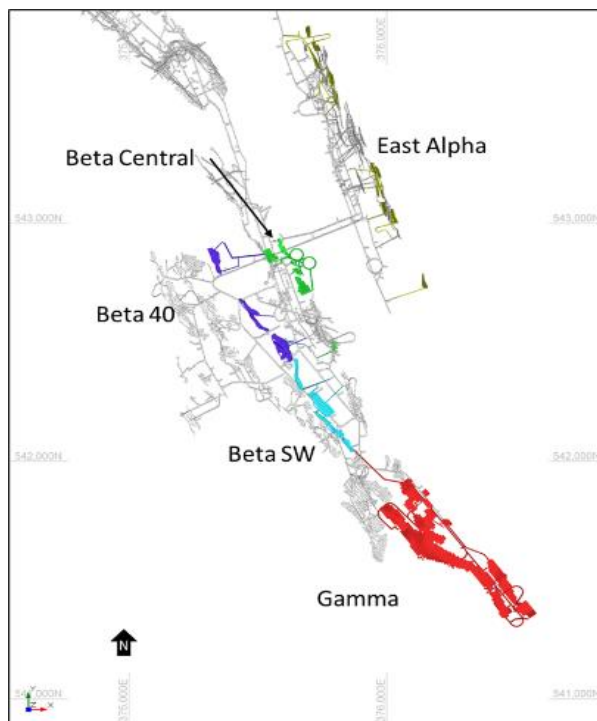


# NI 43-101 Technical Report Preliminary Economic Assessment Beta Hunt Mine Nickel Resources Kambalda, Western Australia

Report Prepared for  
**Karora Resources**

141 Adelaide Street West, Suite 1608  
Toronto, Ontario, Canada



Beta Hunt – Plan View of Nickel Mine Design

**Report Prepared and  
Signed by Qualified Persons:**

Steve Devlin, FAusIMM-Karora Resources Pty Ltd (Australia)  
Shane McLeay, B Eng Mining (Hons) FAusIMM AWASM – Entech  
(Australia)

Effective Date: June 30, 2022  
Signature Date: July 6, 2022



### Date & Signature Page

Project Name: PEA Beta Hunt Nickel

Title of Report: Preliminary Economic Assessment of the Beta Hunt Nickel Resources, Kambalda, Western Australia

Location: Kambalda, Western Australia, Australia

Effective Date of Report: June 30, 2022

Completion Date of Report: July 6, 2022

----- ORIGINALS SIGNED -----

----- Date -----



6 July 2022



6 July 2022

## Table of Contents

<b>Date &amp; Signature Page</b> .....	<b>i</b>
<b>List of Tables</b> .....	<b>vi</b>
<b>List of Figures</b> .....	<b>vii</b>
<b>1 Summary</b> .....	<b>1</b>
1.1 Introduction .....	1
1.2 Property Description and Ownership .....	1
1.3 Geology and Mineralization .....	1
1.4 Mineral Resource Estimates .....	2
1.5 Operations and Development.....	2
1.6 Environmental Studies, Permitting, and Social or Community Impact.....	3
1.7 Capital and Operating Costs.....	3
1.8 Economic Evaluation .....	4
1.9 Mining .....	5
1.10 Conclusion and Recommendations.....	7
<b>2 Introduction and Terms of Reference</b> .....	<b>8</b>
2.1 Introduction .....	8
2.2 Report Contributors and Qualified Person .....	8
2.3 Basis of Technical Report .....	9
2.4 Frequently Used Acronyms, Abbreviations, Definitions, Units of Measure .....	10
<b>3 Reliance on Other Experts</b> .....	<b>13</b>
<b>4 Property Description and Location</b> .....	<b>14</b>
4.1 Location.....	14
4.2 Mineral Tenure.....	14
4.3 Underlying Agreements .....	18
4.3.1 Beta Hunt Sub-Lease.....	18
4.3.2 Royalties .....	19
4.4 Permits and Authorization .....	19
4.5 Environmental Considerations.....	19
4.6 Mining Rights in Western Australia .....	19
4.6.1 Mining Act 1978.....	19
4.6.2 Native Title Act 1993 .....	20
4.6.3 Aboriginal Cultural Heritage Act 1972 .....	20
<b>5 Accessibility, Local Resources, Infrastructure, Climate and Physiography</b> .....	<b>21</b>
5.1 Accessibility.....	21
5.2 Local Resources and Infrastructure .....	21
5.3 Climate .....	22
5.4 Physiography.....	22
<b>6 History</b> .....	<b>24</b>
6.1 Kambalda Nickel Camp .....	24
6.2 Beta Hunt Discovery.....	24
6.3 1974–1998 WMC Operation .....	24
6.4 2003–2008 Reliance/CNKO Operation.....	25
6.5 2013–Present Salt Lake Mining Operation .....	27
6.6 2016 Preliminary Economic Assessment .....	27

6.6.1	2020 Nickel Mineral Resource .....	29
<b>7</b>	<b>Geological Setting and Mineralization .....</b>	<b>30</b>
7.1	Regional Geology .....	30
7.1.1	Lunnon Basalt .....	32
7.1.2	Kambalda Komatiite .....	32
7.1.3	Interflow Sediments .....	32
7.1.4	Intrusions .....	32
7.2	Property Geology .....	33
7.3	Mineralisation .....	33
7.3.1	Nickel Mineralisation .....	33
7.3.2	Structural Controls on Mineralization .....	34
<b>8</b>	<b>Deposit Types .....</b>	<b>37</b>
8.1	Kambalda Style Komatiite-hosted Nickel Sulphide Deposits .....	37
8.1.1	Komatiitic Volcanic Flow- and Sill-associated Subtype of Magmatic Ni-Cu-Pt Group Elements .....	37
8.1.2	Komatiitic Ores in Greenstone Belt Setting – Kambalda Camp .....	38
<b>9</b>	<b>Exploration .....</b>	<b>39</b>
9.1	Geological Model .....	39
9.2	Structural Mapping .....	40
9.3	Geophysics Seismic .....	41
9.4	Results – New Nickel Discovery: Gamma Zone 50C .....	44
<b>10</b>	<b>Drilling .....</b>	<b>46</b>
10.1	Drilling Summary .....	46
10.1.1	Historical Drilling .....	46
10.1.2	Current Drilling .....	46
10.2	Drilling Maps .....	47
10.3	Drilling Sections .....	49
10.4	Results 51	
10.4.1	Resource Definition – Nickel .....	51
10.4.2	Exploration – Nickel .....	51
<b>11</b>	<b>Sample Preparation, Analysis and Data Security .....</b>	<b>52</b>
11.1	Sample Preparation .....	52
11.1.1	Historical–Pre-2016 .....	52
11.1.2	Karora 2016–2022 .....	52
11.2	Laboratory Sampling and Subsampling Procedures – Nickel .....	53
11.2.1	Laboratory Nickel Purpose Sampling and Analysis Procedures .....	53
11.3	Sample Analysis – Nickel .....	54
11.4	Quality Assurance and Quality Control Programs .....	54
11.4.1	Procedures 2016–2022 .....	55
11.4.2	Quality Control Analysis 2016–2020 .....	55
11.4.3	Quality Control Analysis October 2020–2022 – Nickel .....	57
11.5	Database Integrity .....	61
11.6	Beta Hunt Sampling Preparation, Analyses and Security Summary .....	62
<b>12</b>	<b>Data Verification .....</b>	<b>63</b>
<b>13</b>	<b>Mineral Processing and Metallurgical Testing .....</b>	<b>64</b>
13.1	Nickel Processing .....	64

<b>14 Mineral Resource Estimates .....</b>	<b>65</b>
14.1 Introduction .....	65
14.2 Resource Estimation Procedures .....	65
14.3 Resource Database.....	66
14.3.1 Nickel Purpose Drilling.....	67
14.4 Solid Body Modelling .....	68
14.4.1 Mineralised Zones.....	69
14.5 Statistical Analysis of Assay Data .....	70
14.6 Application of Linear Regressions .....	71
14.7 Compositing of Drill Data .....	73
14.8 Statistical Summary – Full Length Composites .....	74
14.9 Bulk Density .....	76
14.10 Variography.....	76
14.11 Estimation Search Neighbourhoods .....	80
14.12 Block Model and Grade Estimation - Ni .....	81
14.13 Model Validation.....	82
14.14 Mineral Resource Classification .....	86
14.15 Mineral Resource Statement .....	88
<b>15 Mineral Reserve Estimates.....</b>	<b>90</b>
<b>16 Mining Methods .....</b>	<b>91</b>
16.1 Overview .....	91
16.2 Hydrology and Groundwater .....	92
16.3 Geotechnical .....	93
16.4 Mine Design .....	96
16.5 Conceptual Mine Plan .....	102
16.5.1 Nickel Operations .....	102
16.6 Mine Operations .....	104
16.6.1 Development .....	104
16.6.2 Mining Fleet.....	105
16.6.3 Labour .....	106
16.6.4 Ventilation Requirements.....	106
<b>17 Recovery Methods.....</b>	<b>109</b>
17.1 Current Situation.....	109
17.2 Alternative Treatment Opportunities .....	109
<b>18 Project Infrastructure .....</b>	<b>110</b>
<b>19 Market Studies and Contracts .....</b>	<b>113</b>
19.1 Market Studies.....	113
19.1.1 Nickel Price .....	113
19.2 Contracts.....	113
19.2.1 Nickel Tolling.....	114
<b>20 Environmental Studies, Permitting, and Social or Community Impact.....</b>	<b>115</b>
20.1 Environmental Studies .....	115
20.1.1 Soils and Flora.....	115
20.1.2 Fauna .....	115
20.1.3 Hydrology.....	116
20.2 Required Permits and Status.....	116
20.2.1 Permitting History.....	116

20.2.2	Environmental Protection Act 1986 .....	116
20.2.3	Mining Act 1978.....	118
20.2.4	Rights in Water and Irrigation Act 1914 .....	119
20.2.5	Aboriginal Cultural Heritage Act 2021 & Aboriginal Heritage Act 1972 .....	119
20.3	Environmental Aspects, Impacts and Management .....	119
20.3.1	Water Management .....	119
20.3.2	Mine Rehabilitation and Closure .....	120
20.3.3	Mining Rehabilitation Fund .....	120
20.4	Social and Community .....	121
<b>21</b>	<b>Nickel Capital and Operating Costs .....</b>	<b>122</b>
21.1	Capital Costs.....	122
21.1.1	Capitalized Development.....	122
21.1.2	Mining Fleet and Capital Equipment .....	123
21.2	Operating Costs.....	124
21.2.1	Nickel Mining Activities .....	125
21.2.2	Nickel Processing and Road Haulage .....	126
21.2.3	Total Cash Cost Per Ore Tonne .....	127
21.3	Closure .....	127
<b>22</b>	<b>Economic Analysis .....</b>	<b>128</b>
22.1	Summary .....	128
22.2	Key Assumptions.....	129
22.3	Base Case Evaluation.....	129
22.4	Sensitivity Analysis .....	132
<b>23</b>	<b>Adjacent Properties .....</b>	<b>134</b>
23.1	Adjacent Nickel Deposits .....	134
<b>24</b>	<b>Other Relevant Data and Information .....</b>	<b>135</b>
24.1	Nickel Exploration Potential.....	135
24.1.1	Hunt Block.....	136
24.1.2	Beta Block .....	138
24.1.3	Gamma Block.....	138
<b>25</b>	<b>Interpretation and Conclusions .....</b>	<b>140</b>
25.1	Mineral Resources .....	140
25.2	Mineral Processing.....	140
25.3	Mining .....	140
25.4	Environmental.....	141
25.5	Capital and Operating Costs.....	141
25.6	Economic Evaluation .....	141
<b>26</b>	<b>Recommendations.....</b>	<b>142</b>
<b>27</b>	<b>References .....</b>	<b>143</b>
<b>APPENDIX A</b>	<b>.....</b>	<b>145</b>

## List of Tables

Table 1.1: Beta Hunt Nickel Mineral Resources as of January 31, 2022 <sup>1,2,3,4,5,6,7,8,9,10</sup> .....	2
Table 1.2: Beta Hunt summary economic metrics consensus pricing at June 2022 .....	4
Table 2.1: Persons who prepared or contributed to this Technical Report .....	9
Table 4.1: Beta Hunt mineral tenure information .....	16
Table 4.2: Beta Hunt sub-lease boundary coordinates .....	16
Table 4.3: Beta Hunt sub-lease exploitable area limits .....	17
Table 6.1: Historical Beta Hunt nickel Mineral Resources as of December 31, 2008 .....	26
Table 6.2: Beta Hunt nickel Mineral Resources as at February 1, 2016. ....	27
Table 6.3: Beta Hunt nickel Mineral Resources as of September 30, 2020 .....	29
Table 10.1: Drilling by Karora and previous operators – number of holes.....	46
Table 10.2: Beta Hunt database – total metres.....	46
Table 10.3: Karora diamond drilling – 2020 through to January31, 2022 by commodity and area .....	47
Table 11.1: Certified standards and blank sample descriptions for Ni, 2016–2020 .....	56
Table 11.2: Quality control sample summary for Ni, 2021–2022 .....	57
Table 11.3: Quality control sample frequency for Ni, 2021–2022 .....	57
Table 11.4: Ni reference sample types and frequency, 2021–2022 .....	58
Table 11.5: Box and whisker plot GBM910-13, 2021–2022 .....	58
Table 11.6: Failed blank samples, 2021–2022 .....	59
Table 11.7: Nickel reference sample types and frequency, 2021–2022 .....	59
Table 14.1: Beta Hunt database .....	67
Table 14.2: Details for drill data used by nickel resource area.....	68
Table 14.3: Assay statistics by nickel area .....	70
Table 14.4: Regression formulae applied to Co, S and density for 30C, Beta Central and East Alpha .....	72
Table 14.5: Summary statistics for accumulated nickel by estimation domain .....	74
Table 14.6: Summary statistics for thickness variable by estimation domain.....	75
Table 14.7: Variography used for estimating Beta Central, East Alpha and B30, B40 and Gamma .....	78
Table 14.8: Variograms used for estimating Beta Southwest .....	78
Table 14.9: Search neighbourhood parameters .....	80
Table 14.10: Nickel block model parameters .....	81
Table 14.11: Nickel– Mineral Resources as at 31 January, 2022– 1% Ni lower cut-off .....	88
Table 14.12: Beta Hunt Nickel Mineral Resources (by deposit) as at 31 January, 2022 – 1% Ni lower cut-off .....	89
Table 16.1: Rock properties .....	94
Table 16.2: Calculated cut-off grades Base Case .....	97
Table 16.3: Process recovery percentage .....	98
Table 16.4: Mine design criteria per zone .....	98

Table 16.5: Cut-and-fill resource width distribution .....	100
Table 16.6: Mining production plan .....	104
Table 16.7: Mechanized mining fleet (nickel sections) .....	105
Table 16.8: Indicative average annual incremental nickel labour complement.....	106
Table 16.9: Ventilation calculations (air volume requirements per district).....	107
Table 19.1: Nickel market consensus pricing .....	113
Table 21.1: Beta Hunt Ni capital cost estimate .....	122
Table 21.2: Beta Hunt capital development .....	123
Table 21.3: Beta Hunt equipment capital requirements .....	124
Table 21.4: Operating cost estimate .....	124
Table 21.5: Beta Hunt nickel mining costs distributions .....	125
Table 21.6: BHP processing parameters.....	126
Table 21.7: Cash cost per ore tone mined.....	127
Table 22.1: Beta Hunt summary metrics .....	128
Table 22.2: Beta Hunt summary metrics .....	129
Table 22.3: Macro-economic assumptions .....	129
Table 22.4: Base Case LOM summary .....	131
Table 22.5: Sensitivity analysis room-and-pillar extraction.....	132
Table 22.6: Base Case sensitivity analysis.....	133

## List of Figures

Figure 1.1: PEA nickel production areas .....	6
Figure 4.1: Beta Hunt location map.....	15
Figure 4.2: Land tenure map .....	18
Figure 5.1: Mine access – oblique aerial view .....	21
Figure 5.2: Typical view of Lake Lefroy.....	23
Figure 5.3: Local physiography and the 1966 WMC Discovery Hole Monument .....	23
Figure 6.1: Plan view of the Hunt, Beta and East Alpha mine development over time .....	25
Figure 6.2: Isometric view of workings.....	26
Figure 6.3: Beta Hunt nickel Mineral Resource locations as at 2016 .....	28
Figure 6.4: Beta Hunt 2020 nickel Mineral Resource locations.....	29
Figure 7.1: Regional geological map of the Kambalda Dome showing nickel sulphide deposits .....	30
Figure 7.2: Stratigraphic relationships in the St Ives area, based on the Kambalda-Tramways stratigraphy .....	31
Figure 7.3: Schematic cross-section through the Kambalda Dome looking north .....	34
Figure 7.4: Beta Hunt plan view of nickel mineralisation highlighting offsets across the Alpha Island and Gamma Faults.....	36



Figure 9.1 :Beta Hunt mineralised nickel corridor highlighting potential nickel troughs .....	40
Figure 9.2: Example of re-mobilised nickel sulphides at Beta Hunt .....	41
Figure 9.3: 3D seismic experimental survey carried out over Beta Hunt .....	42
Figure 9.4: 3D seismic interpretation showing interpreted geological features .....	43
Figure 9.5: 3D seismic interpretation showing high amplitude features .....	44
Figure 9.6: Initial 50C Ni exploration results, April 6, 2021 .....	45
Figure 10.1: Plan map showing all drilling within the Beta Hunt sub-lease highlighting recent drilling post September 2020.....	48
Figure 10.2: Beta Hunt oblique view showing drilling completed September 2020 through January 2022 .....	49
Figure 10.3: Cross-section of 30C nickel trough looking north.....	50
Figure 10.4: Section 50C area nickel troughs looking north.....	50
Figure 10.5: Beta Hunt drilling intersections .....	51
Figure 11.1: Flowchart of laboratory sample management .....	54
Figure 11.2: Quality control sample frequency for Ni, 2016-2020.....	56
Figure 11.3: Box and whisker plot GBM910-13, 2021–2022 .....	58
Figure 11.4: Timeline for blank samples, 2021–2022.....	59
Figure 11.5: Timeline for reference sample GBM907-12, 2021–2022 .....	60
Figure 11.6: Timeline for reference sample GBM910-13, 2021–2022 .....	60
Figure 11.7: Timeline for reference sample GBM917-13, 2021–2022 .....	61
Figure 14.1:Plan of Beta Hunt nickel Mineral Resource areas .....	66
Figure 14.2: Beta Hunt drill holes collars within the Beta Hunt sub-lease boundary.....	67
Figure 14.3: Plan view of the basalt/ultramafic contact with Alpha Island Fault and Gamma Fault .....	69
Figure 14.4: Linear regression formula applied to Gamma and 30C and 40C drill data to calculate density: Density = 2.956 + Ni (%) * 0.1308 .....	72
Figure 14.5: Density measurements (left) and all density values (right) for the Gamma, 30C and 40C sample data .....	73
Figure 14.6: Beta Central directional correlogram for nickel accumulation variable NiACC_M .....	77
Figure 14.7: Swath plot across the strike of Beta Southwest Estimation Domain 2 with estimated Ni% and naïve Ni% in drill assays.....	82
Figure 14.8: Swath plot by Eastings for 30C, 40C (named B30, B40 by AMC) and Gamma global estimated grades and naïve Ni% assay data.....	83
Figure 14.9: Gamma Area – plan view of drilling from Beta Return Ingress with estimated Ni% with 10C, 50C and 95 nickel trends.....	84
Figure 14.10: Isometric view of drilling from East Alpha mine areas with estimated Ni %.....	85
Figure 14.11: Plan view of Beta Hunt Nickel Mineral Resource by Resource Category .....	87
Figure 16.1: Nickel sections within the mine design – plan view .....	92
Figure 16.2: Major lithologies.....	93
Figure 16.3: Modified Stability Diagram (after Potvin, 1988).....	95
Figure 16.4: Beta Hunt room-and-pillar mining .....	96

Figure 16.5: Room-and-pillar width distribution – plan view..... 99

Figure 16.6: Beta 40 and Beta Southwest cut-and-fill areas with resource width greater than 2.3 m ..... 101

Figure 16.7: East Alpha cut and fill area with resource width greater than 2.3 m ..... 101

Figure 16.8: Isometric plan of total development and stoping of nickel sections by year ..... 102

Figure 18.1: Beta Hunt decline portal ..... 111

Figure 18.2: Beta Hunt return airway and emergency egress hoist ..... 111

Figure 18.3: Beta Hunt management and administration offices ..... 112

Figure 20.1: Approved discharge points ..... 117

Figure 22.1: Base Case LOM production and cashflow ..... 130

Figure 22.2: Base Case – sensitivity analysis ..... 132

Figure 23.1: Location of Silver Lake mine (purple) with respect to Beta Mine ..... 134

Figure 24.1: Basalt geology model showing, nickel targets and plus 1% Ni drill intersections ..... 135

Figure 24.2: A Zone trend nickel exploration potential west of D Zone..... 137

# 1 Summary

## 1.1 Introduction

This Technical Report titled “Preliminary Economic Assessment of the Beta Hunt Nickel Resources, Kambalda, Western Australia” has been prepared by Karora Resources Inc. (Karora) in conjunction with ABGM Australia Pty Ltd following completion of the updated Nickel Mineral Resources (see Karora, 2022). The purpose of this Technical Report is to support the public disclosure of the Preliminary Economic Assessment (PEA) results.

The Technical Report was prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101) “Standards of Disclosure for Mineral Projects” of the Canadian Securities Administrators (CSA) for lodgement on CSA’s System for Electronic Document Analysis and Retrieval (SEDAR).

## 1.2 Property Description and Ownership

The Beta Hunt Mine (Beta Hunt) is located 600 km east of Perth in Kambalda, Western Australia and hosts economic deposits of both nickel and gold. Beta Hunt is wholly owned by Karora.

Karora owns and operates Beta Hunt under a sub-lease agreement with St Ives Gold Mining Company Pty Ltd (SIGMC). SIGMC is a wholly owned subsidiary of Gold Fields Limited (Gold Fields). The mining tenements on which the Beta Hunt is located are held by SIGMC.

Originally developed and operated by Western Mining Corporation (WMC) in the 1970s the mine was sold to Gold Fields in 2001. In 2003, Reliance Mining Limited (RML) acquired the nickel rights and resumed production. Consolidated Minerals Limited acquired RML in 2005 and invested in both increasing resources and expanding production. The mine operated continuously until the end of 2008, when it was placed on care and maintenance due to the financial crisis and associated collapse in metal prices. Transactions during the period 2001–2003 resulted in the separation of nickel rights from the gold rights. Salt Lake Mining Pty Ltd (SLM) subsequently acquired the property in 2013 and succeeded in recombining the nickel and gold rights. Nickel operations were restarted in 2014. Initial gold production occurred in June to July 2014 then ceased and recommenced at the end of 2015. The mine has been in continuous operation since then. Karora acquired 100% of SLM in 2016.

## 1.3 Geology and Mineralization

Beta Hunt is situated within the central portion of the Norseman-Wiluna greenstone belt in a sequence of mafic/ultramafic and felsic rocks on the southwest flank of the Kambalda Dome. Nickel mineralization is hosted mainly by talc-carbonate and serpentine altered ultramafic rocks on the contact with the underlying (footwall) Lunnon Basalt. The primary sulphidic minerals are typically pyrrhotite > pentlandite > pyrite with trace chalcopyrite. Gold mineralization occurs mainly in the Lunnon Basalt, which is the footwall to the nickel-bearing ultramafic, and is characterized by intense albite, carbonate and chlorite alteration, with a halo of biotite/pyrite alteration.

## 1.4 Mineral Resource Estimates

The nickel mineral resource estimate for the Beta Hunt is presented in Table 1.1.

**Table 1.1: Beta Hunt Nickel Mineral Resources as of January 31, 2022** <sup>1,2,3,4,5,6,7,8,9,10</sup>

January-2022 Mineral Resource	Measured			Indicated			Measured & Indicated			Inferred		
	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)
Beta Block	-	-	-	494	2.8%	13,600	494	2.8%	13,600	175	2.8%	5,000
Gamma Block	-	-	-	197	3.0%	6,000	197	3.0%	6,000	317	2.6%	8,200
<b>Total</b>	-	-	-	<b>692</b>	<b>2.8%</b>	<b>19,600</b>	<b>692</b>	<b>2.8%</b>	<b>19,600</b>	<b>492</b>	<b>2.7%</b>	<b>13,200</b>

1. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves.
2. The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Mineral Reserves.
3. The Mineral Resource estimates include Inferred Mineral Resources that are normally considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is also no certainty that Inferred Mineral Resources will be converted to Measured and Indicated categories through further drilling, or into Mineral Reserves once economic considerations are applied.
4. Mineral Resources are reported within proximity to underground development and a nominal 1% Ni lower cut-off grade for the nickel sulphide mineralization.
5. Estimation for the Mineral Resources is by ordinary kriging using an accumulation method to account for narrow lodes.
6. The Mineral Resources assume an underground mining scenario and a high level of selectivity.
7. Classification is according to JORC Code and CIM Definition Standards Mineral Resource classification categories.
8. The models are depleted for underground mining to January 31, 2022.
9. Totals may vary due to rounded figures.
10. Nickel Mineral Resource Estimates were prepared under the supervision of Qualified Person S. Devlin, FAusIMM (Group Geologist, Karora Resources).

## 1.5 Operations and Development

Karora has been mining gold at Beta Hunt continuously since Q4 2015. Gold is primarily mined by longhole stoping and nickel is mined by airleg slot stoping and in the past cut-and-fill methods.

In November 2018, Karora temporarily ramped-down bulk production of gold at Beta Hunt to provide drill rig access to drill-out the main shear zone hosted resources and complete an updated gold resource estimate while continuing to develop access to the resource.

Late in Q1 2019, Karora announced the drilling program had sufficiently advanced to allow for commencement of a limited restart of bulk mining for gold in areas with mine development already in place. In August 2019, an updated gold Mineral Resource was produced and was the basis of the maiden gold Mineral Reserve completed in December 2019. This Gold Mineral Reserve was updated in December 2020 and is now the foundation of the mine plan going forward and has facilitated a full ramp-up in production to approximately 85 kt/month of ore. Karora is also mining remnant nickel resources on a small scale at Beta Hunt.

