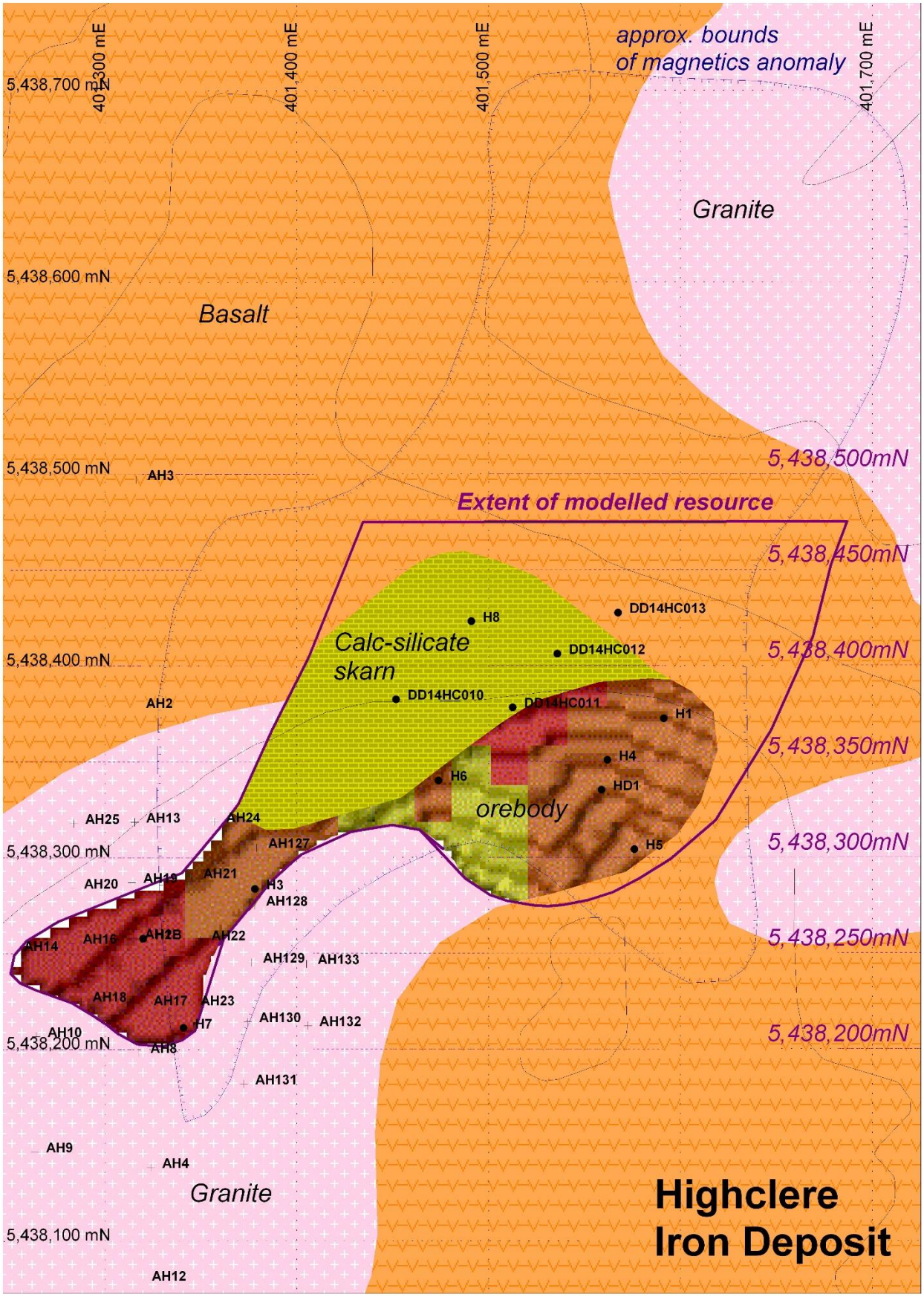

Figure 2.8: Plan view of Highclere resource showing resource block model (grades as per figure 2.7) and drill hole collars.

3.0 Exploration Completed May 2019 to May 2020

There has been no actual exploration work undertaken on EL 25/2009 during the reporting year.

The Highclere prospect was one of six prospects which were planned to be drilled in a drilling programme across a number of the Rogetta Project tenements which commenced in late 2019.

At the time works programmes were submitted to Mineral Resources Tasmania, drillers quotes sought and field visits made.

Drilling Hampshire, L1 and L13 preceded the planned Highclere drilling, however, the weather had become wetter and paddocks inaccessible and it was decided to postpone the drilling to the new year when the paddocks were dry. Plans were in train for drilling to have at least commenced before the licence's anniversary date this year, however, coronavirus lockdown has interrupted those plans creating a number of issues for the company.

Proposed holes remain as shown in figure 3.1 below.

