Hitec Minerals Pty Ltd

ACN 611 841 573

Prospect Ridge Project

ANNUAL REPORT
EL05/2016
Covering the period 28 November 2017 to 27 November 2018
(EL05_2016_Prospect Ridge_2018A)

1:250,000 Map Sheet SK5520 (Tasmania NW)
1:100,000 Map Sheet 7915 (Arthur River)

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Distribution: MRT Tasmania
Jindalee Resources Limited

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EXECUTIVE SUMMARY:

Exploration Licence EL05/2016 of 51km^2 is located approximately 50km southwest of Burnie in NW Tasmania and was granted in November 2016 to HiTec Minerals Pty Ltd (HiTec), a wholly-owned subsidiary of ASX-listed Jindalee Resources Limited. The ground was applied for to include two known historic magnesite deposits, namely the Arthur River and Lyons River prospects, both of which were viewed as retaining potential for eventual future mine development. Extensive historic exploration work, including drilling, resource estimation, metallurgical testwork and preliminary mining and economic studies had been undertaken on both prospects by a number of previous tenement holders and their joint venture partners, most notably CRAE during the 1980's, Tasmania Magnesite NL and Crest Magnesium NL/Indcor Limited during the 1990's until 2003 and by Beacon Hill Resources, mostly between 2009 and 2012.

Work undertaken by HiTec Minerals during the second year of operation has comprised metallurgical testwork, involving a series of reverse flotation and calcine tests on representative core samples. Results of the tests completed to date indicate that high grade magnesite material can be upgraded to produce a saleable product. No new on ground exploration was undertaken during the year.

Work proposed for the third year will include geological and mineralogical domaining for the Arthur River prospect area, the survey of historic drill collars in the Lyons River prospect area, and planning for future infill drilling.

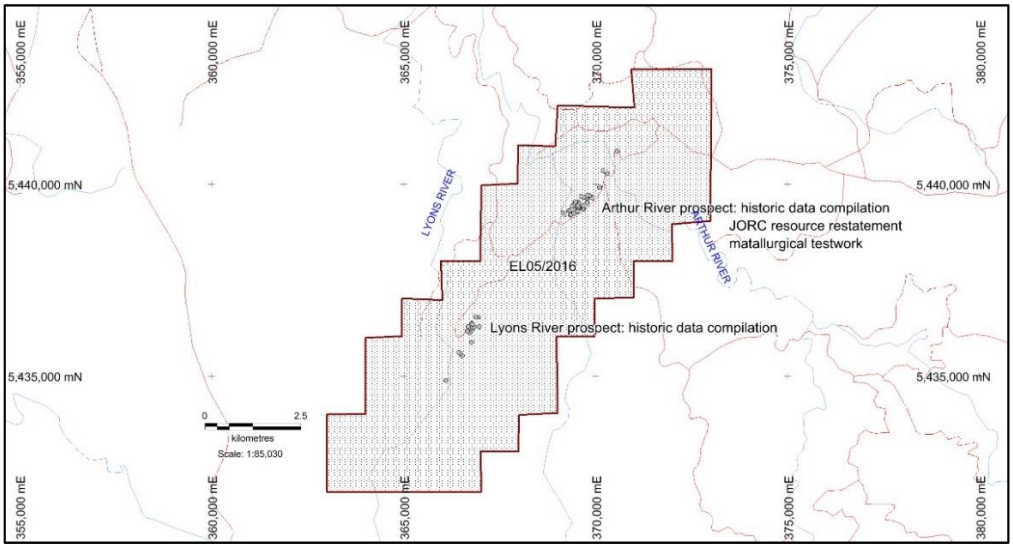

Figure 1. Prospect Ridge Project 2017&2018 Exploration Index Plan.

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1. INTRODUCTION

The Prospect Ridge Licence (EL05/2016) of 51km^2 is located in northwestern Tasmania, approximately 55km to the southwest of Burnie (figure 2).The tenement was granted on the 28 November 2016 and is owned and operated by HiTec Minerals Pty Ltd (Hitec), a wholly-owned subsidiary of ASX-listed Jindalee Resources Limited (Jindalee). This report covers the second year of tenure. Any reference in this report to either Hitec or Jindalee should be regarded as being interchangeable.