There is limited requirement for site infrastructure as processing of both gold and nickel mineralization is conducted offsite. Gold mineralization is processed at Karora's Higginsville Gold Operation, located 80 km by road to the south of Beta Hunt Mine. Nickel mineralization processing is bound by the terms of the Ore Tolling and Concentrate Purchase Agreement (OTCPA) with BHP

Group Ltd Nickel West (BHP). The contracted delivery point for nickel ore for this study is the Kambalda Nickel Concentrator.

## 1.6 Environmental Studies, Permitting, and Social or Community Impact

Beta Hunt is an operating mine and in possession of all required permits. As it is a medium tonnage, low grade underground gold operation with no processing plant or tailings impoundment facility on site, impact on the environment is limited. Beta Hunt benefits the local communities of Kambalda and Kalgoorlie by providing direct employment to approximately 120 persons. The region hosts several operating mines and local communities are strongly supportive of the mining industry.

The region is in the state of Western Australia, which was ranked as the second best jurisdiction in the world for mining investment by the Fraser Institute in their 2018 survey (Stedman & Green, 2018).

## 1.7 Capital and Operating Costs

Karora operations has a long history of cost information for capital and operating costs and to the extent possible, mining, processing and site administration costs were derived from actual performance data, in addition to recent supplier quotations. As such these costs are well understood.

The following data was used to inform the cost estimate:

### **Site Mining Costs**

The costs are scheduled based on a mix of first principles and actual site unit costs and scheduled physicals. Fixed and variable costs have been included as appropriate. Personnel quantities (including mine management, supervision, underground personnel and maintenance) have been calculated from the activity required in the scheduled physicals and used to calculate salaries, wages, on-costs, flights and accommodation.

Capital development costs have been separated for exploration and sustaining capital based upon break tonnes for the activity.

### **Site Maintenance Costs**

The costs are scheduled based on a combination of unit costs for either machine operating hours or tonnage and scheduled physicals.

### **Offsite General and Administration**

The offsite costs are scheduled based on current average offsite distributions on a unit cost per break tonne and scheduled physicals.

### **Processing and TSF**

The costs are scheduled based on contracted unit costs and the scheduled physicals.

### **Royalties**

Gross royalties are calculated as respective percentages of gross revenue less all relevant deductions applicable to that royalty.

## Closure costs

Closure costs are based on detailed estimates prepared under the mine closure plan, but are not included in the nickel evaluation on the basis that the life of the gold operations greatly exceeds the period of this study.

Detailed capital and operating costs data for Beta Hunt underground mine are detailed Section 21.

## 1.8 Economic Evaluation

The economic analysis contained in this report is based, in part, on Inferred Resources and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Table 1.2 summarizes key evaluation metrics for the Base Case. Key assumptions used in the evaluation include:

- Nickel prices assumed at US\$19,500/t Ni based upon consensus for the Base Case
- Flat A\$ rate of exchange of US\$0.73
- Table 1.2 reports C1 cash costs and all-in sustaining costs (AISC) exclusive of depreciation
- C1 cash costs include operating costs associated with mining and processing and associated on-site administration
- AISC include C1 cash costs, royalties and sustaining capital
- Costs incorporate all costs, including those incurred as a result site production and downstream realization.

Two scenarios have been evaluated: Base Case price of US\$19,500/t Ni and an Upside Case price of US\$25,000/t Ni.

**Table 1.2: Beta Hunt summary economic metrics consensus pricing at June 2022**

Base Case Pricing	Item	Units	Base Case
Production	Mineralization Mined	'000 t	862
	Payable Nickel <sup>1</sup>	t	9,435
Opex	Revenue/ore tonne <sup>2</sup>	A\$/t	\$292
	Total Operating Costs	A\$/t	\$159
	Ni Net C1 Costs	A\$/t Ni <sup>1</sup>	\$14,542
Capex & Total Costs	Total Capital Investment <sup>3</sup>	A\$M	\$18.67
	Ni Net AISC <sup>4</sup>	A\$/t Ni <sup>1</sup>	\$16,946
Valuation <sup>5,6</sup>	NPV 5% (US\$19,500/t Ni)	A\$M	\$57.4
	IRR	%	105%

Upside Case Pricing	Item	Units	Value
Production	Mineralization Mined	'000 t	862
	Payable Nickel <sup>1</sup>	t	9,435
Opex	Revenue/tonne <sup>2</sup>	A\$/t	\$375
	Total Operating Costs	A\$/t	\$159
	Ni Net C1 Costs	A\$/t Ni <sup>1</sup>	\$14,542
Capex & Total Costs	Total Capital Investment <sup>3</sup>	A\$M	\$18.67
	Ni Net AISC <sup>4</sup>	A\$/t Ni <sup>1</sup>	\$17,624
Valuation <sup>5,6</sup>	NPV 5% (US\$25,000/t Ni)	A\$M	\$110.6
	IRR	%	232%

1. Payable nickel recovered to concentrate (payability x Ni to concentrate)
2. Revenue includes deductions for payability
3. Capital investment excludes closure costs
4. AISC: all-in sustaining cost includes site costs, offsite costs, royalties and sustaining capital
5. NPV includes operating cash flow and investment
6. Pre-tax NPV and IRR

## 1.9 Mining

Beta Hunt is an operating mine that enjoys relatively good ground conditions, with limited water inflows to the working areas and Ni Footwall Rocks (Lunnon Basalt) being competent. The depth of workings is less than 1 km. As a result, development ground conditions within the Lunnon basalt development headings can be classed as good and support large openings, while the Ni Host rock ranges from good to poor and thus requires smaller openings and greater support.

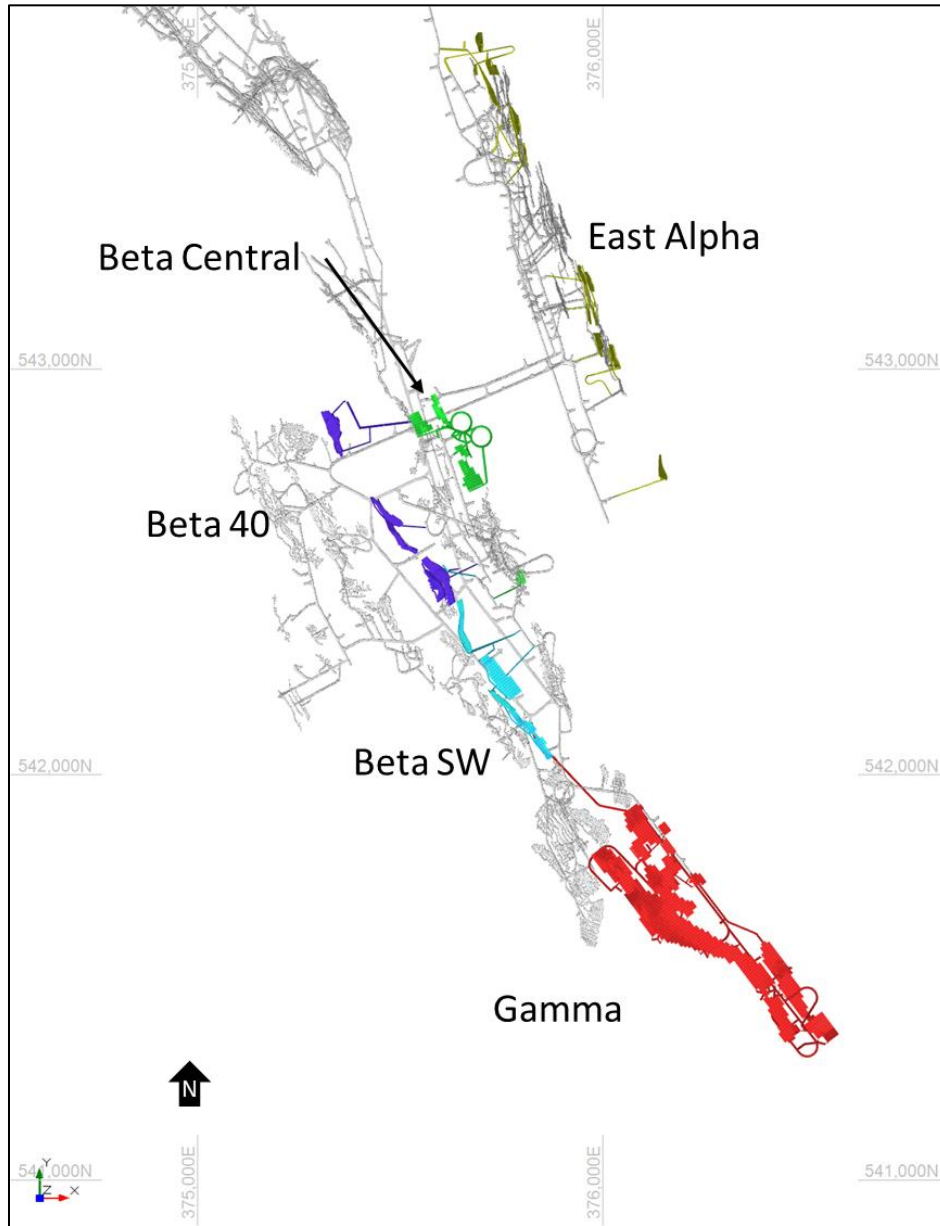
The following nickel mining/resource areas were considered using the following two methods:

- In the Gamma, Beta Central and parts of Beta Southwest zones, where nickel mineralization is narrow vein and flat lying, mineralization is mostly mined with handheld airleg drills, using the room-and-pillar method.
- In the East Alpha, Beta 40, and parts of Beta Southwest zones, where nickel mineralization is narrow vein and more steeply dipping, mineralization is mined with small scale mechanised equipment, using a cut-and-fill method.

In areas where the resource is thinner than 2.3 m wide in the cut-and-fill sections, ore grades will be improved through split-firing techniques, and wider than 2.3 m full development face cuts are taken.

Room-and-pillar layouts will target an initial extraction ratio of 60% with secondary pillar extraction on a retreat basis, increasing the overall extraction to 75%.

**Figure 1.1: PEA nickel production areas**



The main decline that provides access to all the various zones of mineralization is already in place and only limited ongoing development is required. The most significant additional primary development required includes an exploration incline and return air drive system to access the Gamma zone. This development, while providing access to the Gamma nickel resources, is essential to the continuation of the gold exploration effort.

The nickel sections produce roughly 862kt of ore at an average mined nickel grade of 1.98%, equating to 9,435t of payable nickel over a period of 8 years.

Roughly 55% of the mining inventory is derived from the Indicated Resource category and 45% from Inferred.



## 1.10 Conclusion and Recommendations

In the opinion of the authors, the PEA demonstrates the viability of developing a plan to expand the Beta Hunt nickel operations.

This analysis and the associated conclusion of viability is based, in part, on Inferred Resources and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The PEA demonstrates that development of the Beta Hunt nickel operation that can generate positive cash flows at the current consensus metal price projections of US\$19,500/t Ni.

Key recommendations include:

- Optimization of the PEA mining plan to assess the options for a staged ramp-up to minimise cash drawdown and take advantage of short-term price volatility.
- Infilling drilling of existing Inferred Resources should be performed to confirm resource estimates and upgrade these resources to Indicated or Measured categories.
- Infill drilling should be followed by a pre-feasibility study (PFS) to identify the economically viable portion of Measured and Indicated Resources that can be classified as reserves. The timing of this is yet to be determined.

## 2 Introduction and Terms of Reference

### 2.1 Introduction

Karora is a Toronto-headquartered mineral resource company focused primarily on the exploration, development and acquisition of precious metals and nickel properties.

This Technical Report titled “Preliminary Economic Assessment of Beta Hunt Mine Nickel Resources, Western Australia” has been prepared by Karora Resources Inc. (Karora) following completion of the 2022 Karora Nickel Mineral Resource Update (see Karora, 2022b).

The Beta nickel deposits are interpreted as the extensions of the Hunt and Lunnon deposits, which have been offset by the northeast striking Alpha Island Fault. These were mined by WMC Resources (WMC) commencing in 1974 until cessation of mining in December 1998. Subsequent to WMC and prior to acquisition by Karora, Beta Hunt was operated intermittently by other companies and produced lesser amounts of both nickel and gold. Karora (previously Salt Lake Mining Pty Ltd (SLM); Karora acquired 100% of SLM in 2016) has operated the nickel mine continuously since April 2014. Initial gold production occurred in June to July 2014 and recommenced at the end of 2015. Beta Hunt currently hosts around 20 kt of nickel in Measured and Indicated Mineral Resources and 13 kt of nickel in Inferred resources.

The inclusion of 13 kt nickel Inferred Resources in the production plan will provide two benefits:

- The additional payable production will generate revenue.
- The additional feed will allow the operation to operate at steady-state levels for longer and enjoy the associated cost benefits from economies of scale.

A Preliminary Economic Assessment (PEA) was completed to generate an indicative value for the operation and as well to lay the foundation for a future nickel pre-feasibility study (PFS).

This Technical Report is to support disclosure of the results of the PEA and has been prepared in compliance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators’ National Instrument 43-101 (NI 43-101), Companion Policy 43-101CP and Form 43-101F1.

It should be noted that the economic analysis contained in this report is based, in part, on Inferred Resources and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

All amounts have been presented in Australian dollars (A\$) unless otherwise indicated.

### 2.2 Report Contributors and Qualified Person

The Technical Report was assembled by Qualified Person (QP) Stephen Devlin. The details of all QPs and contributors are summarised in Table 2.1, along with dates that each QP and contributors visited the operation.

**Table 2.1: Persons who prepared or contributed to this Technical Report**

Name	Position	Employer	Independent	Operation Visit Date	Professional Designation	Contribution (section)
<b>Qualified Person responsible for the preparation and signing of this Technical Report</b>						
Stephen Devlin	Group Geologist	Karora	No	June 2022	FAusIMM	All sections except 15, 16, 21
Shane McLeay	Principal Mining Engineer	Entech	Yes	June 2014	Eng Mining (Hons) FAusIMM AWASM	15, 16, 21
<b>Other persons who assisted the Qualified Person</b>						
Paul Ellison	Geology Manager - Beta Hunt	Karora	No	Employed Beta Hunt	MAusIMM	10, 11, 14
Anton von Wielligh	Mining Engineer	ABGM Australia Pty Ltd	Yes	Dec 2020	FAusIMM	15.3, 15.4, 16.2, 16.3, 21.2, 21.3, 21.4
Greg Harvey	Principal Mining Engineer Karora Resources	Karora	No	Employed Beta Hunt	MAusIMM	16, 18, 21, 22, 25
Jade Styants	Company Secretary	Karora	No	June 2022	BCom, Chartered Accountant, FCIA, FCIS	4, 5, 6
Alex Ruschmann	Manager - Environment	Karora	No	June 2022	BSc (Hons) (Biological, Environmental & Marine)	20
Tahir Saleem	Senior Business Analyst	Karora	No	Dec 2021	CIMA Qualified Management Accountant and Part Qualified Chartered Accountant (UK)	22
Oliver Turner	Executive Vice President, Corporate Development	Karora	No	May 2022	CFA, BAsC in Mining Engineering	19.1
Ingvar Kirchner	Geology and Corporate Manager, Perth	AMC Consultants	Yes	Nil	FAusIMM, MAIG	14

### 2.3 Basis of Technical Report

This Technical Report is based on information collected by the authors during site visits and on additional information provided by Karora throughout the course of the authors' discussions and technical reviews. The authors have no reason to doubt the reliability of the information provided by Karora. Other information was obtained from non-published past producer reports, internal technical memos and other public domain sources. Cost assumptions used in this PEA are primarily based on actual costs reported by Beta Hunt during 2021.

## 2.4 Frequently Used Acronyms, Abbreviations, Definitions, Units of Measure

All currency amounts are stated in either Australian dollars (A\$), Canadian dollars (C\$) or US dollars (US\$). The choice of currency reflects the underlying currency for an item, for example:

- Capital and operating costs are expressed in A\$ as this is the currency in use at site. Moreover, the size of the Australian economy is such that these costs are relatively insensitive to variation in the A\$:US\$ exchange rate.
- As is the common global practice, commodity prices in this report are generally expressed in US\$. Nickel prices are also reported in A\$ as this is the contractual basis for one of the royalties.
- Valuations are expressed in A\$.

Quantities are generally stated using the Système International d’Unités (SI) or metric units, the standard Canadian and international practice, including metric tonnes (t), kilograms (kg) or grams (g) for weight, kilometres (km) or metres (m) for distance and hectares (ha) for area. Wherever applicable, imperial units have been converted to SI units for reporting consistency.

Frequently used acronyms and abbreviations are listed below.

Aboriginal Heritage Inquiry System .....	AHIS
Alpha Island Fault .....	AIF
All-in sustaining cost .....	AISC
AMC Consultants .....	AMC
Ammonium nitrate/fuel oil.....	ANFO
Annum (year) .....	a
Australian Cultural Heritage Act 2021 (WA) .....	ACH Act
Break-even Cut-off Grade .....	BECoG
BHP Group Ltd Nickel West .....	BHP
Canadian Institute of Mining, Metallurgy and Petroleum .....	CIM
Canadian Securities Administrators .....	CSA
Centimetre .....	cm
Certified reference material.....	CRM
Commonwealth .....	Cth
Consolidated Nickel Kambalda Operations Pty Ltd.....	CNKO
Cubic metre.....	m <sup>3</sup>
Cut-off grade .....	COG
Degree .....	°
Degrees Celsius.....	°C
Department of Water and Environment Regulation.....	DWER
Department of Mines, Industry Regulation and Safety .....	DMIRS
Earnings before interest, taxation, depreciation & amortization .....	EBITDA
Environmental Protection Act 1986 .....	EP Act
Fly in/fly out.....	FIFO
Geological Database Management System .....	GDMS
Gold .....	Au
Gold Fields Limited .....	Gold Fields
Gram .....	g
Grams per litre .....	g/L
Grams per tonne .....	g/t
Greater than .....	>
Hectare (10,000 m <sup>2</sup> ).....	ha
Hour .....	h

Inductively coupled plasma atomic emission spectroscopy .....	ICP-AES
Inductively coupled plasma mass spectrometry .....	ICP-MS
Inductively coupled plasma optical emission spectrometry .....	ICP-OES
Internal rate of return.....	IRR
Inverse distance .....	ID
Joint Ore Reserves Committee .....	JORC
Kambalda Nickel Concentrator .....	KNC
Karora Resources Inc .....	Karora
Kilogram.....	kg
Kilometre.....	km
Kilovolts.....	kV
Kilowatt hour .....	kWh
Kilowatt .....	kW
Leinster Nickel Operation.....	LNO
Less than .....	<
Life of mine .....	LOM
Light vehicle .....	LV
Litre .....	L
Litres per second .....	L/s
Load haul dump .....	LHD
London Metal Exchange .....	LME
Measured, Indicated and Inferred .....	MII
Metre.....	m
Metres Australian Height Datum .....	mAHD
Micrometre (micron).....	µm
Millimetre.....	mm
Million.....	M
Million tonnes per annum.....	Mt/a
Million years.....	Ma
Mineable shape optimizer .....	MSO
Mining Rehabilitation Fund.....	MRF
Minute .....	min
Minute (plane angle) .....	'
National Instrument 43-101.....	NI 43-101
Native Title Act 1993 (Cth).....	NT Act
Net present value.....	NPV
Net smelter return .....	NSR
Net smelter return per tonne .....	NSR/t
Nickel .....	Ni
Nickel Pig Iron.....	NPI
Operating cash flow .....	OCF
Ordinary Kriging .....	OK
Ore Research and Exploration Pty Limited .....	OREAS
Ore Tolling and Concentrate Purchase Agreement .....	OTCPA
Parts per million .....	ppm
Percent.....	%
Preliminary economic assessment.....	PEA
Pre-feasibility study.....	PFS
Qualified Person .....	QP
Quality Assurance and Quality Control .....	QA/QC
Quarter.....	Q
Reasonable Prospects For Eventual Economic Extraction .....	RPEEE
Reliance Mining Limited.....	RML
Return air pass.....	RAP

Rock quality designation .....	RQD
Royal Nickel Corporation .....	RNC
Run of mine.....	ROM
Salt Lake Mining Pty Limited.....	SLM
Second (plane angle) .....	"
Specific gravity.....	SG
Square kilometre .....	km <sup>2</sup>
Square metre .....	m <sup>2</sup>
St Ives Gold Mining Company Pty Limited.....	SIGMC
Stope Only Cut-off Grade.....	SOCoG
System for Electronic Document Analysis and Retrieval.....	SEDAR
Thousand tonne .....	kt
Thousand tonne per day .....	kt/d
Thousand troy ounces.....	koz
Tonne (1,000 kg).....	t
Tonnes per day .....	t/d
Tonnes per hour.....	t/h
Tonnes per year.....	t/a
Troy ounce (31.10348 grams).....	oz
Uncemented rock fill.....	URF
Unconfined compressive strength .....	UCS
Uniaxial tensile strength .....	UTS
Western Mining Corporation .....	WMC

### 3 Reliance on Other Experts

In preparing this Technical Report, the authors have relied on input from Karora and qualified independent consulting groups: AMC Consultants (AMC), ABGM and Entech.

This Technical Report is based, in part, on internal company reports, maps and public information as listed in Section 27. Specialist input was sought from Karora employees towards environmental, legal, process, geology and financial matters to support the preparation of the Technical Report. Information used to support this Technical Report was also derived from previous technical reports on the Beta Hunt mine.

The QPs relied on the following persons for the information and data described:

- The descriptions of geology, mineralization and exploration used in this report are derived from reports previously prepared by Karora or by their contracted consultants and reviewed by Paul Ellison, Manager Geology at Beta Hunt.
- The authors have relied upon Karora’s legal counsel for legal input for Sections 4.2, 4.3 and 4.6.
- Design criteria specifically relating to rock mechanics and ground control (Section 16) was provided by Collins Enwere, Beta Hunt’s Geotechnical Engineer.
- General mine design criteria and costing data (Sections 16, 17 and 21) were provided by Greg Harvey, Principal Mining Engineer at Karora.
- Financial information, including that relating to payment of taxes, royalties and other obligations, was provided by Josh Conner, Finance Manager at Karora.
- The authors were informed by Karora that there are no known litigations potentially affecting the Beta Hunt Mine.

## 4 Property Description and Location

### 4.1 Location

Beta Hunt is an underground mine located 2 km southeast of Kambalda and 60 km south of Kalgoorlie in Western Australia (Figure 4.1). The mine portal is located on the northern edge of Lake Lefroy at latitude 31°13'6"S and longitude 121°40'50"E. Kambalda has been a nickel mining centre since the discovery of nickel sulphides by WMC in 1966.

The project consists of the underground mine and related surface facilities to support underground operations. There are no processing facilities on site with run of mine (ROM) nickel being processed by BHP at either their Leinster or Kambalda Operation and gold production being trucked to Karora's Higginsville processing facility.

### 4.2 Mineral Tenure

Karora owns the mining rights for the Beta Hunt Mine through a sub-lease agreement with St Ives Gold Mining Company Pty Limited (SIGMC), which gives Karora the right to explore for and mine nickel and gold within the Beta Hunt sub-lease area. Mineral tenure information is provided in Table 4.1. The Beta Hunt sub-lease covers partial mining leases for a total area of 960.43 ha as defined in Table 4.2 and Table 4.3.

Identifying numbers for the Mineral Leases with respect to the sub-lease boundary are given in Figure 4.2.

Karora's rights within the sub-lease boundary only extend below a given elevation (the "Exploitable Area"). These elevations are given in Table 4.3.

SIGMC is the registered holder of the Mineral Leases that are all situated on vacant Crown Land.

The main components of the existing surface infrastructure are situated on Mineral Leases M15/1529 and M15/1531.

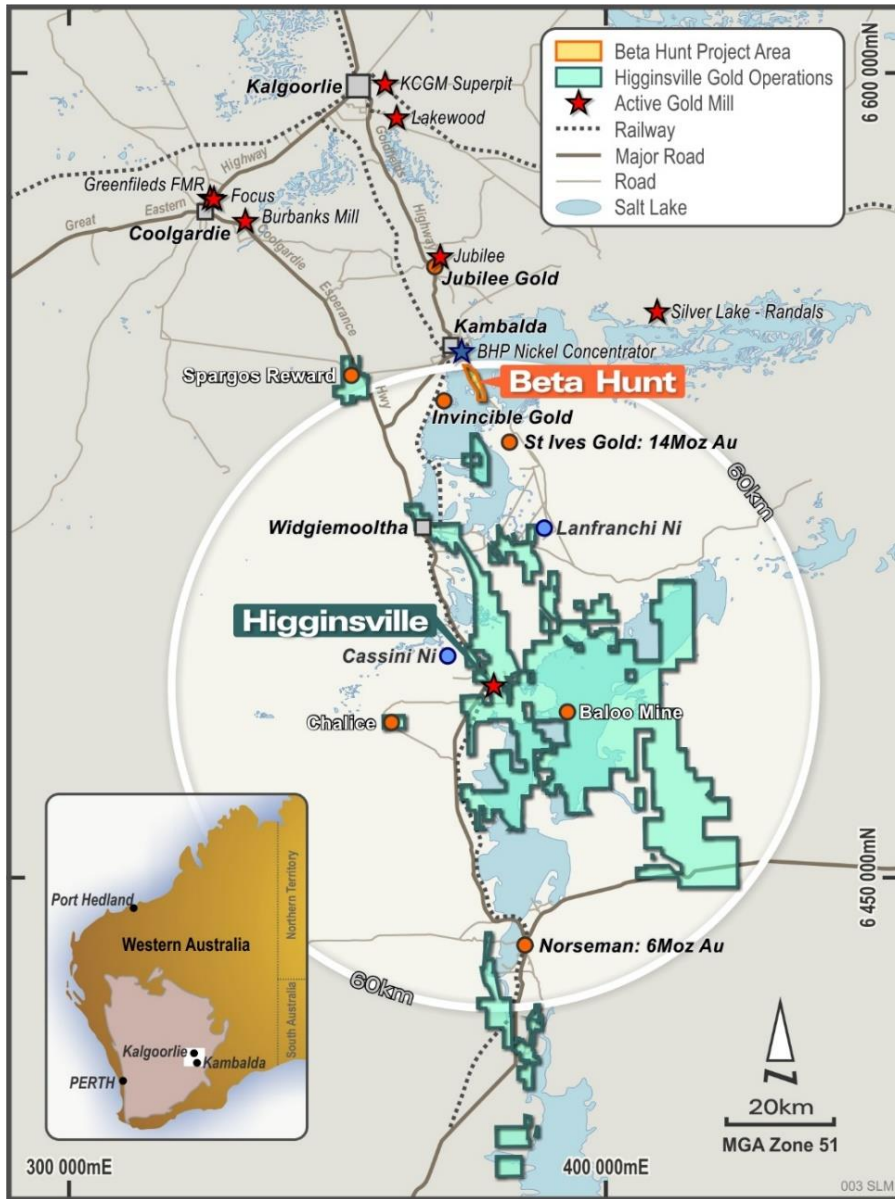
The existing underground infrastructure for the Beta Hunt Mine is located within Mineral Leases M15/1529, M15/1531, M15/1512, M15/1516, M15/1517, M15/1526, M15/1518, M15/1527, M15/1705, M15/1702, and M15/1628.