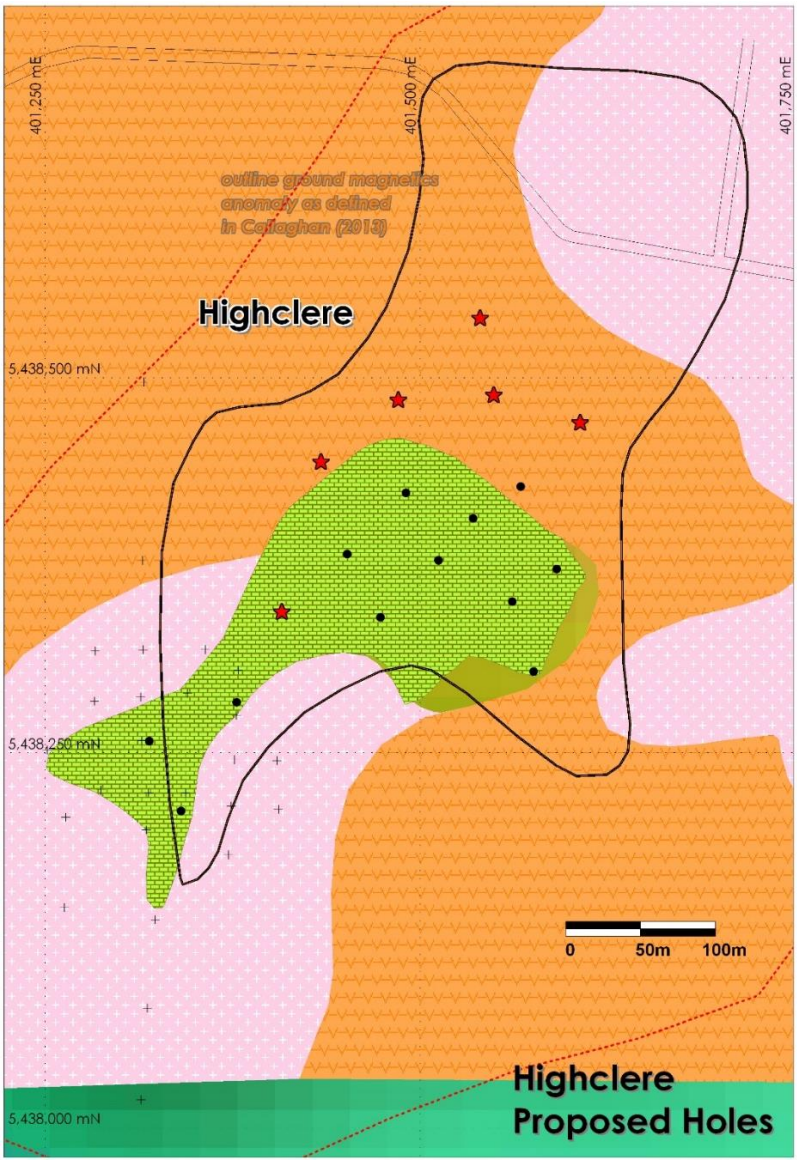

figure 3.1: Highclere prospect showing historic diamond drill holes (black dots) and augers (crosses) with proposed new holes as red stars.

4.0 Discussion of Results

There are no new results to discuss.

5.0 Conclusions

The conclusions from the 2018/19 report remain, i.e.

5.1 Highclere Deposit

Further drilling is justified in the part of the deposit (as defined by magnetics) north of 5,438,475mN both to extend the resource and define its bounds.

The resource modelled and estimated is highly deficient due to the lack of bulk density data. This needs to be rectified and the resource remodelled using this new data. Given the range in styles of iron mineralisation present as large a number of readings as possible should be taken and the bulk density data should be estimated into the block model rather than using a mean value.

New drill core will provide better material perhaps than existing core.

The estimation work has also revealed deficiencies in the geological logging and all available core should be relogged.

5.2 Pet Road Prospect

The Pet Road prospect consists of outcropping magnetite with no drilling to date. The digitised magnetics data suggests the occurrence may be small but it appears to be on surface and would be a low cost resource to mine.

Further work is warranted on this prospect with the drone magnetics ideally completed before a small drilling programme.

5.3 Buckby's Prospect

Buckby's Prospect bears many similarities to the Natone skarn prospect to the east. The extent of magnetite mineralisation here is unclear and warrants further work to aid in delineating its potential before drilling is recommended.

6.0 Proposed Work

Further work will focus on the Highclere resource in order to allow its conversion to an ML or RL. In particular the following work is needed:

1 The resource is open north of 5,438,475mN. Further drilling here is warranted to extend the Highclere resource. At this stage a small programme of 5 – 6 holes for 250 – 300m is proposed.

2 The Highclere resource is deficient due to the lack of bulk density data. Bulk density measurements will be made on existing drill core held by Lottah Mining and the new drill holes and the resource re-estimated using this new data.

3 Existing available core will be relogged where possible

4 The metallurgical aspects of the Highclere resource need resolution. In particular proportions of magnetically separable magnetite will be quantified. Testwork on rock sorting technology and methodologies to separate hematite and clays etc. will be tested.

7.0 Environmental Management

There are no outstanding environmental issues from previous work. None of the work carried out in the 2019/20 reporting year has had any environmental impact.

8.0 Expenditure

	$
Geology	3,000
Geochemistry	0
Geophysics	0
Remote Sensing	0
Drilling	0
Gridding	0
Land Access	0
Rehabilitation	0
Feasibility Studies	0
Other	2,270
Administration	250
Total	**5,520**

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