Access to the project is via the Murchison Highway to the township of Henrietta, thence to West Takone and Farquhars Road, to the Arthur River, which is crossed by way of a ford suitable for 4WD vehicles and only when the river is running at low volumes. Access within the lease is via a network of 4WD tracks created during prior logging and drilling activity.

The ground includes two known historic magnesite deposits, namely the Arthur River deposit and the Lyons River prospect, as well as the potential along strike extensions. The Arthur River deposit hosts a defined JORC 2012 magnesite resource (Capp, 2017) and the project is viewed as retaining the potential for eventual future mine development as a source of magnesia products.

Magnesite is the primary source of magnesia (MgO), which is mainly used in agriculture, mineral processing, paper manufacture and refractory industries. Magnesia is also used to produce magnesium (Mg), a light metal widely used in the aerospace, automotive and electronics industries.

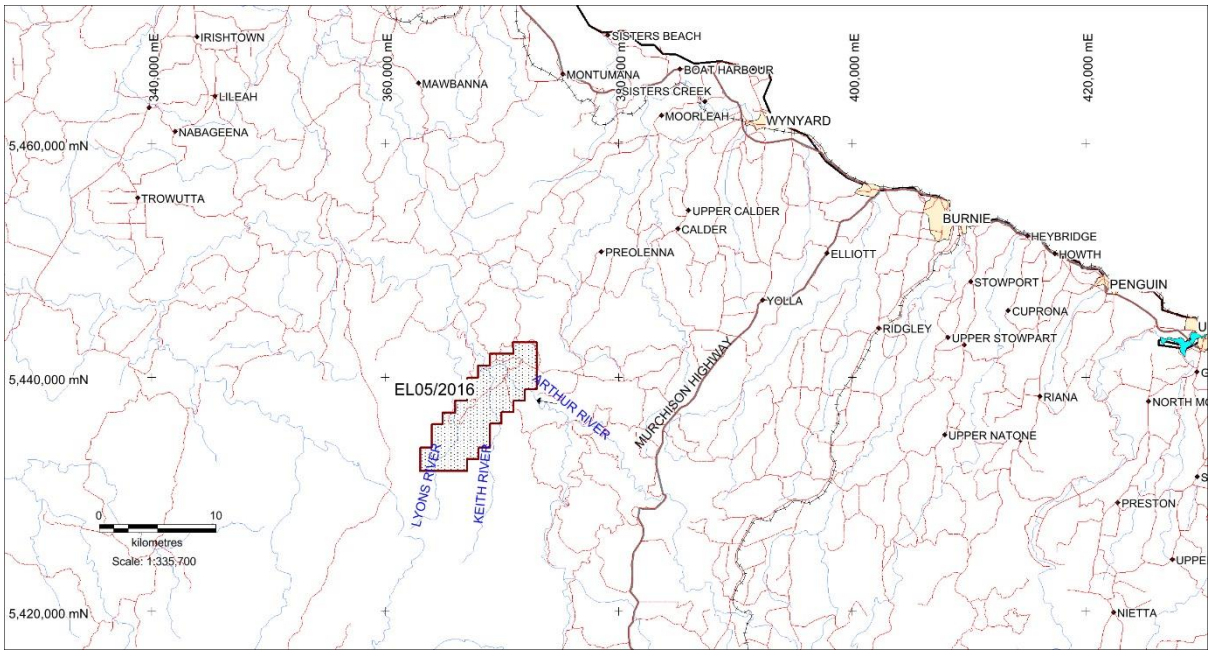

Figure 2 - Location of the Prospect Ridge Project (EL05/2016)

For practical purposes, the local grid previously used by both Crest Magnesium NL and Beacon Hill Resources has been adopted for all on-ground exploration. The transformation

is based on the collars of drill holes MB002 and MB005, with details of the conversion shown below in Figure 3.