The gold mineral resource is located on Mineral Leases M15/1529, M15/1531, M15/1512, M15/1516, M15/1517, M15/1518, and M15/1702.

The nickel mineral resource is located on Mineral Leases M15/1516, M15/1517, M15/1526, M15/1518, M15/1527, M15/1702, and M15/1628.



Figure 4.1: Beta Hunt location map



Source: RNC

**Table 4.1: Beta Hunt mineral tenure information**

Mineral Lease	Holder	Area	Unit	Rent <sup>1</sup>	Commitment <sup>1</sup>	Grant Date	Expiry Date
M15/1512	SIGMC	121.35	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1513	SIGMC	121.20	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1516	SIGMC	121.35	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1517	SIGMC	121.45	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1518	SIGMC	121.35	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1526	SIGMC	121.45	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1527	SIGMC	121.35	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1529	SIGMC	121.40	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1531	SIGMC	121.35	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1628	SIGMC	121.35	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1629	SIGMC	121.35	ha	\$2,928	\$12,200	Dec 24, 2004	Dec 23, 2025
M15/1691	SIGMC	108.15	ha	\$2,616	\$10,900	Dec 24, 2004	Dec 23, 2025
M15/1694	SIGMC	110.85	ha	\$2,664	\$11,100	Dec 24, 2004	Dec 23, 2025
M15/1698	SIGMC	7.74	ha	\$192	\$10,000	Dec 24, 2004	Dec 23, 2025
M15/1699	SIGMC	110.95	ha	\$2,664	\$11,100	Dec 24, 2004	Dec 23, 2025
M15/1702	SIGMC	110.40	ha	\$2,664	\$11,100	Dec 24, 2004	Dec 23, 2025
M15/1705	SIGMC	42.39	ha	\$1,032	\$10,000	Dec 24, 2004	Dec 23, 2025

1. Rent and commitment are for 2021/2022 and are given on 100% basis. Karora share of rent is 20%.

**Table 4.2: Beta Hunt sub-lease boundary coordinates**

Point	MGA <sup>1</sup> Easting	MGA <sup>1</sup> Northing	Description
1	373444.00	6545542.58	Northwest corner of the Beta Hunt tenements
2	374362.31	6545554.50	Proceeding clockwise
3	375140.42	6544759.86	
4	375140.42	6544759.86	
5	375734.91	6544302.81	
6	375878.32	6543963.21	
7	376198.45	6543164.84	
8	376198.45	6543164.84	
9	377430.80	6540304.10	
10	377444.19	6539128.98	
11	376062.00	6539112.39	
12	376043.00	6540694.35	
13	374389.63	6543141.00	
14	374389.63	6543141.00	
15	374073.73	6543941.59	

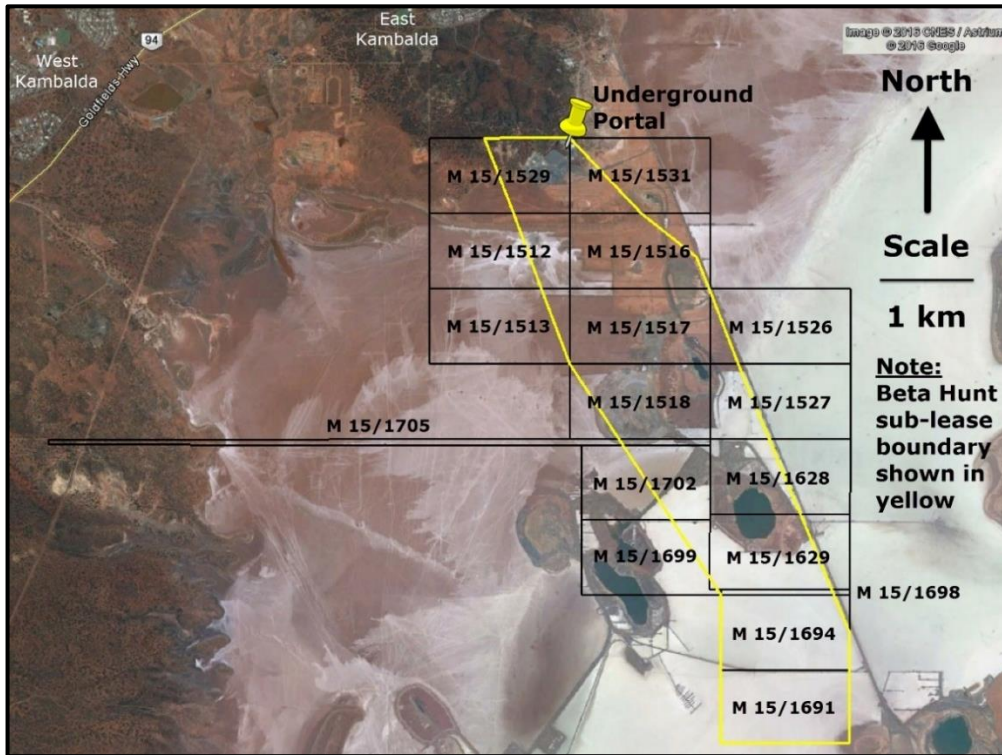
Point	MGA <sup>1</sup> Easting	MGA <sup>1</sup> Northing	Description
16	373767.27	6544742.02	
17	373767.27	6544742.02	
18	373444.00	6545542.58	Northwest corner of the Beta Hunt tenements

1. Map Grid of Australia, Zone 51, GDA94 Datum

**Table 4.3: Beta Hunt sub-lease exploitable area limits**

Mineral Lease	Exploitable Area (begins below elevation Australian Height Datum metres)
M15/1512	Linear decrease from northern limit of the tenement to southern limit of the tenement, being from 200 to zero
M15/1513	0
M15/1516	Linear decrease from northern limit of the tenement to southern limit of the tenement, being from 200 to zero
M15/1517	0
M15/1518	-100
M15/1526	0
M15/1527	-100
M15/1529	At and below surface
M15/1531	At and below surface
M15/1628	-100
M15/1629	-100
M15/1691	-100
M15/1694	-100
M15/1698	-100
M15/1699	-100
M15/1702	-100
M15/1705	-100

Figure 4.2: Land tenure map



Source: RNC

## 4.3 Underlying Agreements

### 4.3.1 Beta Hunt Sub-Lease

Karora operates the Beta Hunt mine through a sub-lease agreement with SIGMC. The sub-lease grants SLM the right to exploit nickel and gold mineralization on the property free from encumbrances other than the royalties discussed below and certain other permitted encumbrances.

SLM purchased the Beta Hunt sub-lease from Consolidated Minerals in 2013.

The gold rights to the sub-lease were acquired separately from SIGMC in 2014.

On an annual basis, SLM must pay to SIGMC 20% of:

- All rent payable by SIGMC in respect of each tenement
- All local government rates
- All land or property taxes.

### 4.3.2 Royalties

Karora pays the following royalties on nickel production from Beta Hunt to:

- The state government equal to 2.5% of recovered nickel
- Third parties 4.5% of payable nickel when prices are less than A\$17,500/t Ni and 6.5% when prices are greater than or equal to A\$17,500/t Ni (capped at A\$16,000,000).

## 4.4 Permits and Authorization

All permits required to operate at Beta Hunt have been granted as follows:

- Government of Western Australia, Department of Water and Environmental Regulation, A license under the *Environmental Protection Act 1986* – Licence for Prescribed Premises – License No. L8893/2015/2
- Government of Western Australia, Department of Mines, Industry Regulation and Safety– Explosives Storage License ETS002668
- Government of Western Australia, Department of Mines, Industry Regulation and Safety – In House Electrical Installing Work License No. IH050755
- Australian Government, Australian Communications and Media Authority Communications Licenses, No. 1622564, No.1143363/1, No.1189842.

## 4.5 Environmental Considerations

Karora is responsible for satisfying all rehabilitation obligations arising on or after July 25, 2003 on the Beta Hunt sub-lease that have arisen because of the activities of Karora and Consolidated Nickel Kambalda Operations Pty Ltd (CNKO). However, Karora is not required to restore or rehabilitate the area to a condition that is better than that existing on July 25, 2003 as determined by the environmental audit conducted at that time. SIGMC is responsible for all other rehabilitation obligations. An independent audit and mine closure estimate prepared in 2018 by consultant MBS Environmental estimated the current rehabilitation liability accruing to Karora for the Beta Hunt sub-lease at A\$881,000.

Karora advises that there are no other outstanding significant environmental issues.

Additional detail on environmental considerations is provided in Section 20.

## 4.6 Mining Rights in Western Australia

### 4.6.1 Mining Act 1978

Under section 9 of the *Mining Act 1978* (WA), all gold, silver, other precious metals, and other minerals are generally the property of the Crown. In Western Australia, a mining lease is the primary approval required for major mineral development projects as it authorises the holder to mine for, and dispose of, minerals on the land over which the lease is granted.

The mining tenements subject to the Beta Hunt sub-lease are Mining Leases in good standing held by SIGMC (Table 4.1).

The term of a mining lease is 21 years and may be renewed for further terms.

The lessee of a mining lease may work and mine the land, take and remove minerals and undertake all things necessary to effectually carry out mining operations in, on or under the land, subject to conditions of the mining lease and certain other exceptions under the Mining Act.

#### 4.6.2 Native Title Act 1993

In 1992, the High Court of Australia determined in *Mabo v Queensland (No. 2)* that the common law of Australia recognised certain proprietary rights and interests of Aboriginal and Torres Strait Islander people in relation to their traditional lands and waters. In response to the *Mabo* decision, the Native Title Act 1993 (Cth) (NT Act) was enacted. "Native Title" is recognised where persons claiming to hold that title can establish, they have maintained a continuous connection with the land in accordance with traditional laws and customs since settlement and where those rights have not been lawfully extinguished.

The NT Act codifies much of the common law in relation to Native Title. The doing of acts after January 1, 1994 that may affect Native Title (known as "future acts"), including the grant of mining tenements, are validated subject to certain procedural rights (including the "right to negotiate") afforded to persons claiming to hold Native Title and whose claim has passed a "registration test" administered by the National Native Title Tribunal (which assesses the claim against certain baseline requirements).

At the date of this Technical Report, the Beta Hunt sub-lease tenements are not subject to any Native Title determinations and claims.

#### 4.6.3 Aboriginal Cultural Heritage Act 1972

The *Aboriginal Cultural Heritage Act 2021* (WA) (ACH Act) will replace the outdated *Aboriginal Heritage Act 1972* and provides a modern framework for the recognition, protection, conservation and preservation of Aboriginal cultural heritage while recognising the fundamental importance of Aboriginal cultural heritage to Aboriginal people. The ACH Act mandates that it is an offence for a person to damage or in any way alter an Aboriginal Site.

Compliance with the ACH Act is an express condition of all mining tenements in Western Australia. Accordingly, recognition of an offence under the ACH Act may mean that the mining tenement is vulnerable to an order for forfeiture. The Western Australian Department of Planning, Lands and Heritage maintains the Aboriginal Heritage Inquiry System (AHIS) that provides a register of Aboriginal sites and other heritage places that are protected and must be avoided.

The AHIS database shows no registered heritage sites on the four tenements (M15/1512, M15/1516, M15/1529 and M15/1531) where SLM is likely to undertake any surface disturbance. Karora also commissioned Heritage WA to undertake a desktop assessment for any heritage values that may be impacted by the additional disturbance resulting from the Beta Hunt expansion project. The assessment concluded that sufficient heritage surveys have been conducted and no heritage sites would be impacted by the Beta Hunt expansion project.

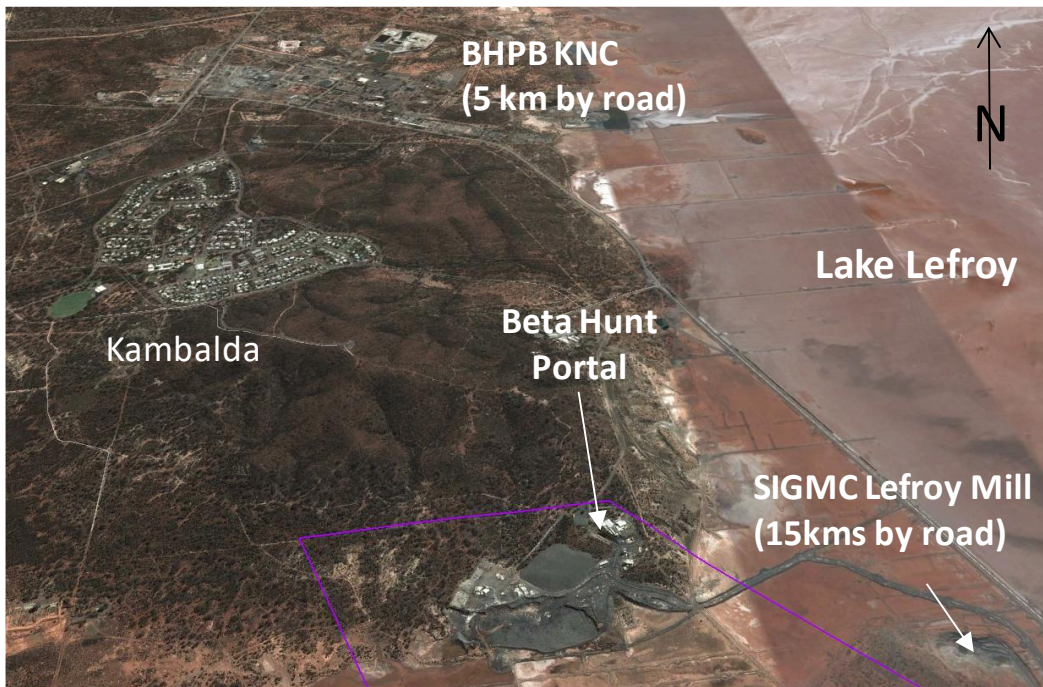
## 5 Accessibility, Local Resources, Infrastructure, Climate and Physiography

### 5.1 Accessibility

The Beta Hunt mine is located 2 km south of the town centre of Kambalda East at the northern end of the Lake Lefroy Causeway. Kambalda is readily accessible from Kalgoorlie-Boulder along the sealed Goldfields Highway (60 km) and from Perth along the sealed Great Eastern Highway (630 km).

Figure 5.1 shows the roads connecting the Beta Hunt mine site to the BHP Kambalda Nickel Concentrator to the north (5 km) and to the SIGMC gold mill across the Lake Lefroy causeway to the south (15 km).

**Figure 5.1: Mine access – oblique aerial view**



Source: Karora

### 5.2 Local Resources and Infrastructure

Kambalda has been a major nickel mining centres since the discovery of nickel sulphides by WMC in 1966. Kambalda has a population of 2462 (2021 Census) and is serviced from the regional hub of Kalgoorlie-Boulder, which has a population of 29,306 (2021 Census).

Gold was first discovered at Norseman in 1894 and was once the second-richest goldfield in Western Australia after the Golden Mile of Kalgoorlie.

There is a long history of mining in the district with a large pool of experienced mining personnel living and working in the region. The current Beta Hunt workforce is a mix of fly in/fly out (FIFO) and residential employees.

The Kambalda Airport provides daily chartered flights, two days a week, to the state capital of Perth. Perth is a major centre with a population of more than 2 million and an international airport.

The closest port to both mines is at Esperance, 350 km south of Kambalda.

### 5.3 Climate

Kambalda and the project site experience a semi-arid climate with hot dry summers and cool winters. Temperatures in the peak of summer typically range from a mean minimum temperature of 15°C to a mean maximum of 34°C. Temperatures during winter range from a mean minimum temperature of 6°C to a mean maximum of only 17°C, with occasional frosts.

Kambalda receives a mean annual rainfall of approximately 260 mm, although this is highly variable with records indicating “dry” years receiving only half that rainfall and “wet” years receiving up to twice the mean annual rainfall. The region experiences its driest period of the year from spring to early summer, and the wettest period of the year in autumn and winter.

The region experiences a very high annual evaporation rate, of some 2700 mm in Kalgoorlie.

### 5.4 Physiography

The project is situated within the Salina Physiographic Division. The most prominent geomorphological feature in the region is Lake Lefroy, a medium size salt lake lying within the Lefroy Palaeodrainage. The surface area of Lake Lefroy is estimated to be approximately 55,400 ha and the catchment area is over eight times larger at an estimated 452,800 ha. The lake is typically dry (Figure 5.2) though subject to occasional and variable levels of inundation from rainfall and surface runoff.

The northern and western shoreline of Lake Lefroy is flanked by differentially weathered greenstone units which has resulted in the development of low stony ridges with a local relief of up to 80 m and slopes ranging between 17° and 48°. Erosional processes dominate the northern and western shorelines of the lake system. Narrow colluvial flats occur in between the rises, which broaden out to form low relief plains.

The project is situated adjacent to the northwestern lakeshore fringe on the lower slopes of Red Hill, several metres above the level of the surface of Lake Lefroy. The project is located at the foot-slopes of the Red Hill land system, characterised by basalt hills and ridges with open acacia shrub lands and patchy eucalyptus woodland (Figure 5.3).



**Figure 5.2: Typical view of Lake Lefroy**



**Figure 5.3: Local physiography and the 1966 WMC Discovery Hole Monument**



## 6 History

### 6.1 Kambalda Nickel Camp

WMC first intersected nickel sulphide mineralization at Red Hill in January 1966 after drilling to test a gossan outcrop grading 1% Ni and 0.3% Cu. This discovery led to delineation of the Kambalda Nickel Field where WMC identified 24 deposits hosted in structures that include the Kambalda Dome, Widgiemooltha Dome and Golden Ridge Greenstone Belt. The deposits extend 90 km from Blair in the north to Redross in the south and over an east-west distance of 30 km, from Helmut to Wannaway. A single concentrator to treat ore from the various mines is centrally located, in Kambalda.

### 6.2 Beta Hunt Discovery

The Hunt nickel deposit was discovered by WMC in March 1970, during routine traverse drilling over the south end of the Kambalda Dome. The discovery hole, KD 262, intersected 2.0 m grading 6.98% Ni. Portal excavation for a decline access began in June 1973. While the decline was being developed, the Hunt orebody was accessed from the neighbouring Silver Lake mine, via a 1.15 km cross-cut on 700 level. As discussed in Section 18, the 700-level access is now used to provide service water to Beta Hunt. The first ore was hauled up the decline in October 1974.

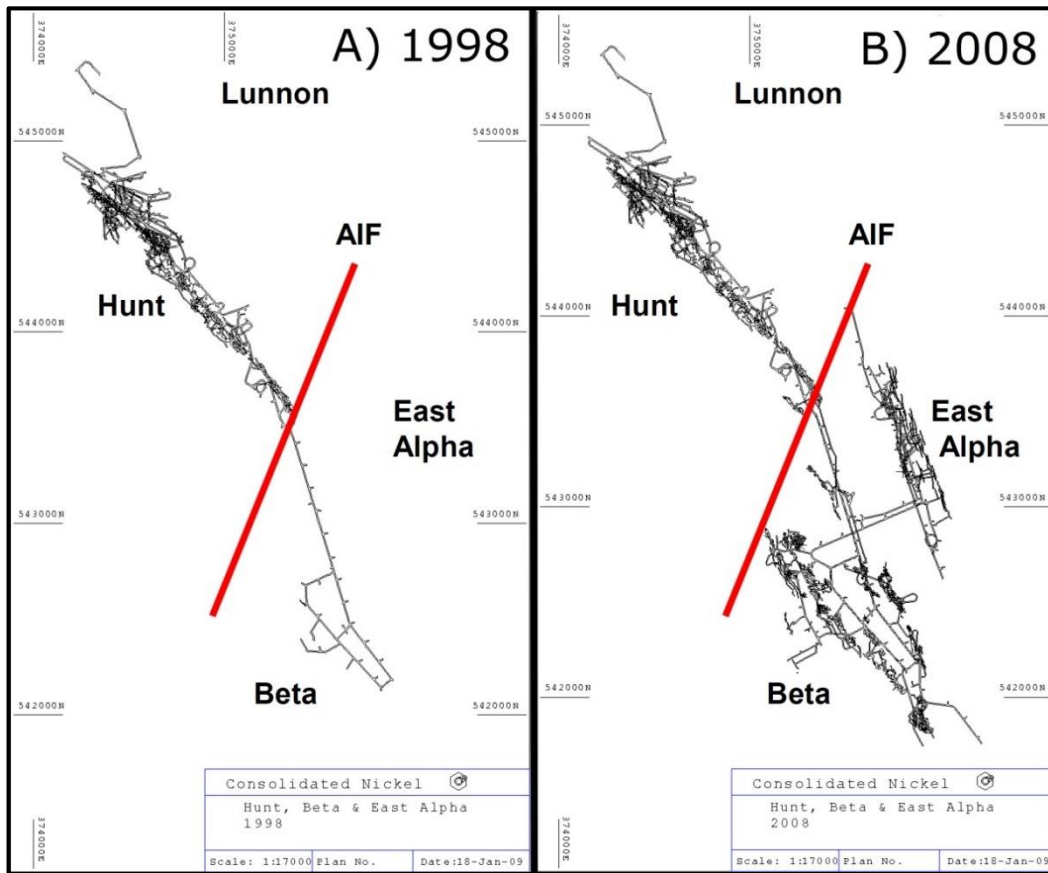
### 6.3 1974–1998 WMC Operation

The first ore production from the decline occurred in October 1974. Over the following 14 years, WMC operated the mine periodically and extended the decline south through the Alpha Island Fault (AIF) to access the Beta nickel deposit. By the time production was halted in 1998 due to the Asian crisis and associated collapse in Ni prices, the Beta decline and return airway had been established. Figure 6.1A shows the mine development at the completion of the WMC operation in 1998.

Although patches of gold have been found at Hunt since nickel mining began, it was not until 1978–1979, when decline development reached the 10 and 11 levels of A Zone and the 9 and 10 levels of D Zone deeps that the presence of a major gold mineralized system was confirmed in the footwall basalt. From 1979 to 1984, development and mining of the A Zone gold orebody took place on four levels using both airlegs and jumbos, with longhole stopes being mined. Between 1979 and 1984, gold was also mined as specimen stone or in conjunction with nickel stoping operations.

As part of the divestment of non-core assets by WMC in late 2001, the tenements covering the current Beta Hunt sub-lease and all surface and underground infrastructure became the property of SIGMC, which is now part of Gold Fields Limited. SIGMC did not operate the Beta Hunt Mine.

Figure 6.1: Plan view of the Hunt, Beta and East Alpha mine development over time



Source: CNKO (2008)

## 6.4 2003–2008 Reliance/CNKO Operation

Reliance Mining Limited acquired rights to mine nickel on the Beta Hunt sub-lease from SIGMC in 2003 and began production in November of that year. In 2005, Reliance was taken over by Consolidated Minerals and the operating company was renamed Consolidated Nickel Kambalda Operations (CNKO). The new owners invested heavily in infrastructure to access the deeper mineralization and increase the production rate, spending A\$15M on the return air pass (RAP) and associated fans that are discussed in more detail in Section 16.

It is important to note that the Beta Hunt Sub-lease did not include gold rights, which remained with SIGMC. Consequently, no effort was made by CNKO to delineate gold resources and there was no follow-up of gold mineralization intersected while drilling for nickel.

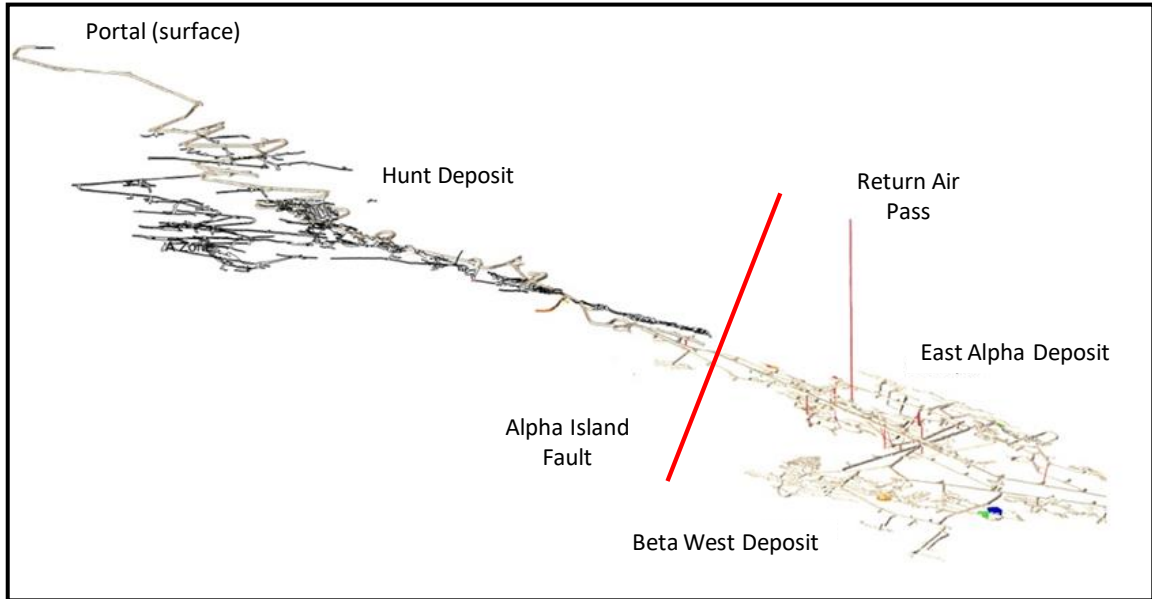
CNKO conducted significant drilling to expand the resource base, resulting in discovery of the East Alpha nickel deposit. The first ore was mined from East Alpha in March 2006. Major exploration drilling programs were undertaken at Beta and East Alpha to extend the life of these mines. Despite the success of these programs, the financial crisis and associated collapse in nickel price resulted in CNKO placing the Beta Hunt mine on care and maintenance on November 13, 2008.

Total reconciled production for Beta and East Alpha for the period 2003 to 2008 is 652 kt grading 2.43% Ni for approximately 16 kt Ni contained in ore.

Plan views of the Hunt, Beta and East Alpha mine at the time the mine was placed on care and maintenance in 2008 are shown in Figure 6.1B.

Figure 6.2 presents an isometric schematic of the decline system and various historic zones of activity. At its deepest point, the decline is approximately 800 m below the portal elevation.

**Figure 6.2: Isometric view of workings**



Source: Karora

At the time that CNKO suspended mining activities in 2008, resources were updated using all available drilling results. This historical resource estimate is presented in Table 6.1.

**Table 6.1: Historical Beta Hunt nickel Mineral Resources as of December 31, 2008**

	December 2008		
Category <sup>1</sup>	(kt)	Ni (%)	Ni (kt)
Measured	123	4.9	6.0
Indicated	328	4.5	14.8
Inferred	416	3.7	15.4
<b>Total</b>	<b>867</b>	<b>4.2</b>	<b>36.2</b>

1. Mineral Resources reported above 1% Ni cut off

The discussions related to the resource in this section refer to historical estimates. The historical estimates may have been prepared according to the accepted standards for the mining industry for the period to which they refer; however, they do not comply with the current Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards (CIM, 2014) for estimating resources and reserves as required by NI 43-101 guidelines. A qualified person has not done sufficient work to classify the historical estimates as a current resource estimate and the issuer is not treating the historical estimates as a current resource estimate. As a result, historical estimates should not be relied upon unless they have been validated and restated to comply with the latest CIM Definition Standards.

## 6.5 2013–Present Salt Lake Mining Operation

The Beta Hunt sub-lease was taken over from CNKO by SLM in 2013. Gold mining rights for the sub-lease were also secured from Gold Fields Limited in 2013. This consolidation of gold and nickel rights put SLM in a position to exploit the synergies of adjacent but separate nickel and gold deposits that are accessible from common mine infrastructure. The mine began producing nickel and gold in Q2 2014, with gold production being temporarily halted in Q3 before restarting in Q4 2015.

To February 1, 2016, SLM has produced 221 kt of nickel ore at an average grade of 3.5% Ni (7.7 kt Ni) and 62 kt of gold ore at average grade of 2.8 g/t Au (5.5 koz Au).

Karora acquired 100% of SLM through a staged acquisition process that completed on May 31, 2016.

## 6.6 2016 Preliminary Economic Assessment

In March 2016, Karora completed a PEA for Beta Hunt (Karora, 2016).

The 2016 PEA nickel Mineral Resource estimate for Beta Hunt is presented in Table 6.2.

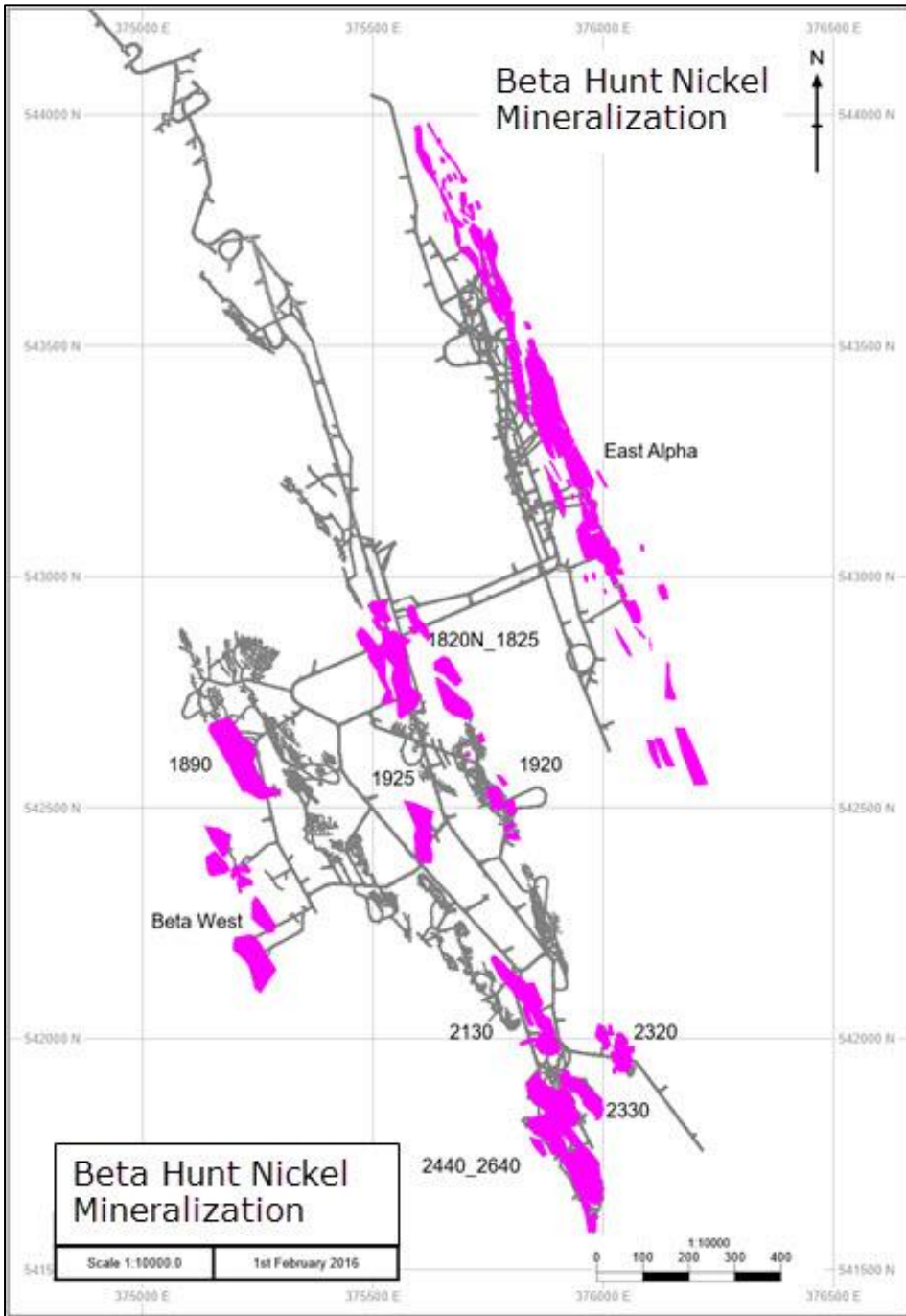
**Table 6.2: Beta Hunt nickel Mineral Resources as at February 1, 2016.**

Nickel <sup>1</sup>	Classification	Inventory (kt)	Grade (Ni %)	Contained Metal Nickel Tonnes (t Ni)
>=1% Ni	Measured	96	4.6	4,460
	Indicated	283	4.0	11,380
	<b>Total</b>	<b>379</b>	<b>4.2</b>	<b>15,840</b>
	Inferred	216	3.4	7,400

1. Nickel Mineral Resources are reported using a 1% Ni cut-off grade. Source: Karora (2016)

There are ten estimation areas that make up the 2016 Beta Hunt nickel Mineral Resource which are illustrated in the plan view location plot in Figure 6.3: 1820N\_1825, 1890, 1920, 1925, 2130, 2320, 2330, 2440-2640, Beta West and East Alpha.

Figure 6.3: Beta Hunt nickel Mineral Resource locations as at 2016



Source: Karora (2016)

### 6.6.1 2020 Nickel Mineral Resource

On December 16, 2020, Karora announced updated Mineral Resources and Reserves for Beta Hunt. The updated nickel Mineral Resource represented a replacement of the 2016 nickel Mineral Resource and is detailed in Table 6.3.

**Table 6.3: Beta Hunt nickel Mineral Resources as of September 30, 2020**

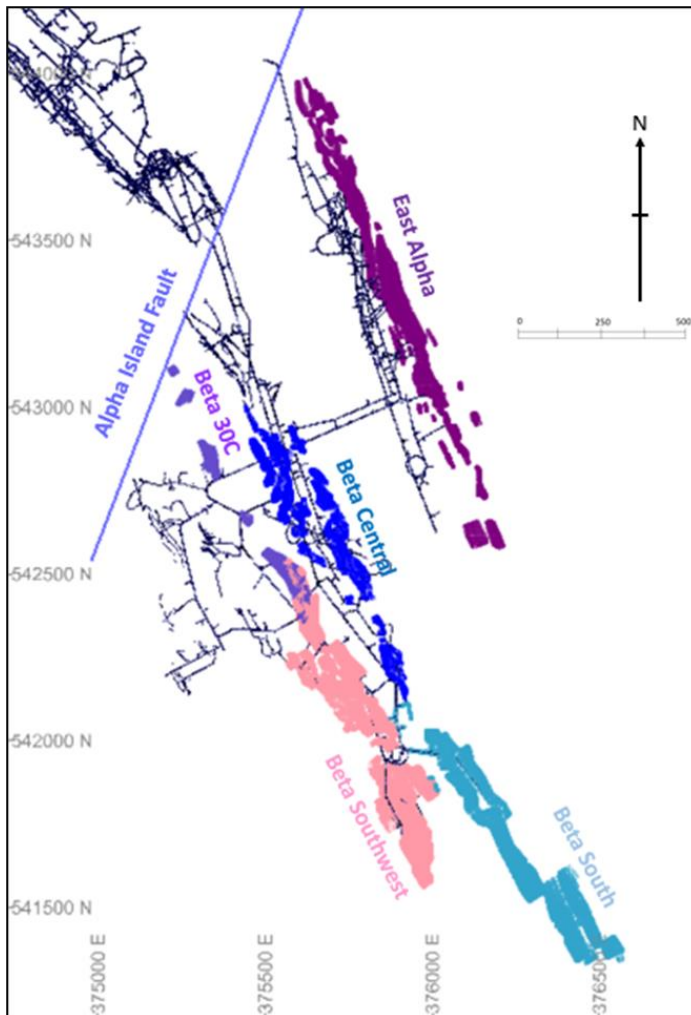
Mineral Resource <sup>1</sup>	Measured			Indicated			Measured & Indicated			Inferred		
	kt	% Ni	t Ni	k t	% Ni	t Ni	kt	% Ni	t Ni	kt	% Ni	t Ni
Beta Hunt	-	-	-	561	2.9%	16,100	561	2.9%	16,100	314	2.8%	8,680

1. Nickel Mineral Resources are reported using a 1% Ni cut-off grade. Source: Karora (2021a)

Since December 31, 2016, to December 31, 2020, Beta Hunt has mined and delivered for processing 76 kt of nickel mineralisation at an average grade of 2.7% Ni (1.9 kt Ni).

Nickel was produced primarily from East Alpha and Beta areas (Figure 6.4).

**Figure 6.4: Beta Hunt 2020 nickel Mineral Resource locations**



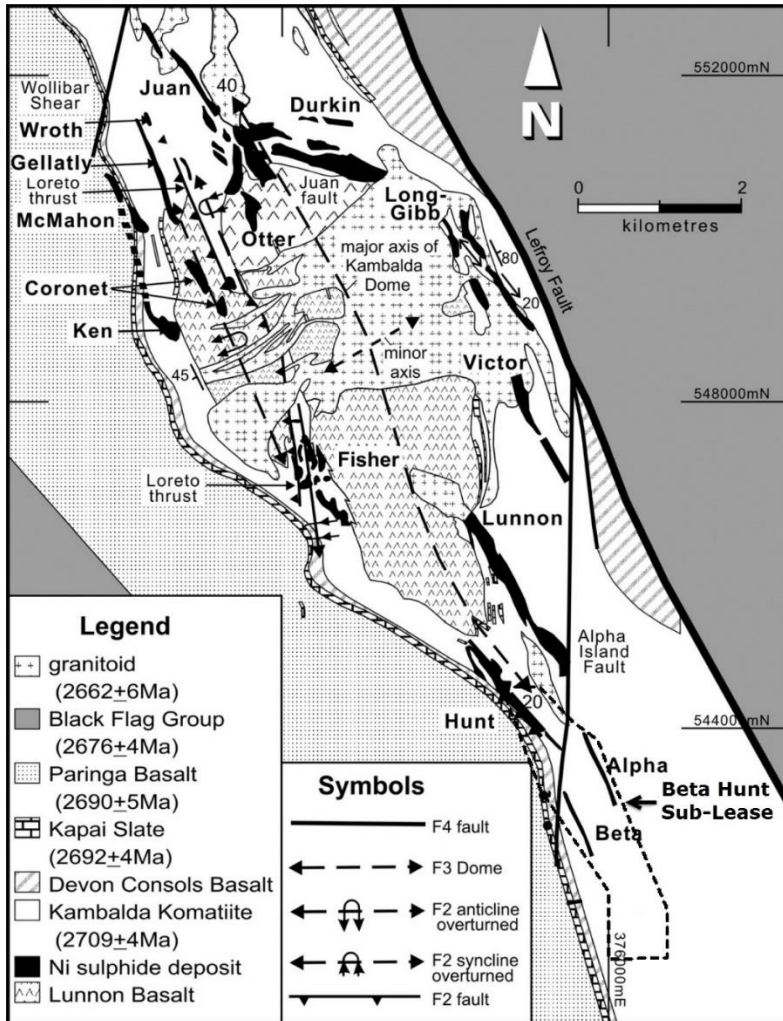
Source: Karora (2021a)

# 7 Geological Setting and Mineralization

## 7.1 Regional Geology

The Kambalda–St Ives region forms part of the Norseman–Wiluna greenstone belt which comprises regionally extensive volcano-sedimentary packages. These were extruded and deposited in an extensional environment at about 2700–2660 Ma. The mining district is underlain by the north-northwest trending corridor of basalt and komatiite rocks termed the Kambalda Dome (Figure 7.1). The iron-nickel mineralization is normally accumulated within the thick Silver Lake Member of the Kambalda Komatiite Formation above, or on the contact with the dome structured Lunnon Basalt.

**Figure 7.1: Regional geological map of the Kambalda Dome showing nickel sulphide deposits**

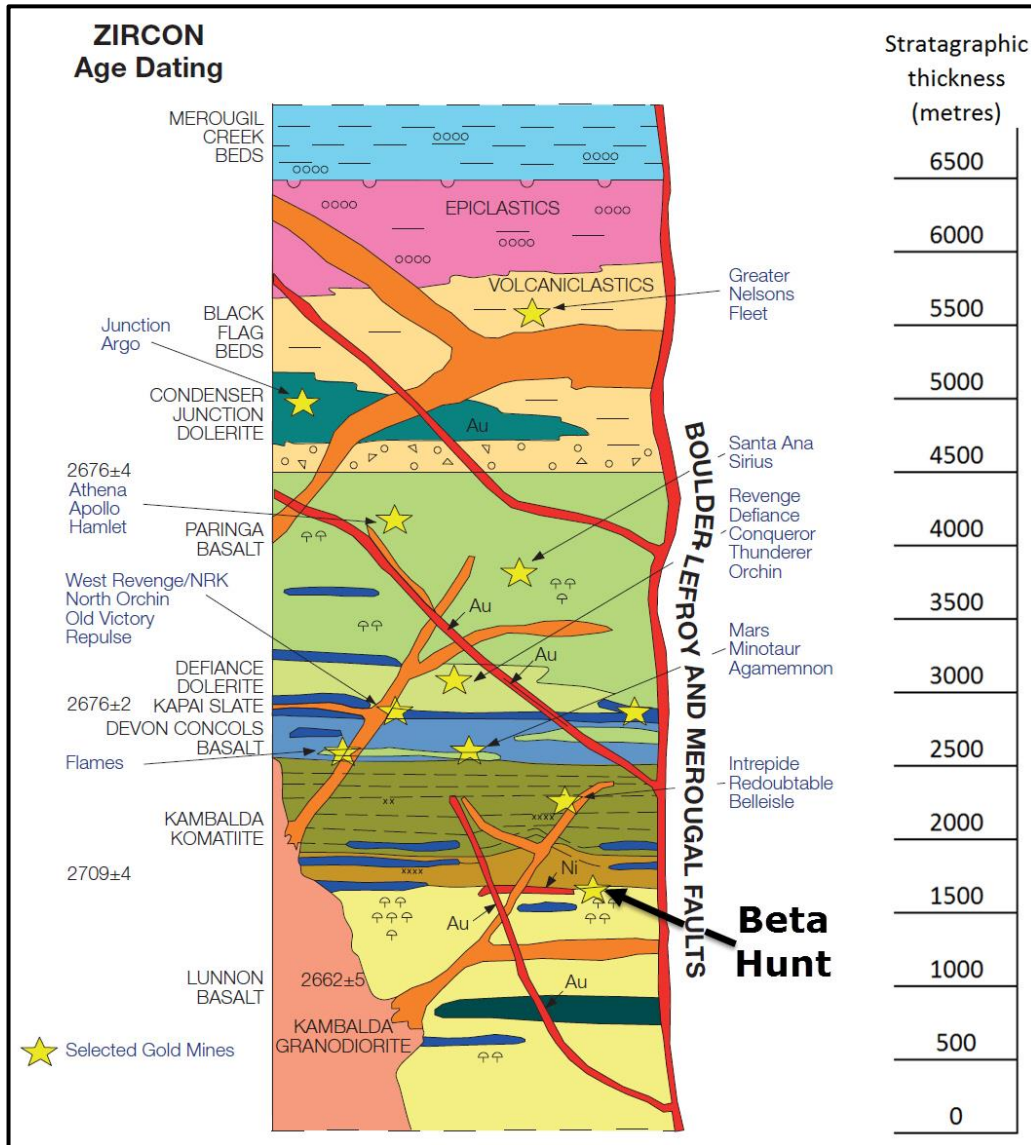


Source: RNC modified from Stone and Archibald (2004)

The following geological descriptions are summarized from Phillips and Groves (1982) and Banasik and Cramer (2006). The local stratigraphy is summarized in Figure 7.2.



Figure 7.2: Stratigraphic relationships in the St Ives area, based on the Kambalda-Tramways stratigraphy



Source: Modified from SIGMC (2012)

### 7.1.1 Lunnon Basalt

The footwall Lunnon Basalt is the lowermost unit in the stratigraphy at Hunt and is host to most of the gold mineralization. The Lunnon Basalt typically comprises more than a 1 km thickness of tholeiitic basaltic flows with persistent pillowed layers, flow top breccias and sediment bands.

Compositionally, the Lunnon Basalt at Beta Hunt is similar to many of the other gold-bearing mafic rocks of the Eastern Goldfields. The Lunnon Basalt is composed of hornblende, actinolite, chlorite, andesine, magnetite, ilmenite, calcite and quartz with minor biotite and epidote. The amphibole occurs as small grains 0.2 mm to 0.4 mm that vary in colour from pale yellow to blue green and make up approximately 50% of the basalt. Chlorite forms usually less than 10% of the assemblage in the form of fine green grains intermixed with the amphibole. Calcite forms discrete grains and combined with narrow 1 mm to 5 mm carbonate stringers accounts for 5% of the groundmass.

Generally, the gold occurs in a broad steeply dipping north-northwest striking quartz vein system within sheared biotite-rich, pyritic basalt. There is typically intense albite, carbonate and chlorite alteration associated with the shear system.

### 7.1.2 Kambalda Komatiite

The Kambalda Komatiite is a sequence of high-MgO ultramafic flows between 50 m to 1000 m thick. It is divided into two members: the lower Silver Lake Member, and upper Tripod Hill Member. The Silver Lake Member comprises one or more komatiite flows (10–100 m thick) that are subdivided into a lower cumulate zone and an upper spinifex textured zone. The Tripod Hill Member consists of numerous thin (<0.5–10 m) komatiite flows. Lateral and vertical variations in composition of each flow as well as distribution of interflow sulphidic sediments define channel flow and sheet flow facies. In the near nickel resources, the stratigraphic contact is highly irregular and structurally disturbed. Numerous mafic, felsic and intermediate intrusions intersect the sequence. The nickel sulphide resources occur at the base of the Silver Lake Member on the contact with the Lunnon Basalt.

### 7.1.3 Interflow Sediments

Thin (<5 m) interflow sedimentary rocks are common on the contact between the Lunnon Basalt and Kambalda Komatiite and within the komatiite lavas, particularly in the less differentiated Silver Lake Member. Sediments are dominated by pale cherty and dark carbonaceous varieties, which comprise quartz + albite with minor tremolite, chlorite, calcite and talc and sulphidic bands of pyrrhotite, pyrite, and minor sphalerite and chalcopyrite. Chloritic or amphibole-rich varieties are less common.

### 7.1.4 Intrusions

The units that host the nickel sulphide mineralization are intruded by granitoids, dykes and sills of mafic, intermediate and felsic composition. Felsic intrusives of sodic rhyolite composition are coarse grained, porphyritic and quartz-rich, and commonly occur throughout the sequence as dykes and sills. Intermediate intrusives (typically dacitic composition) are more variable in texture and composition, but porphyritic types are common and contain feldspar phenocrysts in a biotite-amphibole matrix. Mafic intrusives of basaltic composition are less common, but are known to occur in the Lunnon Shoot. The Kambalda Granodiorite in the core of the Kambalda Dome is trondhjemitic in composition and has associated felsic dykes.

These dykes vary in size and composition, but are all thought to have been emplaced post-D2 deformation and pre-D4 gold mineralization. As a result, gold mineralization is not greatly disrupted by the presence of the porphyry intrusives and mineralization is often enhanced at their contacts with the contrasting lithologies acting as a preferred zone of deposition.

## 7.2 Property Geology

The sub-lease covers the lower stratigraphy of the Kambalda Dome sequence comprising the footwall Lunnon Basalt, overlain by the Silver Lake and Tripod Hill members of the Kambalda Komatiite. The stratigraphy is intruded by quartz-feldspar and intermediate porphyry sills and dykes.

## 7.3 Mineralisation

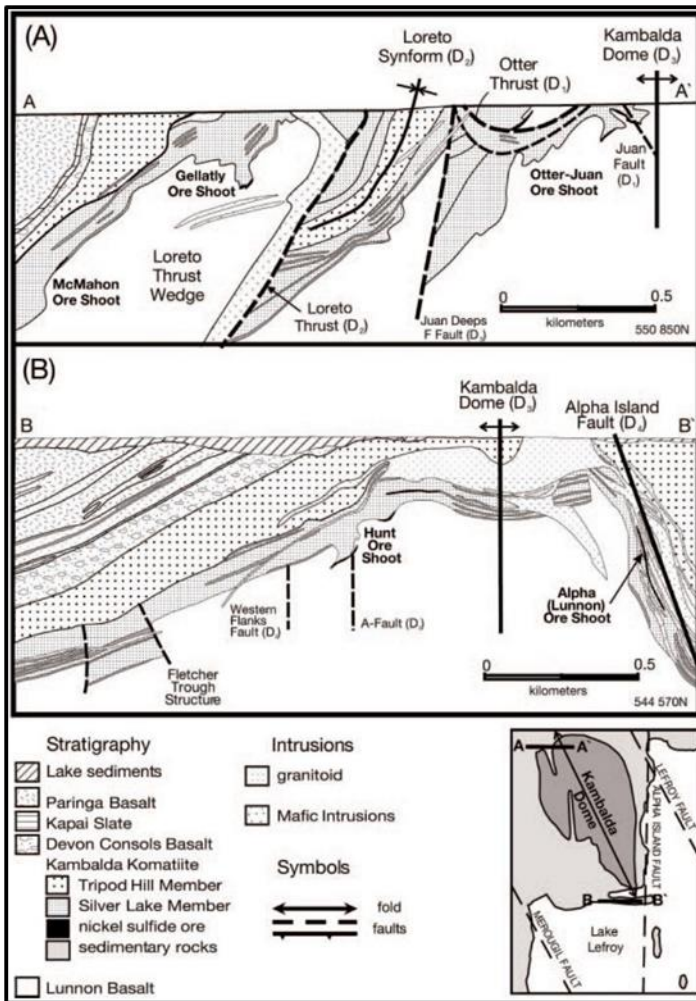
### 7.3.1 Nickel Mineralisation

Nickel mineralisation is hosted by talc-carbonate and serpentine altered ultramafic rocks. The deposits are ribbon-like bodies of massive, matrix and disseminated sulphides varying from 0.5 m to 4.0 m in true thickness but averaging between 1.0 m to 2.0 m. Down dip widths range from 40 m to 100 m and the grade of nickel ranges from below 1% to 20%. Major minerals in the massive and disseminated ores are pyrrhotite, pentlandite, pyrite, chalcopyrite, magnetite and chromite, with rare millerite and heazlewoodite generally confined to disseminated mineralisation. The hangingwall mineralisation tends to be higher tenor than the contact material. The range of massive ore grades in the hangingwall is between 10% Ni and 20% Ni whereas the range for contact ore is between 9% Ni and 12% Ni. The hangingwall mineralogy varies between an antigorite/chlorite to a talc/magnesite assemblage. The basalt mineralogy appears to conform to the amphibole, chlorite, plagioclase plus or minus biotite.

Unlike other nickel deposits on the Kambalda Dome, the Beta Hunt system displays complex contact morphologies, which leads to irregular shoot positions (Figure 7.3). The overall plunge of the deposits is shallow in a southeast direction, with an overall plunge length more than 1 km. The individual shoot positions have a strike length averaging 40 m and a dip extent averaging 10 m. The geometry of these shoot positions varies in dip from 10° to the west to 80° to the east. The mineralisation within these shoot positions is highly variable ranging from a completely barren contact to zones where the mineralisation is more than 10 m in true thickness.