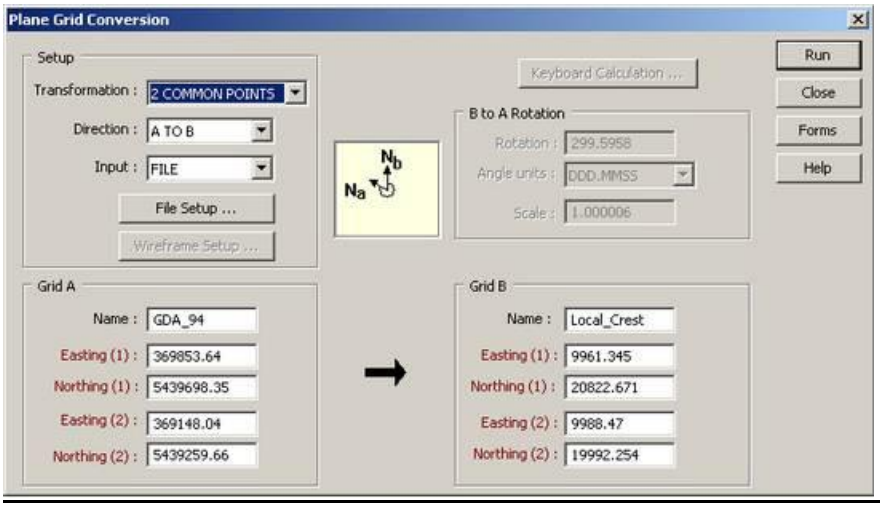

Figure 3. Grid conversion from GDA94 Zone 55 to Local Grid, Arthur River.

2. REVIEW OF PREVIOUS WORK

The Lyons and Arthur River magnesite deposits were first discovered in 1925. Minor intermittent mining took place over the years to recover high quality magnesite rock for the manufacture of graveyard headstones.

In 1970, Mineral Holdings Australia Pty Ltd (Mineral Holdings) was granted a large exploration licence (EL43/70) over the area and during the next three years carried out exploration for both magnesite and base metals in association with a number of joint venture partners.

Between 1982 and 1992, Mineral Holdings, in joint venture with CRAE, carried out exploration comprising geological mapping, costeaning and bulk sampling, geophysical gravity surveys and diamond drilling at both the Lyons River and Arthur River deposits. CRAE drilled an initial 12 diamond drillholes at Lyons River between 1982 and 1986 with a further 25 short infill diamond drillholes completed over part of the Lyon River deposit in 1989. They also drilled seven diamond drillholes at Arthur River. CRAE also undertook extensive metallurgical testing and feasibility and marketing studies with the view to assessing the deposits as a source of dead-burned magnesite, caustic calcined magnesite and direct shipping ore. Aspects of CRAE'S exploration are summarised in their annual reports with a summary of results included in their 1991 report (Shepherd et al, 1991).

In 1997, Tasmanian Magnesite NL (TasMag), entered into an option agreement to purchase the project from Mineral Holdings. TasMag was a wholly-owned subsidiary of Crest Magnesium NL, who subsequently became Indcor Limited. Initial check and exploratory diamond drilling at Arthur River, comprising seven diamond drillholes, confirmed the earlier CRAE results. Crest Magnesium/Indcor went on to complete a further 16 diamond drill holes, one test pumping bore and 5 monitoring bores at Arthur River, but undertook no further exploratory work on the Lyon River deposit. A resource (non JORC-compliant) was estimated for the both the Arthur River and Lyon River deposits and Indcor also completed

further metallurgical testwork, hydrological investigations, mining studies and a feasibility study into the production of magnesium metal from the project. Aspects of their field investigations are summarised in various annual reports (Wyatt, 1999, Wyatt, 2000) and by Skwarnecki, 2011.

No further on-ground exploration was undertaken prior to Beacon Hill Resources PLC (Beacon Hill) acquiring the project and the holding company, Tasmanian Magnesite NL, in 2009. Work undertaken by Tasmanian Magnesite/Beacon Hill was mostly in the period between 2009 and 2012 and was entirely restricted to the Arthur River deposit area. This work is briefly summarised by Skwarnecki, 2011 and in Capp, 2017 and included:
- the relogging of historic diamond drill core,
- a ground magnetic survey,
-sponsoring of a honours project (Owen, 2011)
- an airborne LIDAR survey to map topography under cover,
-hydrological investigations, including the drilling of three additional open hole percussion water monitoring bores and a single production bore,
-the drilling of a further 8 diamond drillholes,
-test pitting and a geotechnical study,
-various environmental studies,
-resource estimation,
-metallurgical studies and,
- preliminary scoping study.

Beacon Hill went into administration in 2015, following the failure of its African coal venture. The ground was subsequently surrendered and was pegged as vacant ground by Jindalee Resources in 2016. Work undertaken by Hitec during the first year of tenure included the compilation and review of historic exploration information, the restatement of Beacon Hill's Arthur River resource estimate in compliance with the requirements under the 2012 JORC code, and the resampling of historic drill core for metallurgical testing.