The Hunt and Lunnon shoots are separated from the Beta and East Alpha deposits by the AIF, The Gamma Fault offsets the nickel mineralisation to the south of the Beta Mine Area (Figure 7.4). Hunt and Beta both occur on the moderately dipping western limb of the Kambalda Dome and are thought to be analogous. Similarly, Lunnon and East Alpha occur on the steeply dipping eastern limb of the Dome and have similar characteristics.

Figure 7.3: Schematic cross-section through the Kambalda Dome looking north



Cross-sections of the Kambalda Dome. (A). Cross-section of the northwest flank of the dome at 550 850 N (mine grid) across the McMahon, Gellatly, and Otter-Juan ore shoots. West-dipping reverse faults have formed a series of wedges of the Lunnon Basalt footwall. (B). Cross-section of the south part of the dome at across the Hunt and East Alpha ore shoots on opposing flanks of the dome. The Alpha shoot is the Lunnon ore shoot offset on the east side of the Alpha Island fault. The thickness of the ore shoots, sedimentary units, and felsic intrusions is exaggerated for clarity. Source: Stone et al. (2005)

### 7.3.2 Structural Controls on Mineralization

The structural controls on mineralization at the Beta Hunt deposit are related to the complex polyphase deformation exhibited throughout the Kambalda Dome (Figure 7.4). There are four recognised regional deformation events. The events are described in greater detail below where there is supportive evidence at Beta Hunt (Banasik & Cramer, 2006).

#### D1

The D1 deformation event was a widespread, broadly layer-parallel compressional event that resulted in imbricate stacking of the stratigraphy during south to north thrusting. Evidence of the D1 deformation event at Beta Hunt is the development of a S1 (primary shear) fabric in some massive nickel ores and adjacent host rocks. S1 fabrics in massive sulphide mineralisation occur as pyrrhotite-pentlandite banding, which is parallel or subparallel to the ore contacts.

**D2**

The D2 deformation event produced shallow to moderate dipping north-northwest striking faults, resulting in a thrust stacking from south-southwest to north-northeast. This event occurs throughout the contact nickel orebodies forming the ore constraining/trough defining pinch outs, as well as intra-trough folds. The north-northwest strike of the faults is parallel to the strike of the 40C trough. The result of the D2 deformation at Beta is the formation of “sawtooth type structures” over the width of the trough, especially in the 40C trough.

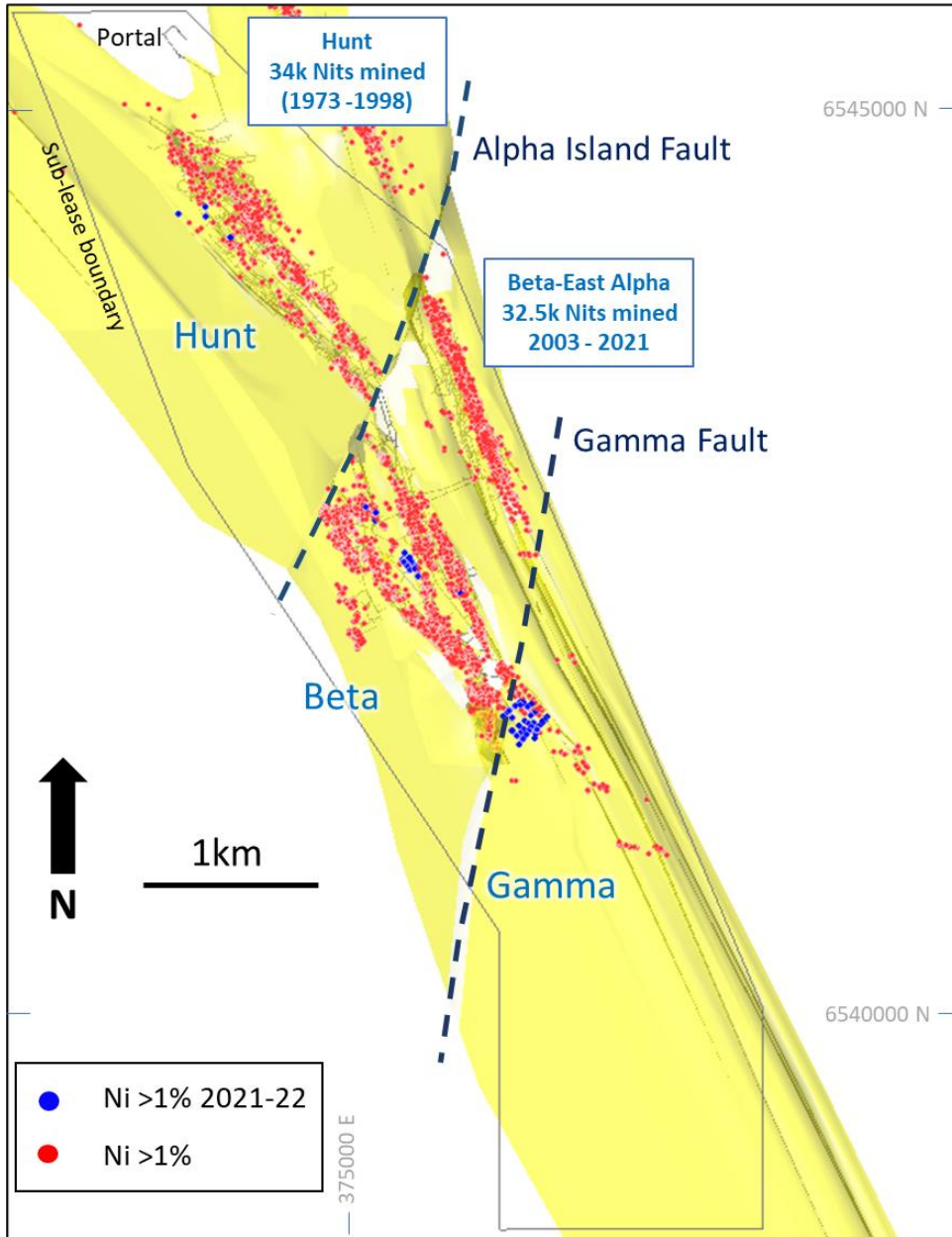
**D3**

The D3 deformation event formed the Kambalda Dome with open, upright domal folds. Associated with D3 are oblique north-northwest striking normal faults, which not only disrupt the basalt/ultramafic contact but are the main gold bearing structures at Beta Hunt.

**D4**

The final deformation event is characterised by oblique north-northwest faulting and north-northeast strike-slip faults. Evidence of D4 deformation at Beta Hunt is the Alpha Island Fault, which separates the Hunt shoot from the Beta shoot. The Alpha Island Fault is a sinistral D4 regional strike slip fault, with some vertical normal displacement that strikes 025 and dips at 65° to the north, observed from exposures in the Beta decline and Beta return airway.

Figure 7.4: Beta Hunt plan view of nickel mineralisation highlighting offsets across the Alpha Island and Gamma Faults



Source: Karora

## 8 Deposit Types

The nickel deposits on the Beta Hunt sub-lease are type examples of the Kambalda style komatiite hosted nickel sulphide deposits. Exploration for extensions of these deposits and new deposits within the Beta Hunt sub-lease are based on these models as described below.

### 8.1 Kambalda Style Komatiite-hosted Nickel Sulphide Deposits

Kambalda style nickel sulphide deposits are typical of the greenstone belt hosted komatiitic volcanic flow- and sill-associated subtype of magmatic Ni-Cu-Pt group elements deposits (Eckstrand & Hulbert, 2007).

#### 8.1.1 Komatiitic Volcanic Flow- and Sill-associated Subtype of Magmatic Ni-Cu-Pt Group Elements

Komatiitic Ni-Cu deposits are widely distributed in the world, mainly in Neoproterozoic and Paleoproterozoic terranes. Major Ni-Cu producing camps and other prominent deposits are found in Australia, Canada, Brazil, Zimbabwe and Finland. The komatiitic subtype of Ni-Cu sulphide deposits occurs for the most part in two different settings.

One setting is as komatiitic volcanic flows and sills in mostly Neoproterozoic greenstone belts. Greenstone belts are typical terranes found in many Archean cratons and may represent intracratonic rift zones. They are generally composed of strongly folded, basaltic/andesitic volcanics and related sills, siliciclastic sediments and granitoid intrusions. They have metamorphosed to greenschist and amphibolite facies, and typically adjoin tonalitic gneiss terranes. Komatiitic rocks form an integral part of some of these greenstone belts. Examples are the Kambalda Camp and the Mt. Keith deposit, respectively, from two greenstone belts in Western Australia.

The second setting is as Paleoproterozoic komatiitic sills associated with rifting at cratonic margins. Prime examples are the Raglan horizon in the Cape Smith-Wakeham Bay belt of Ungava, Quebec and the Thompson camp of the Thompson nickel belt, northern Manitoba. The komatiitic rocks are set in a sequence of volcano-sedimentary strata unconformably resting on Archean basement, and moderately (Raglan) to intensely (Thompson) folded and deformed.

Ultramafic komatiitic rocks are magnesium-rich (18–32% MgO), therefore, the precursor magmas are very hot and fluid. Because of their primitive (high Mg, Ni) composition, the Ni:Cu ratio of the associated sulphide ores is high, in many cases 10:1 or more. The sulphur in the sulphide ores has been derived in significant proportion by contamination from sulphidic wallrocks. The commonly observed close spatial association of these deposits and their hosts with sulphidic sedimentary footwall rocks, and the similarity of sulphur isotopes and other chemical parameters of the magmatic and sedimentary sulphides, strongly suggest that the sulphur in these deposits was derived locally from the sediments. This contrasts to some degree with deposits like Noril'sk and Voisey's Bay where, while it is clear that sulphur came from an extraneous source, that source was not likely so near at hand.

Two types of Ni-Cu sulphide ores characterize these deposits. Sulphide-rich ores comprising massive, breccia and matrix-textured ores consisting of pyrrhotite, pentlandite and chalcopyrite occur at the basal contact of the hosting ultramafic flows and sills. These deposits are generally small, in the order of a few million tonnes, and the grades are in the 1.5% to 4% range. The second

type, sulphide-poor disseminated ore forms internal lens-like zones of sparsely dispersed sulphide blebs, which consist mainly of pentlandite. Deposits of this type also occur in both sills and flows but the largest deposits are in sills, with ore tonnages of 10s to 100s of millions, though grades are a modest 0.6% Ni to 0.9% Ni.

### 8.1.2 Komatiitic Ores in Greenstone Belt Setting – Kambalda Camp

Nickel sulphide ores of the Kambalda camp are typical of the basal contact deposits associated with ultramafic flows in greenstone belts. They occur in the Kambalda Komatiite, which is a package of ultramafic flows (2710 Ma) that has been folded into an elongate doubly plunging anticlinal dome structure about 8 km by 3 km (Figure 7.1). The underlying member of this succession is the Lunnon Basalt, and the overlying units are a sequence of basalts, slates and greywackes (2710 Ma to 2670 Ma). The core of the dome is intruded by a granitoid stock (2662 Ma) whose dykes crosscut the komatiitic hosts and ores.

The Kambalda Komatiite is made up of a pile of thinner, more extensive “sheet flows” and thicker “channel flows” which have created channels by thermal erosion of the underlying substrate. The flows that contain ore are channel flows, which may be up to 15 km long and 100 m thick and occupy channels in the underlying basalt. Flows in the pile are commonly interspersed with interflow sediment, typically sulphidic.

Most of the orebodies are at the basal contact of the lowermost channel flows (accounting for 80% of reserves), although some do occur in overlying flows in the lower part of the flow sequence. The orebodies typically form long tabular or lenticular bodies up to 3 km long and 5 m thick. The ores generally consist of massive and breccia sulphides at the base, overlain successively by matrix-textured sulphides, and disseminated sulphides. The sediment that underlies the flow sequence is generally absent beneath the lowermost ore-bearing channel flow, due to thermal erosion by the flow.

Structural deformation renders the shape and continuity of ores more complicated in many instances. Because of their weaker competency compared to their wallrocks, sulphide zones are in many cases strung out along or cut off by faults and shear zones.



## 9 Exploration

Designing targets for exploration drilling is based on understanding the geology of the Kambalda-style nickel sulphide deposits at Beta Hunt which occur at the base of ultramafic (peridotitic komatiite) flows. Programs relevant to exploration work are described below.

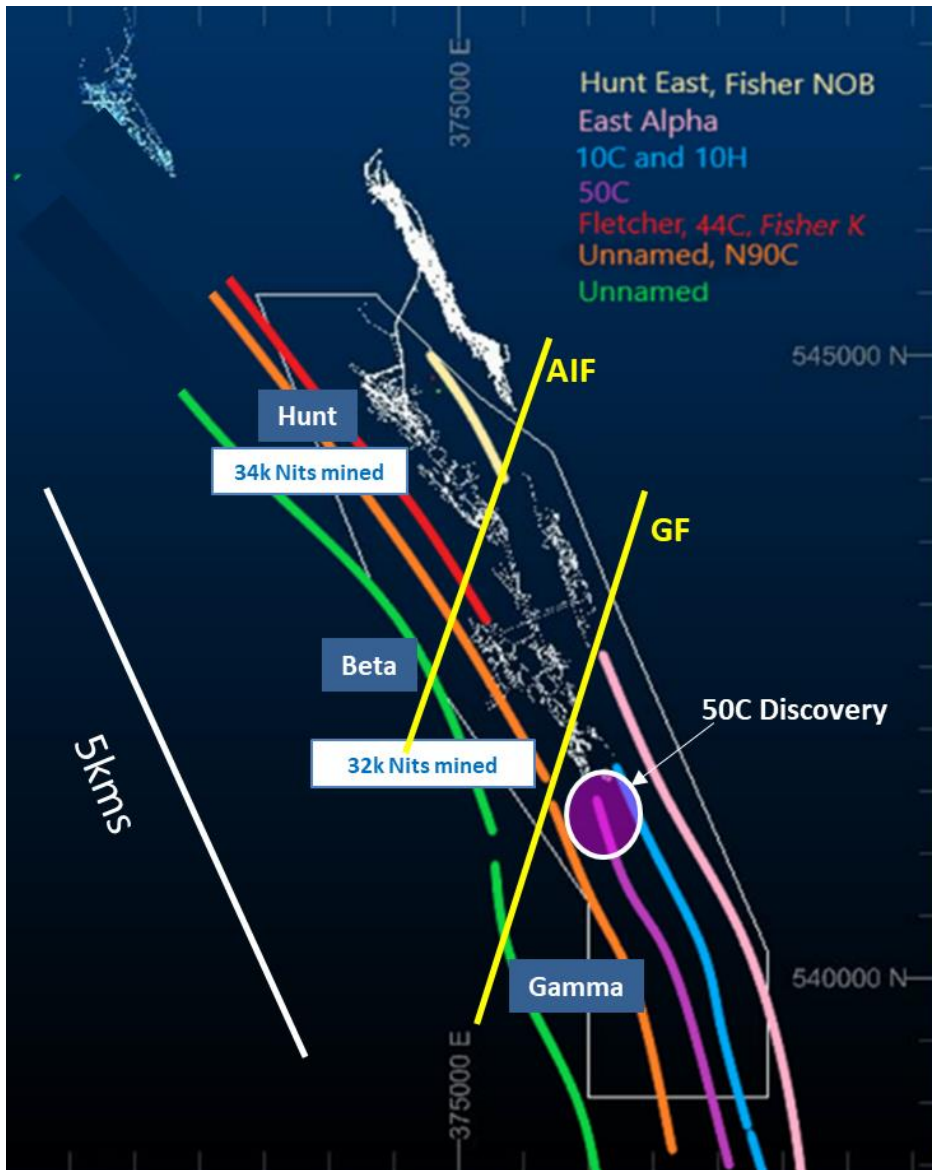
### 9.1 Geological Model

In 2020, a geological targeting exercise was undertaken at Beta Hunt to outline potential new nickel troughs hosting nickel sulphide mineralisation. The following guiding principles underpinned the recently completed drilling programs and continue to influence ongoing drill programs:

- Nickel mineralisation occurs within structural corridors over a kilometre wide as parallel troughs that extend for several kilometres down-plunge
- The nickel troughs are offset by late-stage, dextral faults; Alpha Island Fault and the Gamma Fault
- At Beta Hunt, the nickel corridor comprises an Eastern and Western Belt which are interpreted as being continuous throughout the Beta Hunt nickel mineralised system.

It was the recognition that the Western Belt mineralisation was not tested on the south-side of the Gamma Fault that produced the drill program that led to the discovery of the 50C nickel trough and confirmation that the Western Belt continues south of the Gamma Fault (Figure 9.1).

Figure 9.1 :Beta Hunt mineralised nickel corridor highlighting potential nickel troughs



## 9.2 Structural Mapping

In 2008, Consolidated Minerals produced a structural geology report based on the mapping and underground observation of nickel mineralisation at Beta Hunt (Jones, 2008).

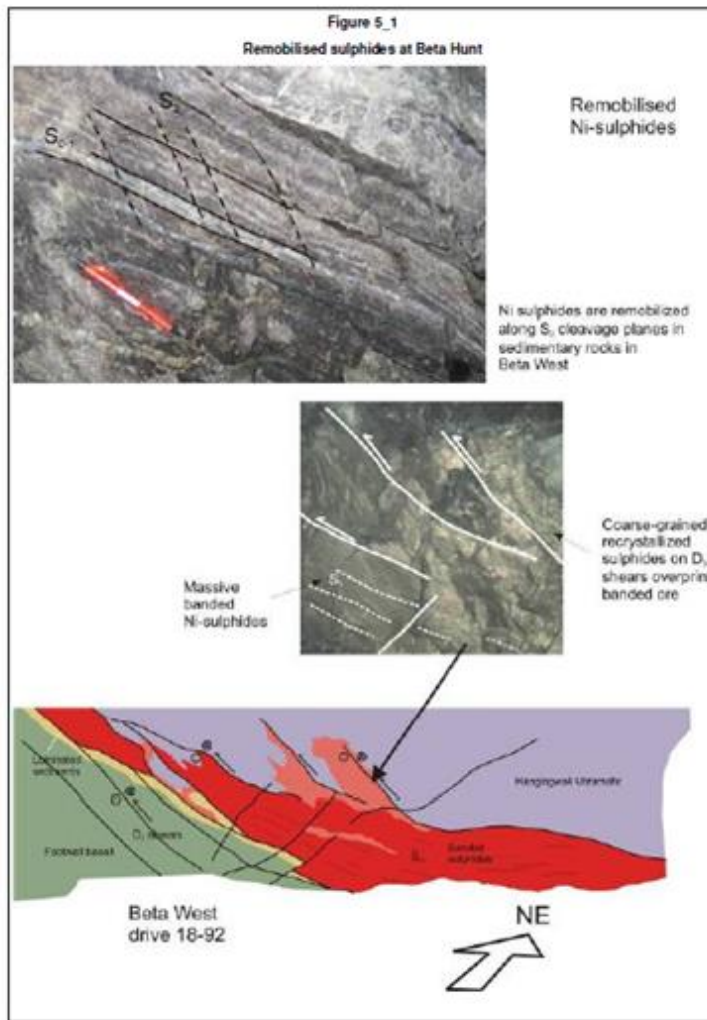
This work showed distinct fault geometries and kinematics can be used to predict the offset pattern of mineralised lenses. Importantly, domains with little/no faulting need to be separated from strongly faulted zones.

A significant finding from this work was the recognition that some nickel sulphides were remobilised (Figure 9.2) during D1 and D3 deformation events which can redistribute nickel sulphides up to 30 m away from the footwall contact.

Recommendations from the study included:

- Routine mapping of the major structures to build up a picture of the dominant kinematics and fault geometries
- Ongoing studies on the tenor and thickness of mineralised zones to assist in identifying the primary lineations, i.e. the original lava channels
- Use results from this study to assist in interpreting the results from geological logging of drill core and subsequent drill hole planning/design.

**Figure 9.2: Example of re-mobilised nickel sulphides at Beta Hunt**

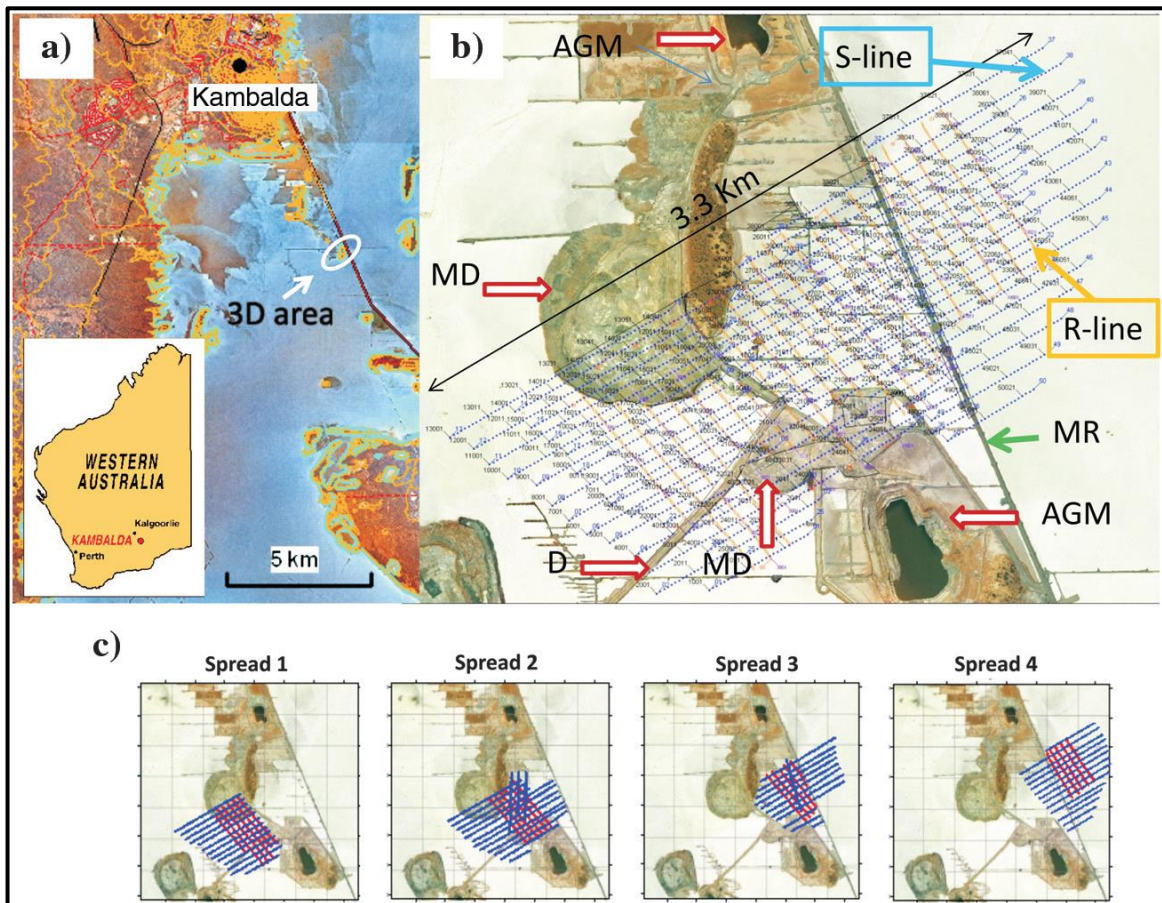


Source: Jones (2008)

### 9.3 Geophysics Seismic

A three-dimensional seismic survey was conducted in 2007 by Geoforce Pty Ltd during CNKO tenure. Three-dimensional design and logistics were provided by the Department of Exploration Geophysics, Curtin University. Data was acquired above Beta Hunt nickel mine on Lake Lefroy as shown in Figure 9.3. The survey methodology, processing and interpretation are detailed in Urosevic et al. (2012).

Figure 9.3: 3D seismic experimental survey carried out over Beta Hunt



Source: Urosovich et al. (2012)

An aerial photo is shown in Figure 9.3(a). Salt lake is shown in blue (flooded at the time). Brown is the elevated regolith surface. Most of the 3D area was located on the salt lake (Lake Lefroy) and as shown in (b) it is surrounded by: abandoned gold mines (AGM), mine dumps (MD), dikes (D), main causeway or mine road (MR). Receiver and source lines are labelled as R-line and S-line, respectively. Four overlapping patches were used for this survey, as shown in Figure 9.3(c).

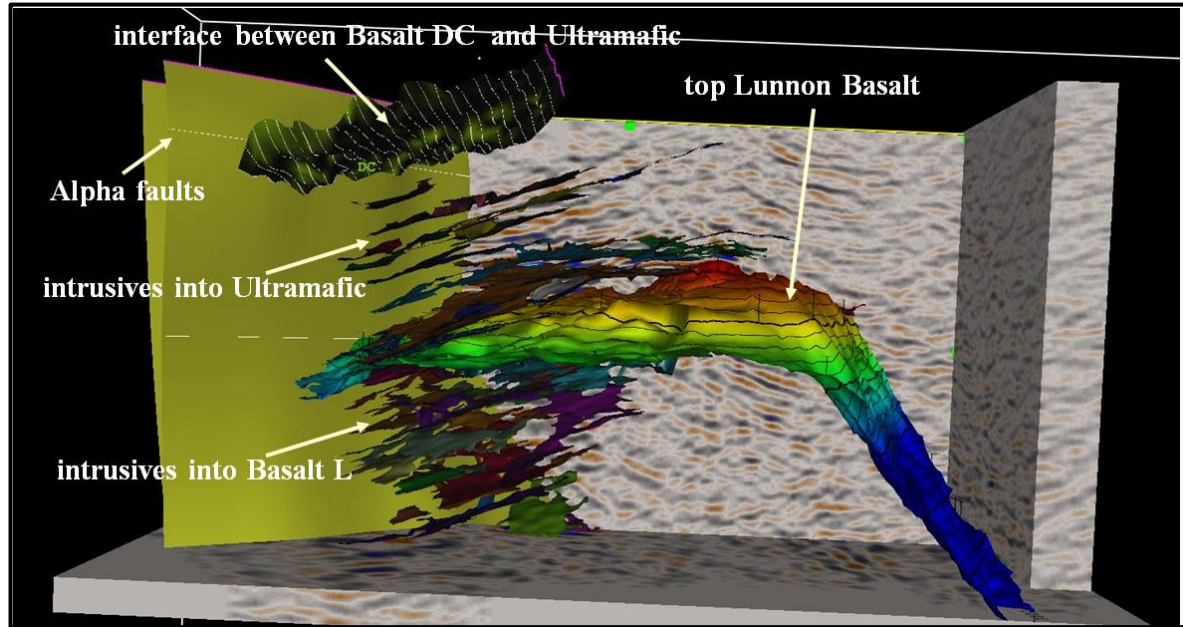
The total area covered by the shot/receiver lines was approximately 3.5 km<sup>2</sup>. The shot-line separation varied from a nominal separation of 100 m to 50 m, and less (down to 10 m) where patches overlapped. Receiver line separation was kept to around 90 m. Four patches, each consisting of six receiver lines with a variable number of channels (up to 500), were used to cover the 3D area (Figure 9.3c). Nominal receiver separation was 10 m and shot separation was 20 m. Small explosive charges (110 g) were deployed in 1.2 m to 1.5 m deep holes. On the hard ground, away from the salt lake, a free fall weight drop (375 kg) was used to generate seismic energy.