3. PROJECT GEOLOGY

The project geological setting is detailed in Owen, 2011 and summarised in Skwarnecki, 2011 and in Capp, 2017. The following geological description is entirely sourced from these two reports.

The Arthur River magnesite deposit is located within the Arthur Lineament, which is a NNE-striking belt of highly deformed metamorphic Pre-Cambrian rocks extending from just north of Granville Harbour on the west coast, to Wynyard on the north coast. This belt is approximately 110km long and 8km wide, and is generally steeply dipping to the east. To the west of the lineament are the early to middle Neoproterozoic Rocky Cape Group correlates and the late Neoproterozoic Western Ahrberg Group. The Rocky Cape Group is composed predominantly of quartzites and siltstones, while the Ahrberg Group is an autochthonous unit composed mostly of shallow marine siliciclastics which were deposited following an extensional phase, and also coincide with the intrusion of tholeiitic dolerite dykes.

To the east of the lineament are the Burnie and Oonah Formations, which are predominantly

Neoproterozoic turbidite sequences, with the Burnie Formation containing greywacke, slaty mudstone and occasional basaltic pillow lavas, and the Oonah Formation also including conglomerate, sandstone, dolomite and chert.

Rocks within the Arthur Lineament are generally phyllitic to schistose and have been variably metamorphosed to Greenschist or Blueschist facies, with much material within the Bowry Formation appearing as a chloritic schist. The Lineament was formed during the middle Cambrian in the early stages of the Tyennan Orogeny. Further deformation occurred during the Middle Devonian during the Tabberabberan Orogeny, resulting in additional faulting and folding.

Several magnesite deposits are known within the lineament, with three deposits in the south, and three in the north of the lineament. The deposits in the southern section are located at: Main Creek, Bowry Creek and the Savage River mine. To the north are the Lyons River, Arthur River and Cann Creek magnesite deposits. The origin of the deposit remains obscure. Although originally stratabound and stratiform, subsequent deformation and metasomatic alteration during prograde metamorphism (Frost, 1982) are indicated at Savage River and the same mechanism is presumably applicable here.

The Proterozoic succession is exposed as a in an erosive window through Permian glacial sandstones, siltstones and mudstones and is further obscured by younger Tertiary basalt and Quaternary cover sequences. As typical of many exposed carbonate sequences worldwide, the magnesite bodies at both Arthur and Lyons River are characterised by a karstic topography with numerous irregular cavities of varying width and uncertain lateral extent. These cavities are commonly filled with clayey material derived from the surrounding metasediments.

At Arthur River, a magnesite-dominated strike length of approximately 3500m and up to 400m width has either been mapped or inferred by drilling, whilst at Lyons River, the magnesite body has been defined over 2000m of strike and over similar widths. The magnesite horizon at both deposits is mapped to be a conformable stratigraphic unit of magnesite and dolomite, with quartz-mica schist to the east and mudstone, siltstone and quartzite and amphibolite to the west. Dips range from vertical to 70º to the SE.

The magnesite-rich horizon at both deposits either pinches out along strike or grades laterally into a dolomite-dominated unit. Minor thin and “wispy” internal carbonaceous to pyritic schist or siltstone horizons have been documented in drilling from both deposits, but these units appear to be thin and discontinuous. A series of cross-cutting dolerite dykes and sills disrupt the magnesite body through the centre of the Arthur River deposit area. At Arthur River, the prospective horizon is largely concealed beneath between 6m and more than 20m of Quaternary to Recent alluvial cover.

The minerals magnesite ($MgCO3$), and dolomite ($Ca,Mg(CO3)_2$) are the principal carbonate species present with lesser silicates, mostly quartz and including some talc. The magnesite is a cream to pink or yellowish brown mineral, exhibiting a brecciated, jigsaw texture with inter-clast dolomite and fine-grained silica. No domaining by dominant carbonate or gangue mineralogy has been attempted to date for Arthur River.

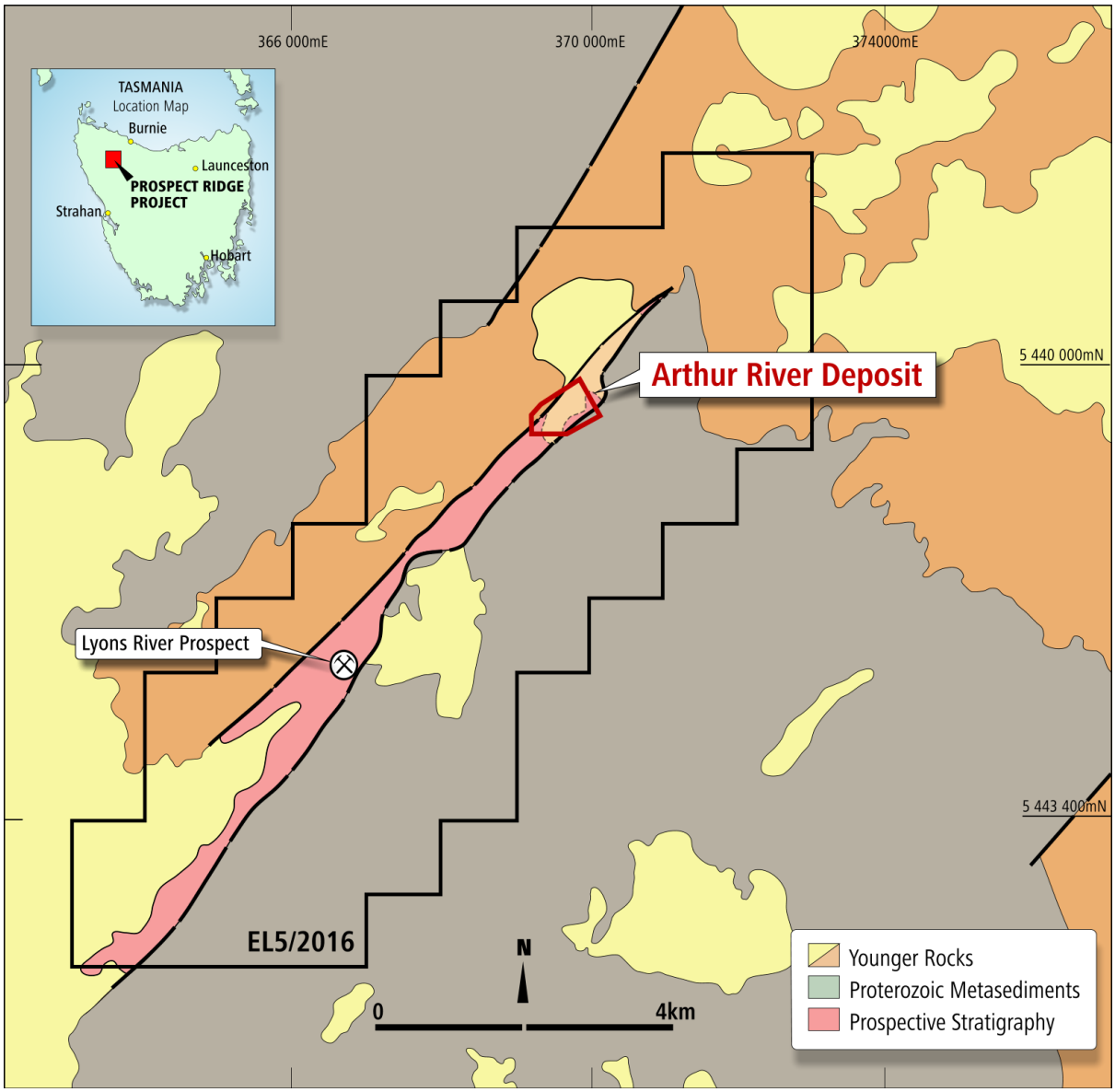

Figure 4. Simplified regional geological setting

4. EXPLORATION COMPLETED AND RESULTS

No on-ground exploration activities were undertaken during the reporting period. Work undertaken by Hitec Minerals during the year has been limited to metallurgical testwork, using three separate samples collected from available historical drill core.

4.1 Metallurgical Program Background

Although there has been significant historical metallurgical testwork undertaken using drill core and bulk samples of both Arthur River and Lyon River mineralisation, there is limited detailed information concerning the preparation of a commercial grade calcined magnesia product. Since CRAE first undertook studies into the production of various magnesia products, both product specifications and metallurgical methods have evolved with only

limited more recent calcination testing undertaken on the mineralisation. The work undertaken by Crest Magnesium was focused on the formation of a magnesium metal product through a whole ore dissolution process with no effort directed toward assessing the potential for a calcine magnesia or similar product.