Processing focused on computation of accurate static and dynamic corrections, whereas imaging was helped by the existing geologic model. Advanced volumetric interpretation supported by seismic forward modeling was used to guide mapping of the main lithological interfaces and structures.

A combination of several factors, such as high data density, very good source/receiver coupling, deployment of small explosive charges and high precision data processing, produced a high-

resolution, high-quality seismic data cube. The 3D volumetric seismic interpretation project was successful in achieving the primary objectives of mapping the main rock units as well as the Alpha Island Fault system down to 2-km depth (Figure 9.4). The knowledge gained from these structural models will be useful for future mine infrastructure design and development.

**Figure 9.4: 3D seismic interpretation showing interpreted geological features**

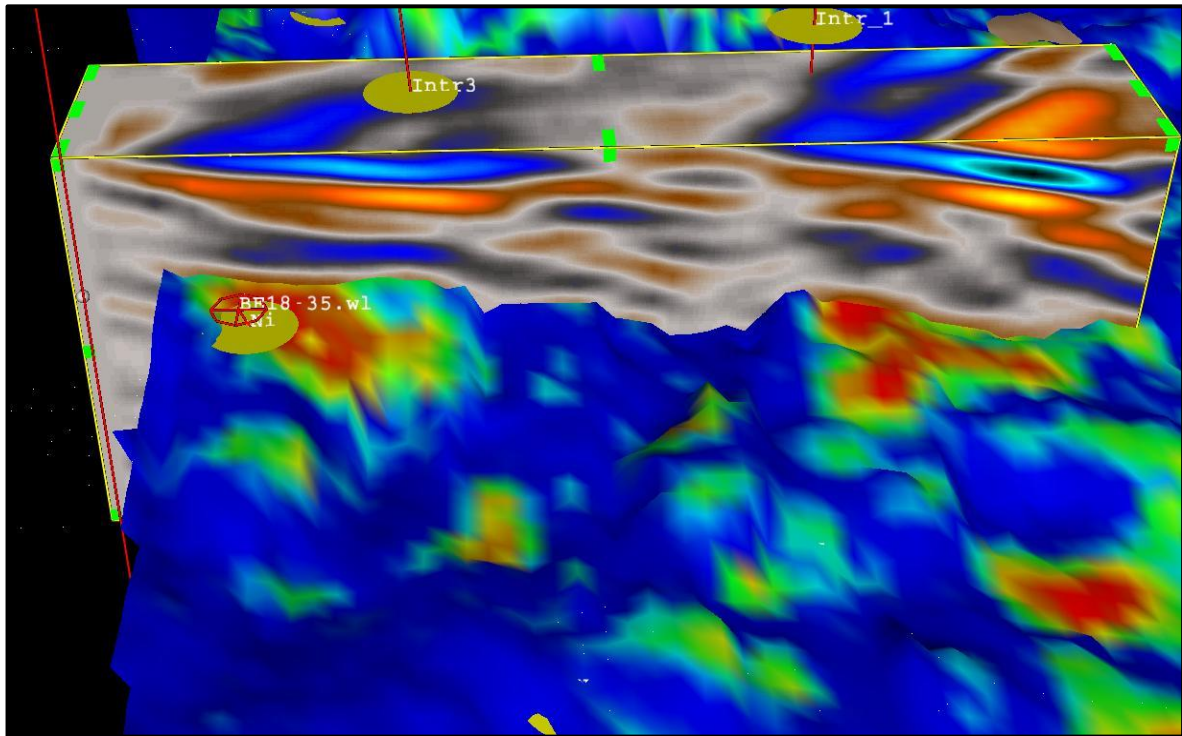


Source: SLM

Forward modeling was carried out using rock properties obtained from ultrasonic measurements and one borehole, drilled in the proximity of the 3D seismic volume (Figure 9.5). Using this information, geometric constraints based on the typical size of orebodies found in this mine and a simple window-based seismic attribute, several new targets were proposed.

The survey demonstrates that high-quality, high-resolution, 3D seismic data combined with volumetric seismic interpretation could become a primary methodology for exploration of deep, small, massive sulfide deposits distributed across the Kambalda area.

**Figure 9.5: 3D seismic interpretation showing high amplitude features**



Source: SLM

## 9.4 Results – New Nickel Discovery: Gamma Zone 50C

Based on the Karora geological model, a five hole, 1381 m underground diamond drill program was completed in late 2020, aiming to test for an offset continuation of the Western Beta nickel belt at the very southern end of the Beta Hunt mine. The offsetting structure is known as the Gamma Fault and is interpreted to up-throw the southern block up to 200 m. The drill program was co-funded by the Government of Western Australian as part of its co-funded Exploration Incentive Scheme.

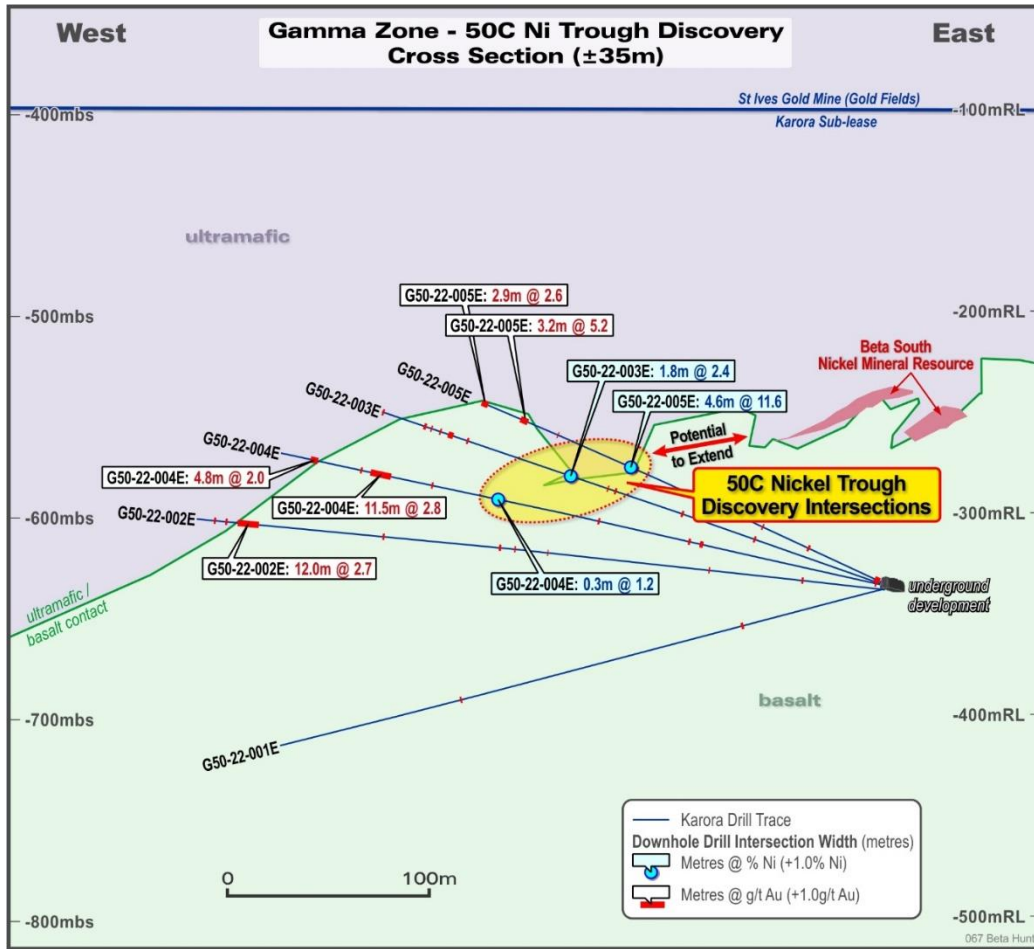
The targeted basalt/ultramafic contact was intersected in four of the five holes with nickel mineralisation intersected in three holes G50-22-005E, G50-22-003E and G50-22-002 in the targeted nickel contact position (see Figure 9.6). Two holes, G50-22-005E and G50-22-003E, encountered strong nickel mineralization logged as massive and disseminated nickel sulphide, with hole G50-22-005E intersecting 2.2 m (downhole) of massive nickel sulphide. Assay results<sup>1</sup> support the visual observation of high tenor mineralisation in this hole:

- G50-22-005E: 11.6% Ni over 4.6 m, including 18.4% Ni over 2.2 m
- G50-22-002E: 1.2% Ni over 0.3 m
- G50-22-003E: 2.4% Ni over 1.8 m.

1. Downhole intervals. True widths cannot be determined with currently available information.

These results are 140 m from existing mine development and reinforce the potential for a repeat of the Beta mineralization south of the Gamma Fault, representing a significant growth opportunity for nickel production at Beta Hunt.

Figure 9.6: Initial 50C Ni exploration results, April 6, 2021



Source: Karora (2021b)

## 10 Drilling

### 10.1 Drilling Summary

#### 10.1.1 Historical Drilling

Drilling at Beta Hunt has been carried out by Karora, SLM, CNKO, RML and WMC since 1970 to explore for and delineate nickel and gold resources using a variety of methods. As of January 31, 2022 the drill hole database holds 13,493 drill holes (Table 10.1) for 635,848 m (Table 10.2) within the sub-lease boundary. Only diamond drill samples were used to estimate the resources in this Technical Report.

**Table 10.1: Drilling by Karora and previous operators – number of holes**

Drill Type	Pre-2016	2016–Sep 2020	Oct 2020–Jan 2022	Total
AC	88			88
Diamond	12,003	1,009	349	13,361
Percussion	155			155
RAB	6			6
RC	571			571
<b>Total</b>	<b>12,135</b>	<b>1,009</b>	<b>349</b>	<b>13,493</b>

**Table 10.2: Beta Hunt database – total metres**

Drill Type	Pre-2016	2016 –Sep 2020	Oct 2020–Jan 2022	Total
AC	2,672			2,672
Diamond	459,005	114,145	57,777	630,927
Percussion	13,315			13,315
RAB	289			289
RC	56,151			15,151
<b>Total</b>	<b>463,926</b>	<b>114,145</b>	<b>57,777</b>	<b>635,848</b>

#### 10.1.2 Current Drilling

Drilling completed by Karora at Beta Hunt during the October 2020 through to January 31, 2022 period totals 57,777 m of diamond drilling in 349 holes to define additional gold and nickel Mineral Resources and to upgrade the Mineral Resource classification to support ongoing production for both gold and nickel. Drilling dedicated to extending and upgrading the Mineral Resource for nickel over this period totaled 89 holes for 11,468 m.

A breakdown of diamond drilling performed post September 2020 by area is given in Table 10.3.



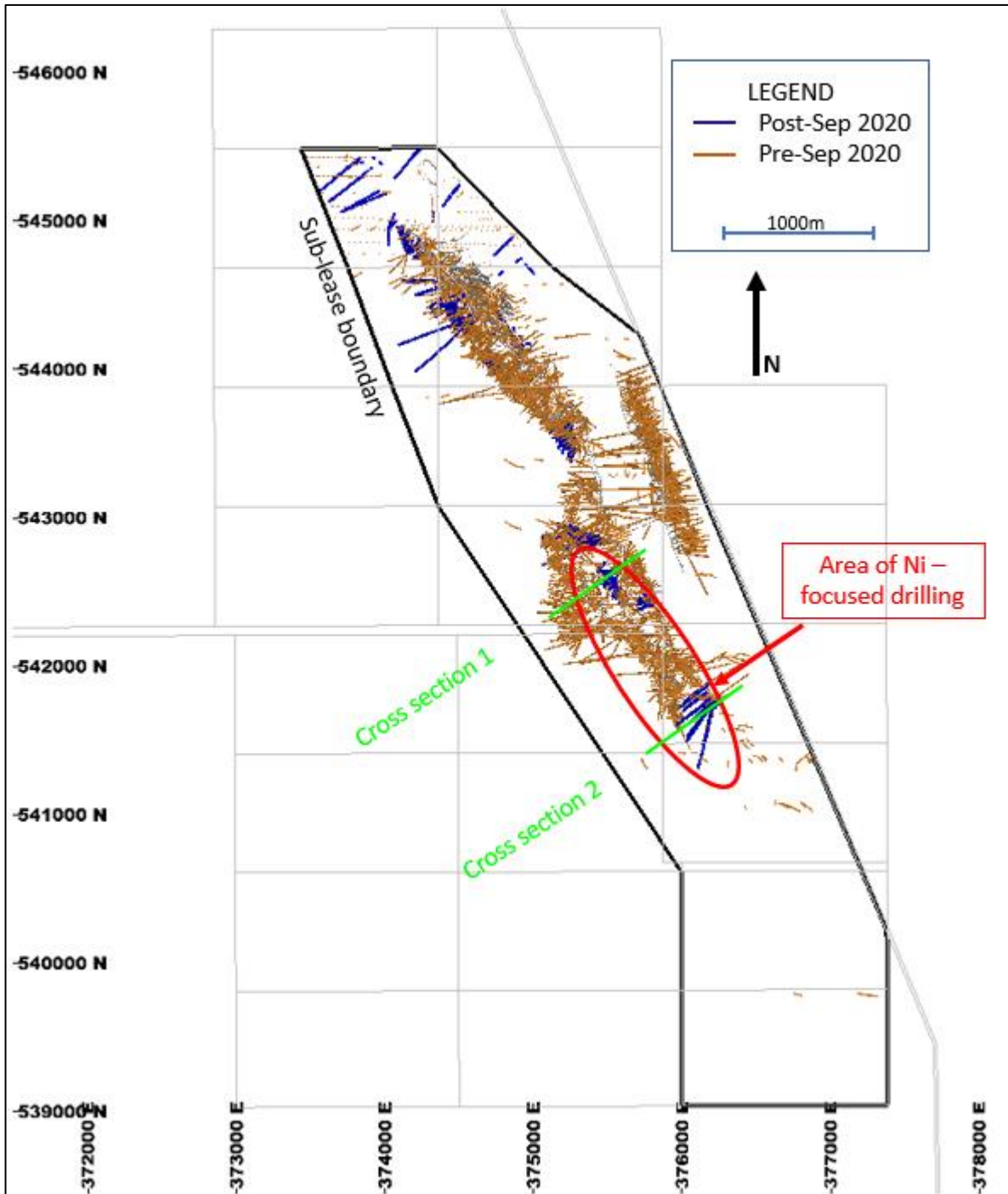
**Table 10.3: Karora diamond drilling – 2020 through to January31, 2022 by commodity and area**

Area	Commodity	Holes	Metres	Assays
10C	Ni	18	2,202	3,275
20C	Ni	16	1,091	2,155
30C	Ni	23	1,324	2,994
40C	Ni	3	533	555
50C	Ni	26	5,542	4,005
AZ	Au	87	13,572	14,221
Fletcher	Au	2	1,293	428
Gamma	Au	1	475	206
Hunt East	Ni	3	776	328
Larkin	Au	47	9,357	7,806
Sorrenson	Au	7	1,749	1,210
WF	Au	110	19,215	17,986
Geotech	-	6	648	715
<b>Total</b>		<b>349</b>	<b>57,777</b>	<b>55,884</b>

## 10.2 Drilling Maps

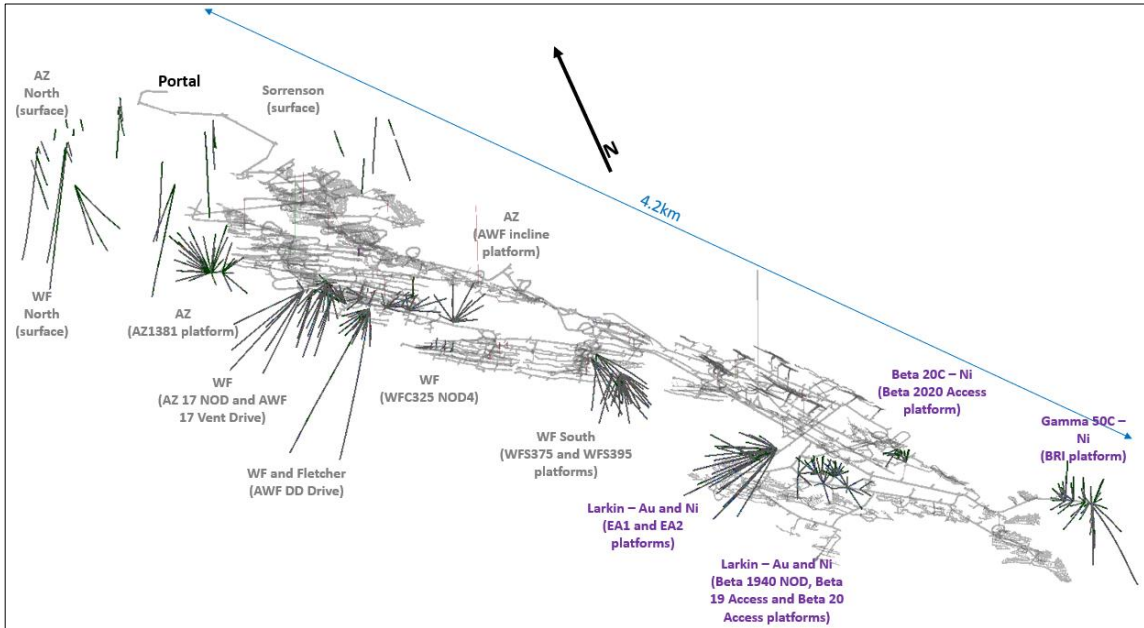
Representative plan maps showing drilling distribution for Beta Hunt are included below. Figure 10.1 shows the distribution of all drilling at Beta Hunt.

Figure 10.1: Plan map showing all drilling within the Beta Hunt sub-lease highlighting recent drilling post September 2020



Cross-section 1 and cross-section 2 are for cross-sections displayed in Figure 10.3 and Figure 10.4, respectively. Source: Karora

**Figure 10.2: Beta Hunt oblique view showing drilling completed September 2020 through January 2022**

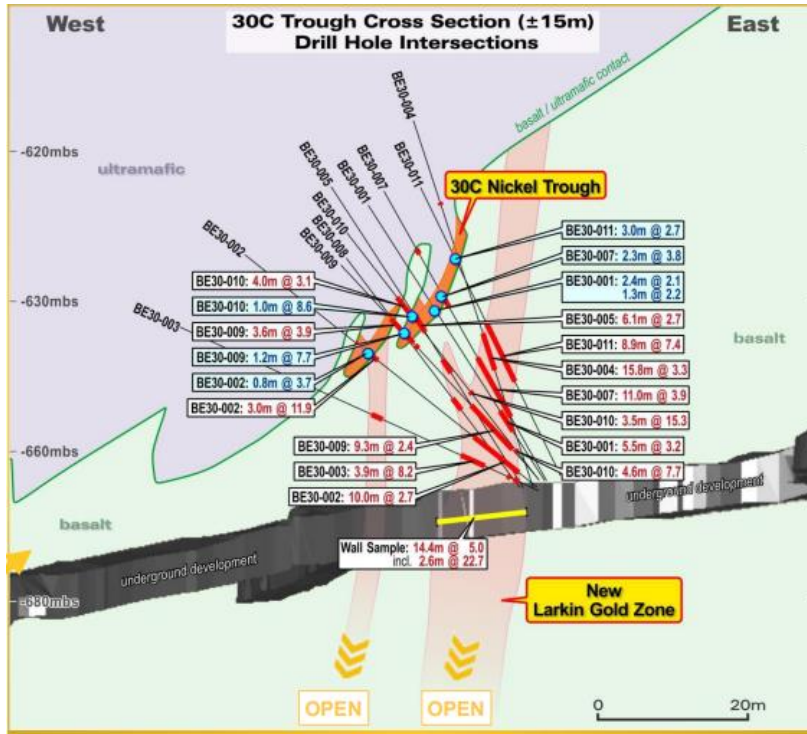


Nickel drilling highlighted with purple text. Source: Karora

### 10.3 Drilling Sections

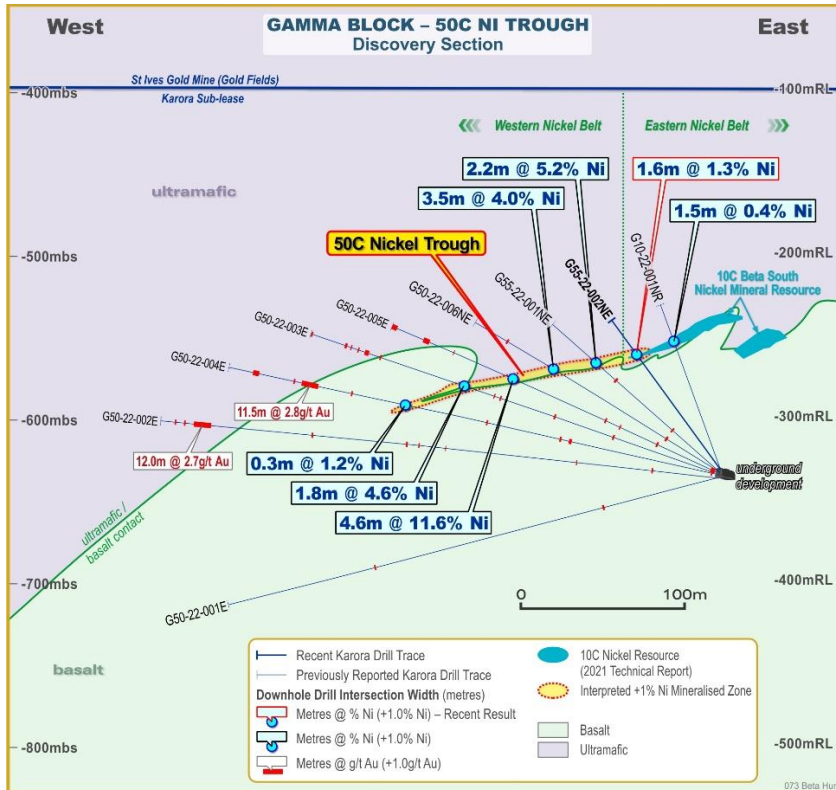
Representative cross-sections showing results from drilling targeting nickel mineralisation associated with the 50C and 30C nickel troughs at Beta Hunt are shown in Figure 10.3 and Figure 10.4 (refer to Figure 10.1 for location).

Figure 10.3: Cross-section of 30C nickel trough looking north



Drilling also shows underlying Larkin gold mineralisation. Source: Karora

Figure 10.4: Section 50C area nickel troughs looking north



Drilling also shows gold mineralisation located west of the 50C area. Source: Karora

## 10.4 Results

### 10.4.1 Resource Definition – Nickel

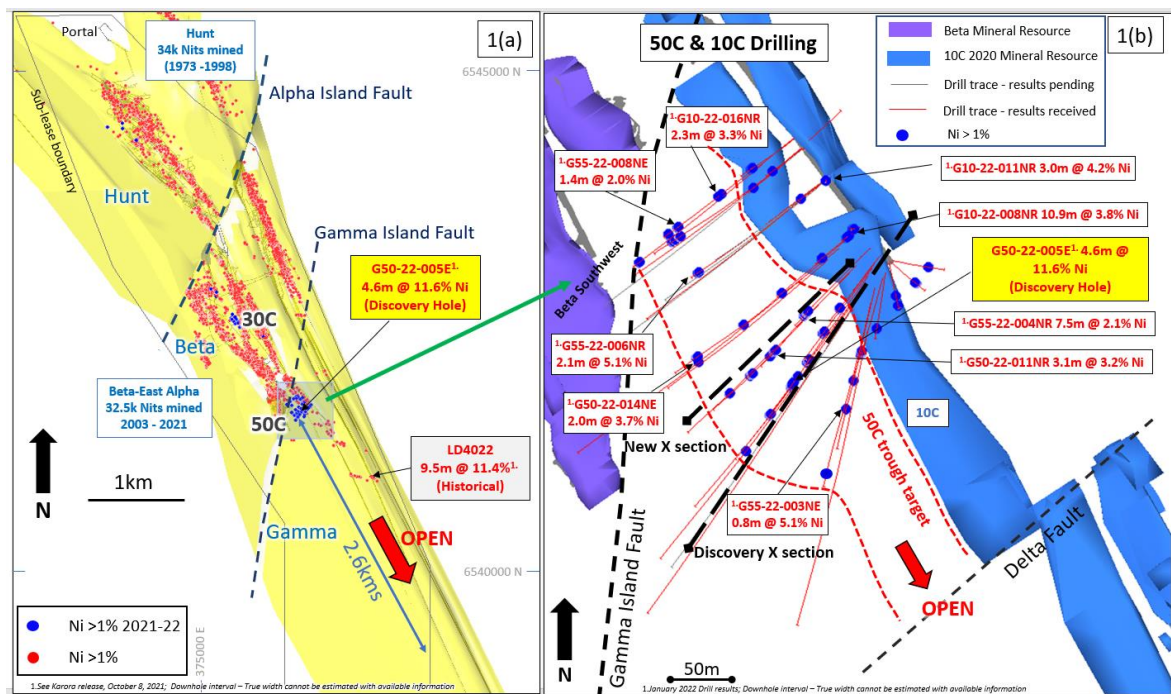
Resource definition drilling at Beta Hunt over the period October 2020 to January 31, 2022 was aimed to extend and upgrade nickel mineralisation in the Beta and Gamma Blocks to support updated Mineral Resource estimations for nickel as detailed in Section 14.

### 10.4.2 Exploration – Nickel

Exploration drilling for nickel over the period October 2020 to January 2022 was focused on the discovery of new nickel troughs south of the Gamma Fault. Drilling targeted the Western Nickel Belt, west of the previously defined 10C nickel Mineral Resource.

The drilling was successful in discovering the 50C nickel trend (refer Section 9.4). This discovery was followed up with both extensional and infill drilling which defined continuous nickel sulphide mineralization over 200 metres in strike length (Figure 10.5). The 50C nickel trend is now a significant contributor to Karora’s nickel Mineral Resources as detailed in Section 14.

**Figure 10.5: Beta Hunt drilling intersections**



a) Plan view of nickel assays greater than 1% Ni pre-2021 and post-2021 overlaid on 3D surface of basalt/ultramafic contact; b) Beta Hunt nickel Mineral Resources (as at September 30, 2021) highlighting location of 50C drilling and recent drill results and cross-section locations. (Refer Karora, 2022a)

## 11 Sample Preparation, Analysis and Data Security

### 11.1 Sample Preparation

#### 11.1.1 Historical–Pre-2016

Since 1966, drill hole data for the Beta Hunt gold and nickel mineralisation has been collected by SLM (acquired by Karora in 2016), CNKO and WMC. Drill hole programs by SLM and CNKO were conducted under written protocols which were very similar and generally derived from the original operator, WMC. The operator's geologists performed geological (and geotechnical where required) logging and marked the core for sampling. The core was either cut onsite or delivered to the laboratory where all further sample preparation was completed prior to assay analysis.

All diamond core has been 100% logged by a geologist. Core after 2007 has also been geotechnically logged. All core after 2007 has been photographed wet and the photos are stored on the network.

Over the first decades of operation, drilling targeted nickel mineralization. Sampling was highly selective according to the visual nickel mineralization observed by the geologist. Generally, sampling was between 0.1 m or 0.3 m to 1.2 m intervals, though some historical sample intervals were noted to 0.06 m. Sampling for gold was somewhat less selective as the gold mineralization does not have clear visual indicators.

SLM gold sampling was less selective to ensure gold assays were received to cover the full extent of gold related alteration. SLM sampling for nickel was selective and sample intervals correspond with the footwall contact of the Kambalda Komatiite and any areas with visual indicators of nickel-bearing sulphides.

Sample handling and submission to the laboratory protocols were documented for SLM and CNKO. No historic documentation is available for WMC drill holes.

Details of historical sample preparation and sampling can be found in Karora (2020). Key details of Karora's sample preparation procedures as well as laboratory sampling and subsampling procedures follow.

#### 11.1.2 Karora 2016–2022

Diamond drilling carried out by Karora at Beta Hunt is logged, sampled and analysed according to written procedures.

Logging is performed on field laptop computers in Datamine DHLogger and checked into the Datamine Fusion drill hole database.

Gold and/or nickel mineralization is targeted using NQ2 diamond drill holes generally sampled as half core, except for grade control holes, which were sampled as whole core. Sample intervals were based on geology, with a minimum 0.2 m to maximum 1.2 m sample size. Whole core samples were taken with a maximum length around 0.8 m to reduce excessive sample weight.

Grade control holes in 2018–2020 were drilled in core size LTK60 and sampled as whole core. All grade control completed in 2020–2022 was drilled with NQ2 core and sampled as whole core.

Core was photographed wet before sampling and stored electronically.

Sampling was performed by a technician in line with sample intervals marked up on the core by a geologist. Core was cut at the sample line and either full or ½ core was taken according to the

geologist's instructions and placed into numerically marked calico sample bags ready for dispatch to the laboratory, and QA/QC standards and blanks were inserted in the series.

All diamond core was oriented, as far as possible, and oriented structures logged with alpha and beta angles.

Sample security involves two aspects: maintaining the chain of custody of samples to prevent inadvertent contamination or mixing of samples and rendering active tampering as difficult as possible. No specific security safeguards have been put in place to maintain the chain of custody during the transfer of core between drilling sites, core library, and sample preparation and assaying facilities. Samples are taken onsite by Karora staff and contract employees, supervised by geology staff. The work area and sample storage areas are covered by general site security video surveillance. Samples bagged in plastic sacks are collected by the laboratory transport from site and driven to the Kalgoorlie laboratory, in line with industry practice.

During the site visits, and working on site, the Qualified Person has inspected the core logging yard and directly observed how core was sampled and transferred to the care of the laboratory. In the opinion of the Qualified Person, the procedures in place ensure samples remained in the custody of appropriately qualified staff. The sampled trays of cut core are stacked on pallets and placed in the onsite core yard.

Pulps returned from laboratory sample preparation are stored in the core yard on pallets. These remain available for later rechecking of assay programs.

During the site visits, and working on site, the Qualified Person found no evidence of active tampering. Procedures to prevent inadvertent contamination of assay samples have been followed, including daily hosing out of the core saw and sampling area.

## 11.2 Laboratory Sampling and Subsampling Procedures – Nickel

### 11.2.1 Laboratory Nickel Purpose Sampling and Analysis Procedures

Since March 2016, all Beta Hunt nickel purpose samples have been assayed for nickel at SGS Perth. The subsampling process was carried out at SGS Kalgoorlie and SGS Perth at different periods due to SGS resource management, but the process is as follows at both laboratories:

- Samples are dried if necessary
- Samples are crushed to 3 mm and split; most samples weigh from 1 kg to 2.8 kg
  - One split is forwarded to milling
  - Second split is kept as retained crushed sample
  - Second split is also analysed at intervals generated by the laboratory computer
- Sample splits are pulverised to 90% passing 75 µm; this is done in a cycle through a row of four mills, so a sample numbered four higher than the previous will be processed through the same mill.

The pulverised material is treated as follows:

- Sampled by scoop (300 g)
- Subsampled, taking 25 g to check screening (one sample in 20)
- Excess retained.

### 11.3 Sample Analysis – Nickel

Before March 2016, Beta Hunt nickel samples were analysed in Bureau Veritas (Kalassay). The analytical method for nickel was by multi-element analysis by mixed acid digest/ICP-AES or ICP-MS (MA200, MA201, MA202). The sampling method entailed collecting a 200 mg subsample and the sample was weighed. The subsample was digested using a mixed acid before ICP analysis.

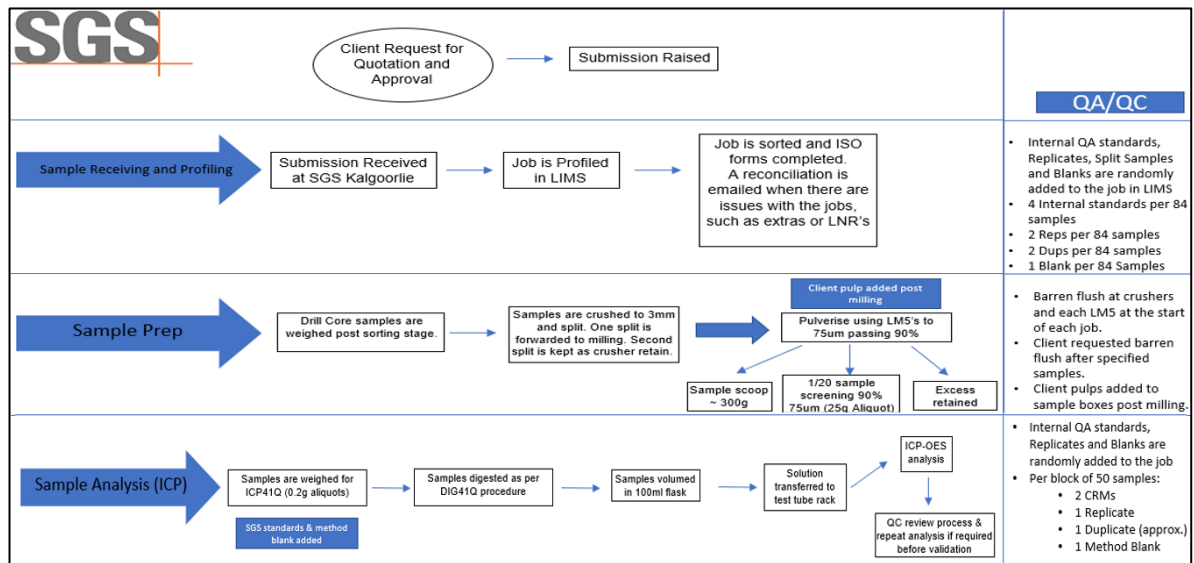
Since March 2016, all analyses for Beta Hunt nickel samples have been carried out by SGS Perth (by multi-element ICP).

The ICP assay procedure for nickel multi-element used at SGS is as follows (Figure 11.1):

- 300 g subsample of pulverised material taken for ICP analysis in disposable container
- Subsample is weighed for ICP 4 acid digest (0.2 g aliquots)
- Sample solution is added to flask and volume measured
- Sample transferred to test tube and analysed using ICP-OES.

QA/QC is run by the laboratory using internally supplied blanks duplicates, replicates, and standards in every batch.

**Figure 11.1: Flowchart of laboratory sample management**



Source: SGS Perth

### 11.4 Quality Assurance and Quality Control Programs

Drill hole programs by SLM, CNKO and RML were conducted under written protocols which were very similar and generally derived from the previous operator. Certified standards, blanks and duplicates were part of the protocols. No umpire laboratories have been used.

QA/QC data is available for certified standards and blanks which were routinely inserted into sample batches after 2007.



The standards and blanks analysed suggest the quality of nickel sample preparation and assaying work conducted by the Kalassay during 2008 was not to a high standard with some jobs requiring re-assay. The analysis did not demonstrate any clear bias in the data. Reconciliation of nickel mining by SLM has generally been very good and therefore it is assumed that quality of laboratory work during this time has not impacted materially on the estimation of nickel mineral resources.

Documentation for WMC QA/QC data is not available. Reconciliation of nickel mining by SLM has been in line with expectation, therefore, it is assumed that assay data that was collected during the WMC period of ownership is reliable. Few WMC holes contribute a relatively small proportion to the resource estimates.

Karora's QA/QC programs are outlined below. QA/QC programs prior to Karora's involvement at Beta Hunt are detailed in Karora (2021a).

#### 11.4.1 Procedures 2016–2022

All drill hole programs completed by Karora are controlled by written procedures.

Standards for gold and nickel were provided by Ore Research & Exploration Pty Ltd (OREAS) between 2014 and June 2016. From June 2016 on, Geostats standards were procured for Au, and by November 2016 were used exclusively for Au assay batches. Geostats Ni purpose reference standard samples were introduced in June 2020 and effectively replaced the OREAS reference samples.

Coarse Blank used is Bunbury Basalt sourced from Gannet Holdings Pty Ltd via Westernex Pty Ltd.

The Karora procedure for insertion of quality control samples is as follows:

- Insert at least one blank and one certified reference material (CRM) per batch, however small the batch of drill hole samples plus one CRM or blank every 30 samples
- One blank and one standard inserted within a recognised ore zone.

The SGS Kalgoorlie laboratory apply their own QA/QC insertions by random insertion generated by their LIMS system as follows:

- Four internal standards per 84 samples
- Two repeats per 84 samples
- Two duplicates per 84 samples
- One blank per 84 samples.

Karora loads the laboratory splits and repeats in the Beta Hunt database, but does not use the laboratory standards and blanks data.

#### 11.4.2 Quality Control Analysis 2016–2020

To monitor quality from the SGS Kalgoorlie laboratory, there have been 7000 certified standards and 6240 certified blanks inserted into sample batches since March 2016 to September 2020. An additional 210 non-certified blanks were briefly used, made up from sample reject of <0.01 ppm Au.

When quality control standard(s) and/or blanks failed, the batch was wholly or partly re-assayed at the discretion of the geologist that imported the assay file. Where re-assaying was conducted, the

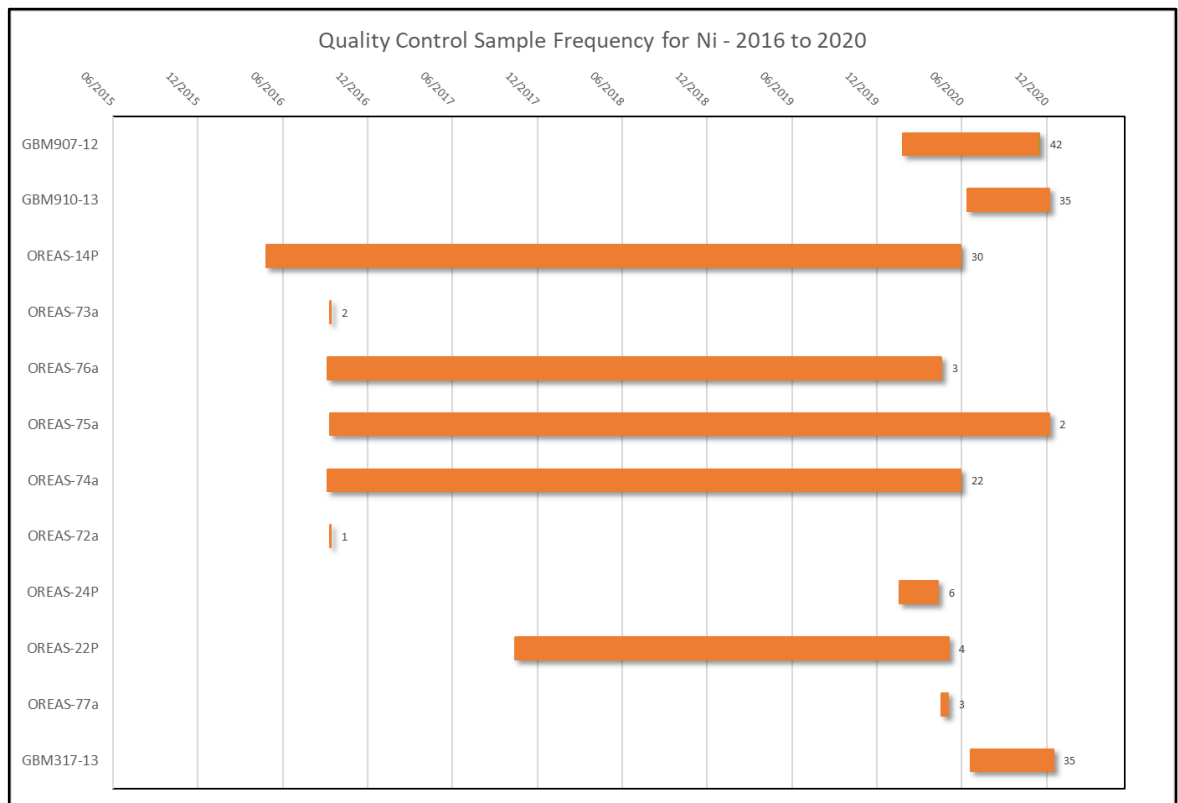
quality control standards and blanks were checked again and, if passed, the data was added to the database.

Descriptions of the quality control standards and blanks for nickel over the 2016–2020 period are summarised in Table 11.1 and Figure 11.2.

**Table 11.1: Certified standards and blank sample descriptions for Ni, 2016–2020**

Standard	Element	Ni%-3SD	Expected Value (%)	Ni%+3SD
GMB317-13	Ni	3.49	3.94	4.4
GMB907-12	Ni	1.64	1.87	2.1
GMB910-13	Ni	2.34	2.7	3.05
OREAS-14P	Ni	1.89	2.1	2.31
OREAS-22P	Ni	0	0	0.13
OREAS-24P	Ni	0.01	0.01	0.02
OREAS-72a	Ni	0.62	0.69	0.77
OREAS-73a	Ni	1.35	1.41	1.47
OREAS-74a	Ni	2.62	3.14	3.67
OREAS-75a	Ni	4.48	5.11	5.74
OREAS-76a	Ni	6.6	7.29	7.98
OREAS-77a	Ni	9.5	10.59	11.69

**Figure 11.2: Quality control sample frequency for Ni, 2016-2020**



When assays are imported into the Datamine Fusion Geological Database Management System (GDMS), the standards and blanks are automatically checked and pass/fail criteria applied. If a batch fails, it is assessed for possible reasons and the procedure specifies appropriate actions.

- A single failure with no apparent cause, in a length of waste, may be accepted by the Qualified Person (Geologist or Database Administrator).
- A failure or multiple failures that fit a pattern of substituted standards may be accepted.
- A failure near or in a length of mineralisation, will result in a request to the laboratory for re-assay of relevant samples. The Qualified Person changes the status from Failed to DH Reassay in the GDMS. The re-assayed results will be re-loaded and checked against QA/QC again.

### 11.4.3 Quality Control Analysis October 2020–2022 – Nickel

#### Laboratory Summary

Nickel purpose samples that were collected after September 2020 were processed at the SGS Kalgoorlie laboratory and analysed at the SGS Perth laboratory. There were 78 batches processed that included 2668 samples (Table 11.2).

**Table 11.2: Quality control sample summary for Ni, 2021–2022**

Laboratories	SGS_Kalgoorlie
No. of Batches	78
No. of DH Samples	2668
No. of QC Samples	0
No. of Standard Samples	245

#### Standard Type Ratios

All submitted batches included certified blank material (Bunbury Basalt) and nickel reference standards. Blank samples were inserted at a rate of 1 in every 29 samples and nickel reference standards were inserted 1 in every 18 samples (Table 11.3, Table 11.4). Results for GBM10-13 shown in Figure 11.3 and Table 11.5.

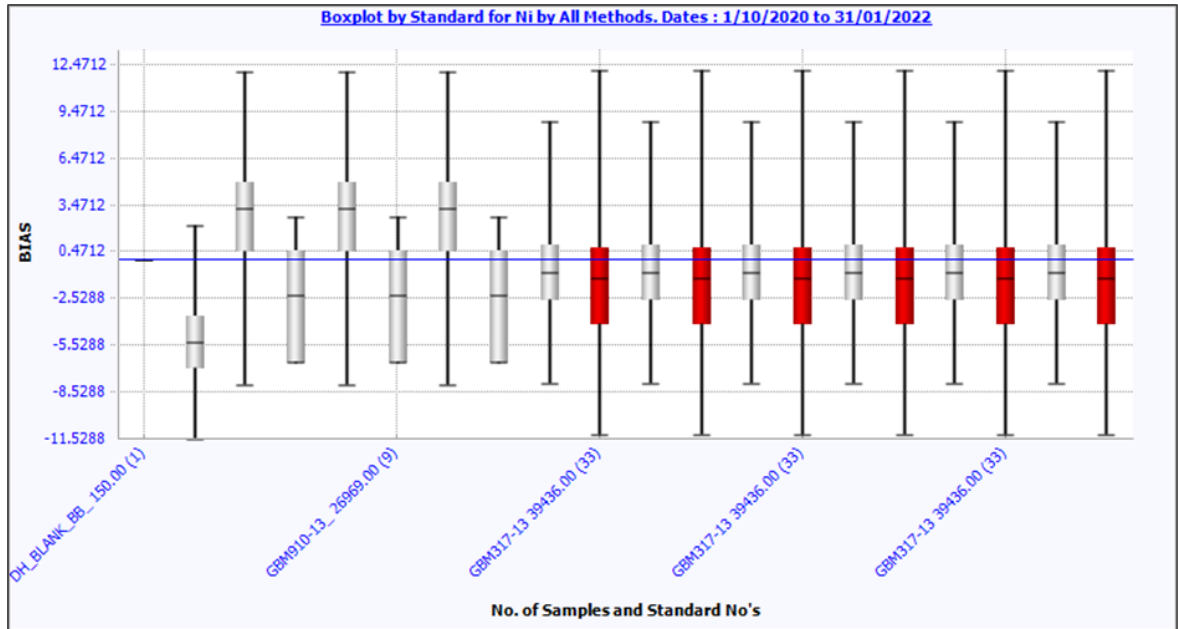
**Table 11.3: Quality control sample frequency for Ni, 2021–2022**

Standard Type	DH Sample Count	Standard Type Count	Standard Sample Count	Ratio of QC Standard to DH Samples
SLM_BLANK	2668	1	93	1:29
SLM_CRM	2668	7	152	1:18

**Table 11.4: Ni reference sample types and frequency, 2021–2022**

Ni Standard(s)					No. of Samples	Calculated Values			
Std Code	Method	Exp Method	Exp Value	Exp SD		Mean Ni	SD	CV	Mean Bias
GBM910-13_	4A_ICPES	4A_ICPES	26969	1181	6	26467	792	0.03	-1.86%
GBM910-13_	4AOG_UN	4AOG_UN	26969	1181	3	26100	1389	0.05	-3.22%
GBM907-12	4A_ICPES	4A_ICPES	18694	774	55	17698	606	0.03	-5.33%
GBM317-13_	4A_ICPES	4A_ICPES	39436	1512	24	39000	1002	0.03	-1.11%
GBM317-13_	4AOG_UN	4AOG_UN	39436	1512	8	39337	2190	0.06	-0.25%
GBM910-13	4A_ICPES	4A_ICPES	26969	1181	1	28200	0.0	0.00	4.56%
GBM910-13	4AOG_UN	4AOG_UN	26969	1181	21	27780	1219	0.04	3.01%
DH_BLANK_BB_	4A_ICPES	4A_ICPES	150	50	1	145	0.0	0.00	-3.33%
GBM317-13	4A_ICPES	4A_ICPES	39436	1512	5	39160	1579	0.04	-0.70%
GBM317-13	4AOG_UN	4AOG_UN	39436	1512	28	38892	1721	0.04	-1.38%

**Figure 11.3: Box and whisker plot GBM910-13, 2021–2022**

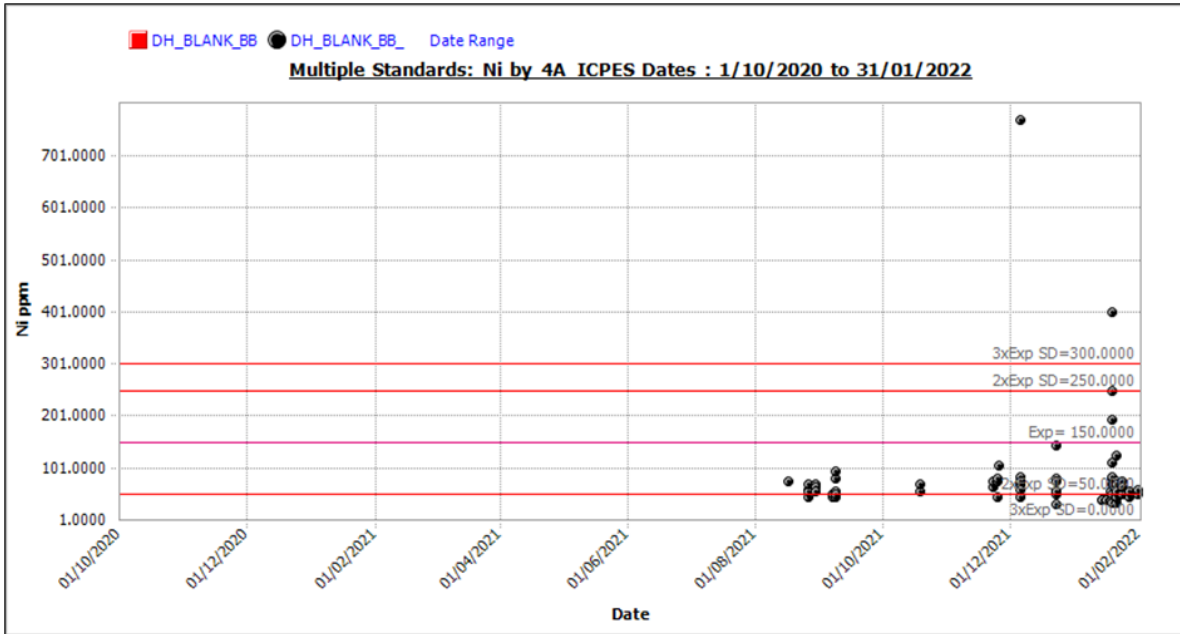


**Table 11.5: Box and whisker plot GBM910-13, 2021–2022**

Ni Standard(s)					No. of Samples	Calculated Values			
Std Code	Method	Exp Method	Exp Value	Exp SD		Mean Ni	SD	CV	Mean Bias
DH_BLANK_BB_	4A_ICPES	4A_ICPES	150	50	92	75	87	1.2	-50%

The timeline for assay results for inserted blanks indicate two outlier results were received during the 2021–2022 period (Figure 11.4, Table 11.6).

**Figure 11.4: Timeline for blank samples, 2021–2022**



**Table 11.6: Failed blank samples, 2021–2022**

Standard	Lab	Batch	Data Set	Sample Id	Method	Element	Value	Difference
DH_BLANK_BB_	SGS_Kalgoorlie	WM209684	BETA_HUNT	ZZ176562	4A_ICPES	Ni	770	413
DH_BLANK_BB_	SGS_Kalgoorlie	WM210533	BETA_HUNT	ZZ183477	4A_ICPES	Ni	400	167

**Karora Resources Inserted Ni CRMs**

The type and frequency of nickel reference samples used in 2021–2022 are listed in Table 11.7. Note that standards GBM910-13 and GBM317-13 were subject to periodic incorrect sample classification during submission and the standards associated with the submission errors are separated from the correctly submitted standard samples. Example plots for Karora-inserted standards over the period, 2021 and 2022 are shown in Figure 11.5, Figure 11.6 and Figure 11.7.