Whilst Beacon Hill was targeting the formation of a commercial-grade calcined magnesia (CCM) product, they failed to undertake a complete test to assess whether this was feasible. Instead they undertook only limited separate flotation and calcine tests, without integrating both aspects, and failed to demonstrate that the chosen route would generate a suitable grade calcine product.

4.2 Work Completed

In order to determine the optimal processing route and whether a commercial grade calcined magnesia product could be produced from both weathered and predominantly fresh samples of typical magnesite mineralisation, an initial two composite samples were collected, using available Arthur River deposit drill core material, stored at the Mornington core library. One samples was chosen to be representative of weathered magnesite, whilst the second sample was composed of mostly fresh magnesite mineralisation. For both composites, the samples were collected from several drillholes scattered across the deposit and comprised material averaging above 40% MgO, a lower cut-off based on the results of historical testwork and consultant advice. As distinct from earlier, more selective tests, no distinction between high and low silica, or high and low calcium was made in the selection process. Furthermore, no details of mineralogical domaining within the deposit is available. Therefore, within these obvious limitations, the samples chosen were considered to be as representative of a typical bulk mining scenario as the available information would allow. Details of the two composite samples used were provided in the 2017 Annual Report.

A third sample (labelled as “new composite or “new comp”” in the ALS report, Appendix 1) was collected as being representative of higher grade magnesite mineralisation, assaying in excess of 45% MgO. This sample from drillhole DDAR014 (74.8-76.3m).

Metallurgical testing was undertaken at ALS Metallurgical Services facilities in Burnie (flotation testwork, sample analysis) and Perth (calcine testwork) under the direction of ALS Metallurgical’s Burnie facility manager. Testwork was overseen, and the results reviewed by John Canterford of Process Technologies Pty Ltd on behalf of Hitech Minerals.

Testwork completed included head grade assaying, establishment of a suitable grind size, comminution testwork, reverse flotation tests to optimise silicate removal, and a range of calcination tests, conducted using both of the composite samples and on the respective flotation tails (the magnesite-rich fraction) for all three samples. Significant delays in completing the testwork were experienced, largely arising from the heavy external workload experienced by ALS Metallurgy. Despite work commencing late in the September quarter of 2017, final test results were not available until the middle of 2018.

4.3 Results

The results of the various metallurgical tests were compiled as a summary presentation by ALS metallurgy (Appendix 1). Note that the cover page of the ALS report is erroneously dated December 2017. This report was progressively updated and the finalised version, produced in mid-2018 includes the results from all phases of testing. Results were reviewed by Process Technologies and a summary report prepared for Hitech Minerals (Appendix 2). Major findings from both the ALS testwork and Process Technologies review are reproduced below:

XRF analyses confirmed the chemistry (%) and mineralogical contents of the two composites.

	CaO	Fe_2O_3	MgO	SiO_2
"Fresh Composite"	2.14	1.11	44.0	4.15
"Oxide Composite"	0.83	2.94	42.6	6.36

In terms of the measured Bond Ball Work Index of 11.7 kWh/t and 7.0 kWh/t for the "fresh" and "oxide" composite samples respectively, they can be classified as "medium" and "soft" respectively. This data is required to specify the design criteria of the comminution circuit.

Based upon the available technical literature, flotation tests designed to remove the silica-rich (talc) gangue were carried out using several different combinations of HCl for pH adjustment, sodium phosphate for slimes dispersant, copper sulphate as activator, and MIBC as frother. The flotation reagent regime was not optimised, but as would be expected, a somewhat higher degree of silica rejection could be achieved using a rougher/cleaner flotation configuration rather than a conventional single stage circuit. The flotation tests were carried out with both "fresh" and "oxide" composites and their 850^{o}C calcines. Subsequently, the higher grade magnesite (New Comp) was added and subject to the same testwork regime.

Table 1 Comparison of Flotation Test Results

- T14, T04 and T16 compare the three ores tested.
- T12: Oxide Ore
- T04: Fresh Ore
- T16: New Comp
- Results indicate best response (selectivity against SiO2) for the New Composite although the Fresh Ore yields a similar result at high silicate recovery.

Test	Product	Wt	MgO	Dist	SiO2	Dist	S	Dist	Fe2O3	Dist
	Rougher	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
T12	Si Ro Conc	45.0	41.2	43.8	7.67	54.2	0.03	71.5	4.48	65.5
	Ro Tail	55.0	43.2	56.2	5.31	45.8	0.01	28.5	1.93	34.5
T04	Si Ro Conc	41.2	39.9	40.0	8.20	81.8	0.1	82.3	1.70	48.2
	Ro Tail	58.8	41.9	60.0	1.28	18.2	0.02	17.7	1.28	51.8
T16	Si Ro Conc	47.5	45.9	47.2	2.50	81.9	0.01	70.4	0.83	48.7
	Ro Tail	52.5	46.5	52.8	0.50	18.1	0.05	29.6	0.79	51.3

In summary, the flotation tests showed that:

(a) a significant portion of the silica-rich gangue can be removed by flotation although the MgO recovery is diminished;
(b) removal of the silica-rich gangue from the calcine is less efficient with lower MgO recoveries;
(c) flotation of the "oxide" composite is technically more challenging that the "fresh" composite; and
(d) lowering the silica content has no overall significant effect on the iron content of the flotation products.

Although flotation can enhance the quality of CCM derived from the mineralisation, the results clearly show that a higher silica/magnesite selectivity would be required to ensure that the overall MgO recovery at the end product target specifications would not be compromised.

Of the calcine products, only the highest grade "New Comp" sample generated acceptable calcine grades above 92% MgO (Table 2). This calcine should be marketable as a CCM product without any further beneficiation. However, both the fresh and oxide composites produced less acceptable results, averaging around 78% calcine MgO.

Table 2. Comparison of Calcination Test Results

Test No	HY5594	HY5593	HY5787	HY5786	HY6417
Sample Tested	Oxide Comp	Fresh Comp	Oxide Comp Float Tail	Fresh Comp Float Tail	New Comp Float Tail
Sample Size (um)	<300	<300	<300	<300	<300um
Roast Temp (deg)	850	850	850	850	850
Roast Duration (min)	120	120	120	120	120
Feed Mass (gm)	503	500	1320	1355	500.0
Calcine Mass (gm)	267	263	691	382	242
Mass Loss (%)	46.9	47.3	47.6	49.7	51.7
Calcine MgO (%)	63.5	71.4	78.2	78.8	92.5
Cacine SiO2 (%)	11.1	7.12	9.49	4.39	1.40

5. CONCLUSIONS AND RECOMMENDATIONS

The metallurgical testwork program has produced mixed results, with only the single highest grade sample producing an acceptable grade calcine product. As noted in Process Technologies Final Report, *"Domaining/characterisation of the current resource from a geological and mineralogical perspective would assist in defining the potential of "high grading" may represent".* Future work should be directed toward better defining the distribution of suitable high grade material within the deposit.

6. FUTURE EXPLORATION

Work proposed for the third year of tenure will include further, more detailed, analysis of the distribution of high grade mineralisation within the Arthur River deposit, including

gathering further information on the distribution of carbonate species and talc within the various domains. This will likely include the design of an infill drill program to assist in domaining and grade distribution.

The planned survey pick-up of historic Lyon River prospect drillholes has been temporarily placed on hold, but could potentially be undertaken during the next reporting period.

7. ENVIRONMENTAL MANAGEMENT

No environmental studies were undertaken during the year.

8. EXPENDITURE

Expenditure on the Prospect Ridge magnesite project over the period between the 28 November 2017 and November 2018 is summarised below:

Expenditure Type	$
Geological Staff & Consultants fees	5,396
Metallurgical Costs	24,849
Freight	56
Administration and overheads	3,000
TOTAL	33,301

9. REFERENCES

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Shepherd, N., Louder, G. & Zadnik, A., 1991. *Report 94/3535. Arthur River Magnesite Project summary September 1991.* CRAE Services Ltd, 112pp.

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APPENDIX 1

ALS METALLURGICAL SERVICES BURNIE

T1068
MAGNESITE ASSESSMENT

APPENDIX TWO:

PROCESS TECHNOLOGIES PTY LTD

AN OVERVIEW OF THE INITIATION OF EXPLORATION TESTWORK DEVELOPMENT