**Table 11.7: Nickel reference sample types and frequency, 2021–2022**

Ni Standard(s)					No. of Samples	Calculated Values			
Std Code	Method	Exp Method	Exp Value	Exp SD		Mean Ni	SD	CV	Mean Bias
GBM907-12	4A_ICPES	4A_ICPES	18694	774	55	17698	606	0.03	-5.33%
GBM910-13	4A_ICPES	4A_ICPES	26969	1181	2	14100	19940	1.41	-47.72%
GBM910-13_	4A_ICPES	4A_ICPES	26969	1181	6	26467	792	0.03	-1.86%
GBM317-13	4A_ICPES	4A_ICPES	39436	1512	6	32633	16049	0.49	-17.25%
GBM317-13_	4A_ICPES	4A_ICPES	39436	1512	24	39000	1002	0.03	-1.11%

Figure 11.5: Timeline for reference sample GBM907-12, 2021–2022

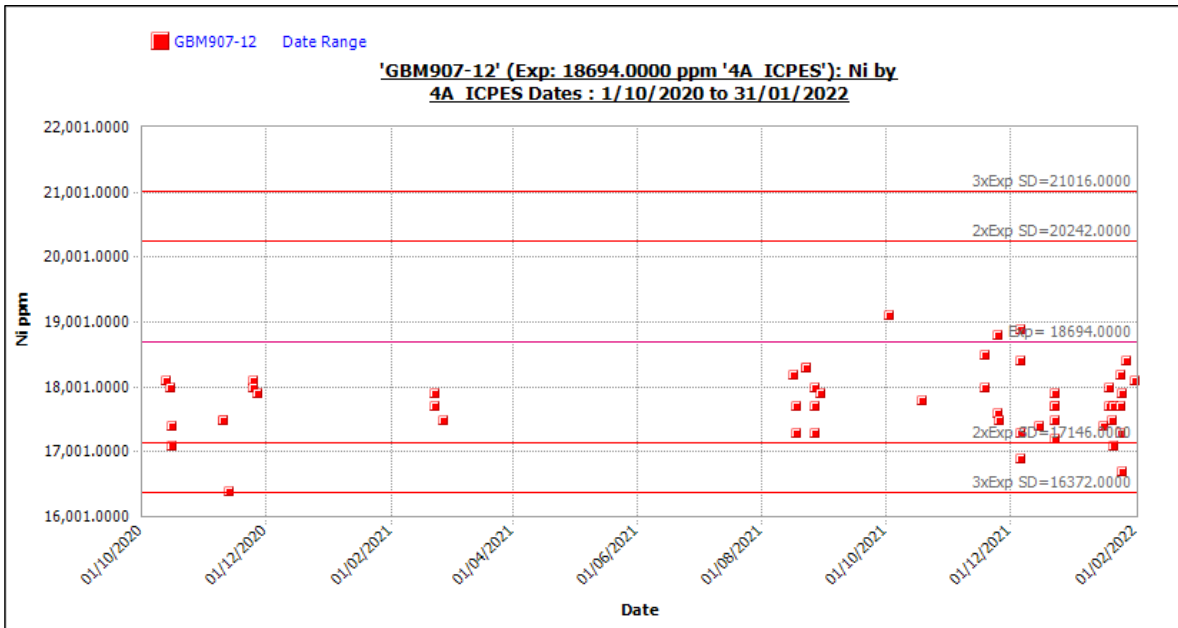
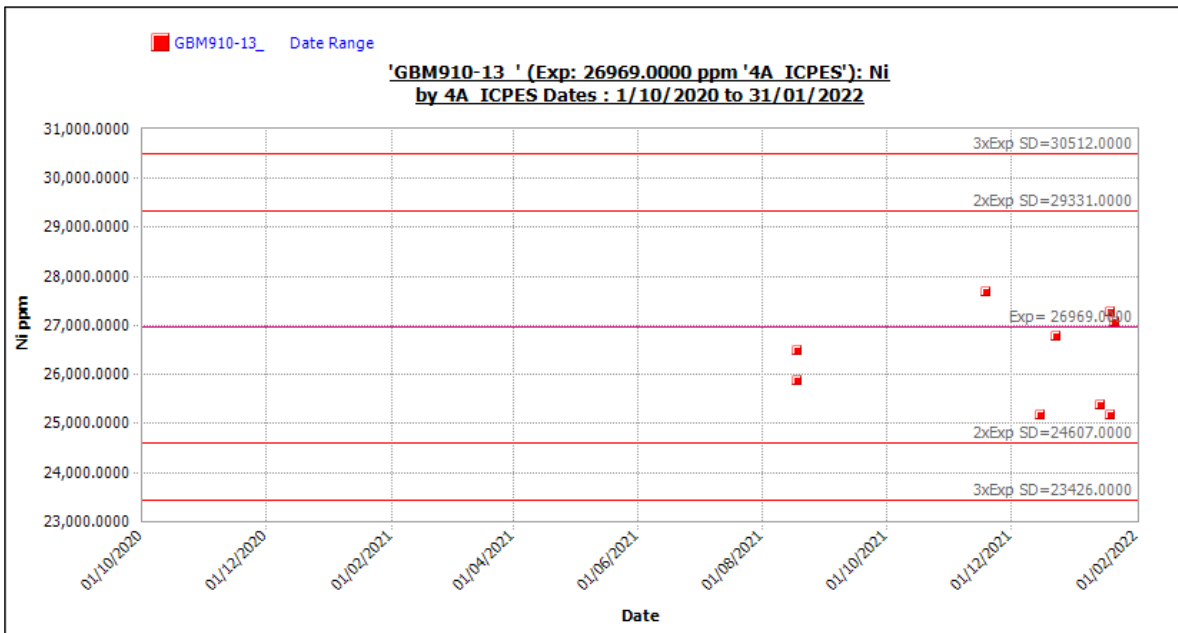
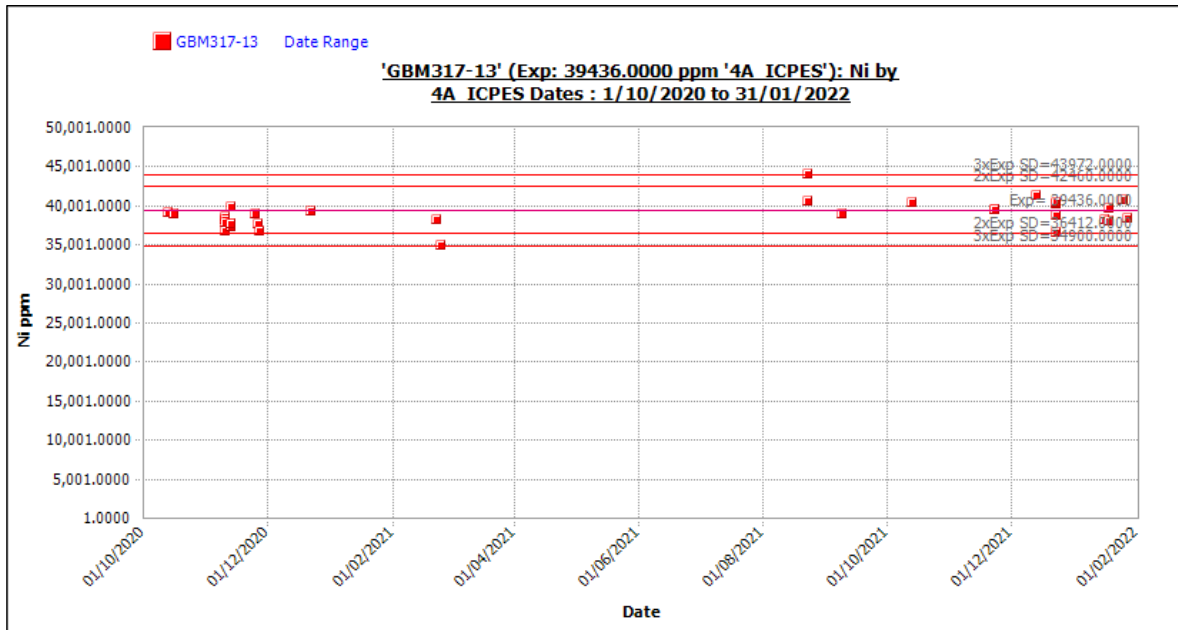


Figure 11.6: Timeline for reference sample GBM910-13, 2021–2022



**Figure 11.7: Timeline for reference sample GBM917-13, 2021–2022**



### 11.5 Database Integrity

In October 2016, SLM implemented the Datamine Fusion GDMS including field logging in the DHLogger application and a SQL Server based database. This has been a stable and reliable platform and the conversion was implemented without major interruptions to the database process. In no instance has Karora had to re-access the old database and in no case has data been lost due to any software or hardware problem.

Karora data uploaded including collar locations, downhole surveys and assays have integrity checks during the import process. The checks enable the upload to be cancelled if errors are encountered.

The software records the username, date and time of the access when users edit the data. All users must access the database with username and password, and editing privileges are controlled to responsible geology staff. Back-end editing access using scripts is very tightly controlled, only via authorised request to the administrator within the IT support group, and not available except in exceptional circumstances.

Drill hole logging and sample interval creation is conducted in the DHLogger application of the GDMS. All codes and shortcuts are maintained in reference tables of the database and validation rules operate behind the interface.

Downhole survey data is checked in Reflex SProcess software and exported in csv format then reformatted and again visually inspected and validated for upload. Part of the validation procedure for downhole surveys and logging is to perform a visual check of the de-surveyed holes in Datamine Studio RM software. The software also provides validation functions which are utilized.

Once assays are returned from the laboratory as csv files, the data is checked and uploaded daily using DHLogger and the QA/QC performance checked against set pass/fail parameters.

Prior to October 2016, all SLM data was stored in a Microsoft Access database with validation checks described in Karora (2016).

Historical data within the database have not all been validated to the same level as data post-2008. A validation process exists within the database run automatically for all new data as described above. A very small number of drill holes with major errors that cannot be rectified are recorded in a file named badholes.csv and not used in any estimation.

## 11.6 Beta Hunt Sampling Preparation, Analyses and Security Summary

The Qualified Person considers the sampling preparation, security and analytical procedures to be adequate. Any data which have errors have either been corrected or excluded to ensure data used for mineral resource estimation is reliable.



## 12 Data Verification

The Qualified Person has, through examination of internal Karora documents including monthly QA/QC site reporting, the implementation of routine, control checks and personal inspections on site and discussions with other Karora personnel, verified the data in this Technical Report and satisfied himself that the data is adequate for the purpose of this Technical Report.

## 13 Mineral Processing and Metallurgical Testing

Beta Hunt is an operating mine with separate tolling contracts in place for processing of nickel ores. Elements of these contracts that relate to the metallurgical performance of Beta Hunt mineralization are summarized below. Further discussion of these contracts is included in Section 19.

### 13.1 Nickel Processing

Since ownership by WMC, nickel production from Beta Hunt has been processed at the nearby Kambalda Nickel Concentrator (KNC) that is currently owned by BHP. As a result, the quality, variability and metallurgical response for this material is well understood. The mineralization is typical for the area and is blended with nickel production from other mines. As it would not be possible to measure the metallurgical recovery of Beta Hunt material within the blend, recovery is credited based on the grade of material treated as per the contractual agreement between BHP and SLM.

In July 2018, KNC was put on care and maintenance due to declining nickel production in the area. In May 2018, nickel mineralisation was being campaigned through BHP's Leinster Nickel Concentrator while KNC remained on care and maintenance.

The nickel mineralisation also contains limited quantities of both copper and cobalt. Copper was recovered by KNC in sufficient quantities for Karora to receive credit. Karora, as part of the amendment to the OTCPA, receives a credit for cobalt when the material is processed through the Leinster Nickel Concentrator.

The nickel mineralisation is considered "clean" as it has low levels of deleterious elements, specifically:

- Arsenic (As) levels currently average <20 ppm, compared to the penalty threshold of 400 ppm
- Fe: MgO ratio is well above the threshold level of 0.8, below which penalties are charged.

The low levels of deleterious elements make Beta Hunt mineralisation attractive to BHP, as it is blended with their own production containing much higher concentrations of arsenic in order to produce an acceptable feed to the Kalgoorlie Nickel Smelter.

## 14 Mineral Resource Estimates

### 14.1 Introduction

The Mineral Resource Statement presented herein represents nickel Mineral Resource estimates prepared for the Beta Hunt Mine in accordance with the Canadian Securities Administrators' (CSA) NI 43-101 and Form 43-101F.

The nickel Mineral Resources presented replace the previous nickel Mineral Resource included in Karora (2021a). The updated nickel Mineral Resource incorporates updated and new resources for the Gamma Area, 30C trough and 40C trough, and were completed by AMC. The effective date of the Mineral Resource Statement is February 1, 2022.

The Mineral Resource estimates reported herein were prepared under the supervision of Mr Stephen Devlin, FAusIMM, in accordance with the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F. Mr. Devlin is Group Geologist at Karora and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code, 2012 Edition and fulfils the requirements to be a "Qualified Person" for the purposes of NI 43-101.

There are no material differences between the definitions of Mineral Resources according to the CIM Definition Standards (CIM, 2014) and the corresponding equivalent definitions in the JORC Code, 2012 Edition.

In the opinion of Mr Devlin, the Mineral Resource estimation reported herein is a reasonable representation of the nickel Mineral Resources found at the Beta Hunt Mine at the current level of sampling.

Datamine and Micromine software was used to construct the geological and mineralization solids, prepare assay data for geostatistical analysis, construct the block model, estimate metal grades and tabulate mineral resources. Datamine RM, Isatis and Datamine Supervisor software were used for geostatistical analysis and variography.

### 14.2 Resource Estimation Procedures

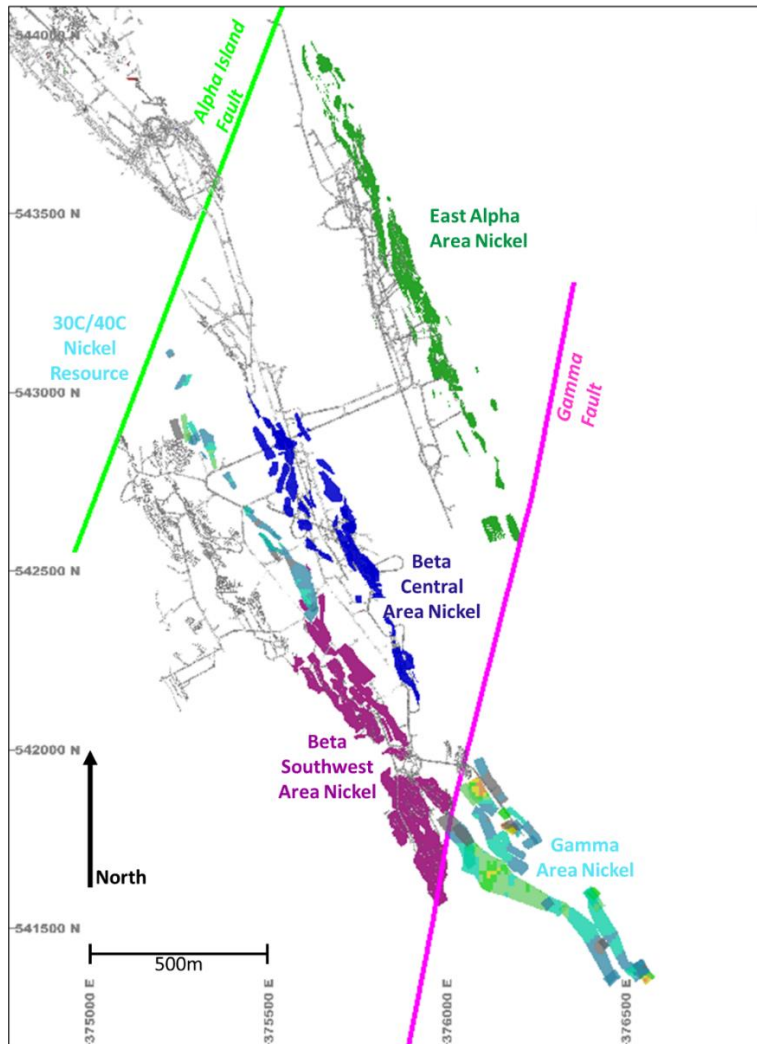
The resource estimation methodology involved the following procedures:

- Database compilation and verification
- Construction of solid wireframe models for the mineralization envelopes
- Definition of estimation domains
- Calculation of variables (other than nickel) from unsampled intervals using linear regression formulas
- Data conditioning (compositing drill data to full length intervals and calculation of both true thickness and accumulation variables) for geostatistical analysis and variography
- Block modelling, estimation of true thickness or vertical thickness and thickness-based accumulation variables
- Back calculation of variables by dividing estimated accumulation variables with true thickness

- Resource classification and validation
- Assessment of “reasonable prospects for eventual economic extraction” and selection of appropriate cut-off grade
- Preparation of the Mineral Resource Statement.

There are five estimation areas that make up the total Beta Hunt nickel Mineral Resource which are illustrated in Figure 14.1.

**Figure 14.1: Plan of Beta Hunt nickel Mineral Resource areas**



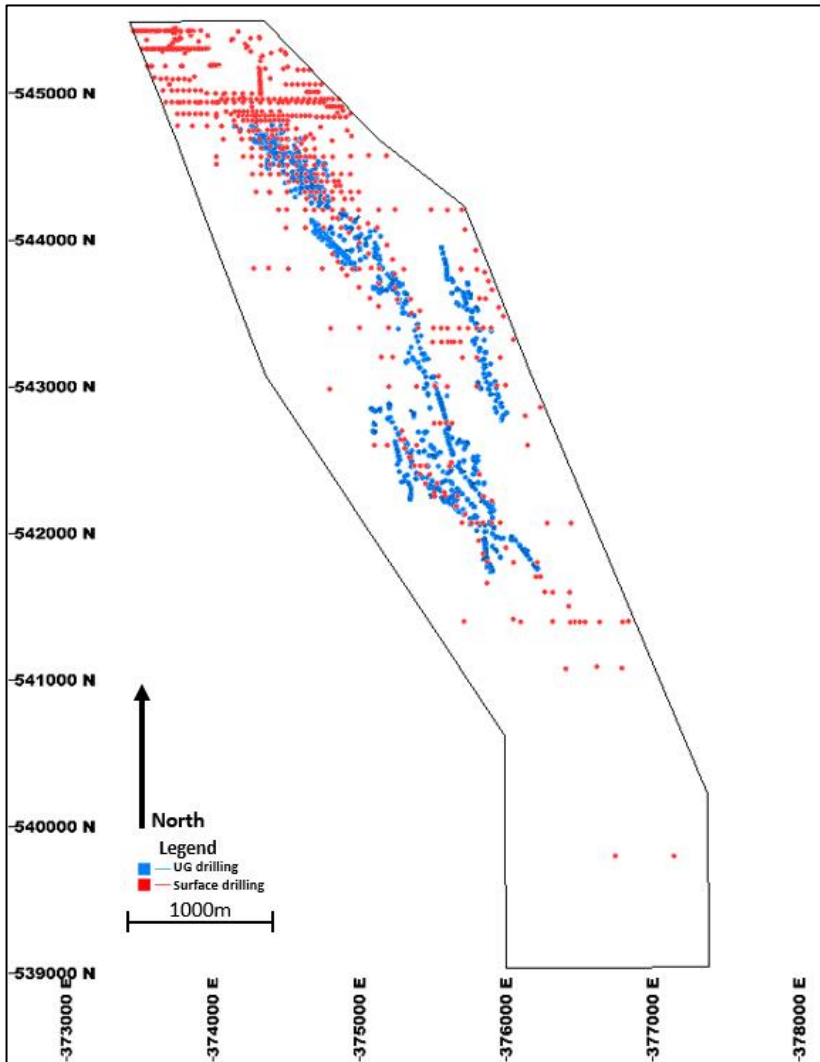
### 14.3 Resource Database

At the time of reporting, the Beta Hunt data was contained in a Fusion database and contains over 15,000 drill holes for approximately 738,000 m within the sub-lease boundary as presented in Table 14.1 and illustrated in Figure 14.2. The data used for each estimate is discussed for each Mineral Resource area in the following sections.

**Table 14.1: Beta Hunt database**

Hole Type	Code	Number	Metres
Air Core	AC	1,072	37,662
Diamond	D	13,361	630,927
Percussion	P	155	13,315
Rotary Air Blast	R	6	289
Reverse Circulation	RC	571	56,151
<b>Total</b>		<b>15,165</b>	<b>738,344</b>

**Figure 14.2: Beta Hunt drill holes collars within the Beta Hunt sub-lease boundary**



### 14.3.1 Nickel Purpose Drilling

Nickel purpose drilling was conducted by WMC from 1970 to 2003, RML from 2003 to 2005, CNKO from 2005 to 2008 and SLM from 2014 to 2015. Karora re-commenced dedicated nickel drilling in 2020.

A summary of the drill data used for estimation of each nickel area is shown in Table 14.2. Note that these drill holes are only those used for estimation. Rock chip data from face samples was used with diamond drilling data for interpretation.

**Table 14.2: Details for drill data used by nickel resource area**

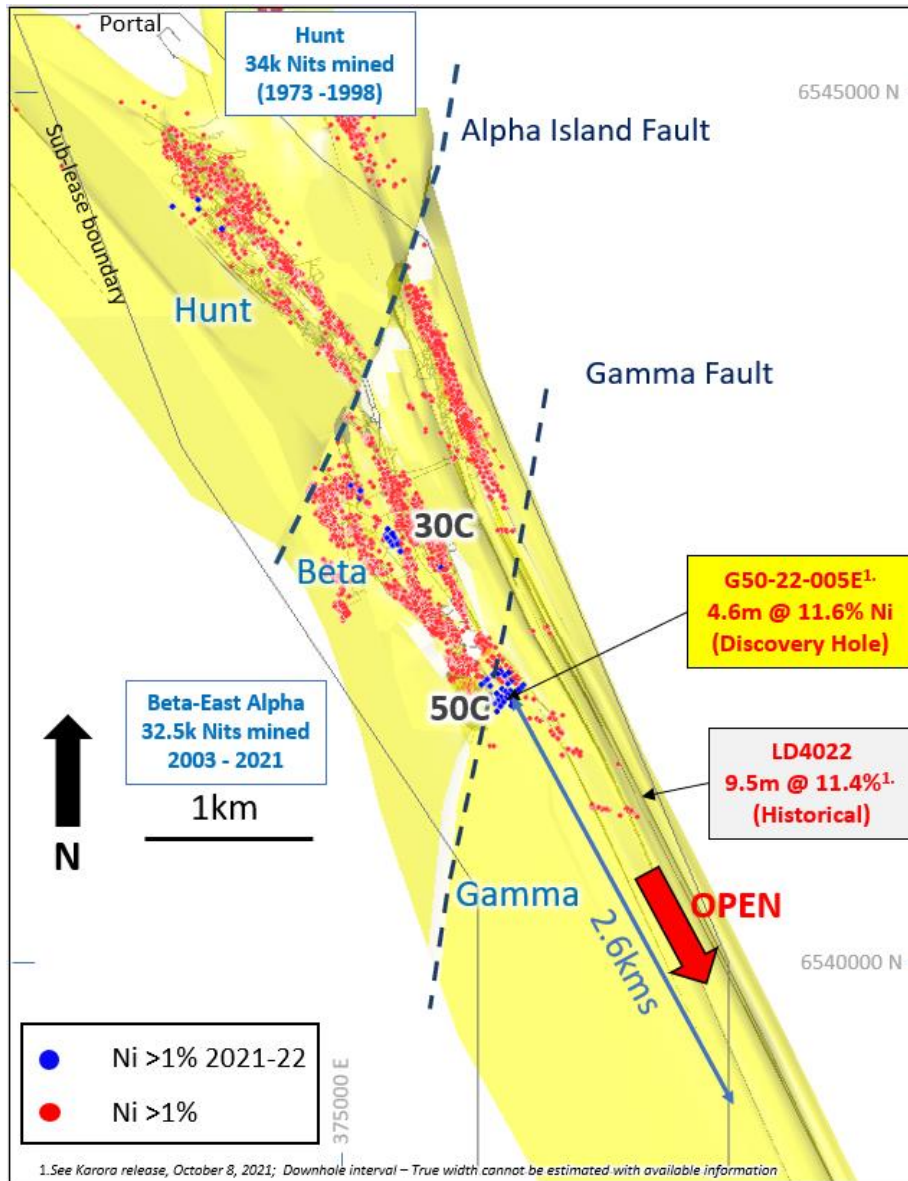
Area	Type	Number of holes	Proportion	Metres	Proportion
East Alpha	Diamond	674	31%	108,186	35%
30C and 40C	Diamond	220	10%	30,390	10%
Beta Central	Diamond	484	23%	55,921	18%
Gamma Area	Diamond	174	8%	49,150	16%
Beta Southwest	Diamond	588	27%	63,341	21%
<b>Total</b>		<b>2,140</b>		<b>306,988</b>	

## 14.4 Solid Body Modelling

Beta Hunt nickel is hosted by massive sulphide mineralisation that sits at the base of the Kambalda Komatiite. The sulphides display lenticular geometries and are concentrated along linear channels that overlie gold-bearing shears in the Lunnon Basalt. The process of modelling the mineralised lenses involved review of the ultramafic contact while stepping through the drill data and digitising polygons to suit the geometry of the nickel sulphides on each section. Sections were orientated perpendicular to the strike of the mineralisation and separated by distances to suit the spacing of fans of drill holes and locations of structurally related disruptions in the continuity of the geology. Numerous porphyry dykes of varying composition from granite through to diorite and granodiorite break up the nickel mineralisation and effectively stope out the nickel-bearing sulphides. The interpreted lenses are modelled to account for the porphyry intrusions so that mineralisation does not extend into areas of waste.

The geology of Beta Hunt includes two northeast striking subparallel fault zones that transect the mine stratigraphy. The Alpha Island Fault and the Gamma Fault disrupt the geology both laterally and vertically by distances of between 80 m and 200 m and effectively act as “book ends” for the mine geology. The Hunt Block is located north of the Alpha Island Fault, the Beta Block is located between the Alpha Island Fault and the Gamma Fault, and the Gamma Block is located south of the Gamma Fault. A plan view of the basalt/ultramafic contact and Alpha Island Fault and Gamma Fault is shown in Figure 14.3.

Figure 14.3: Plan view of the basalt/ultramafic contact with Alpha Island Fault and Gamma Fault



### 14.4.1 Mineralised Zones

Zones of nickel mineralisation are shown in Figure 14.1 and are summarised as follows:

**30C and 40C** – mineralisation is shallow to moderately southwest dipping and plunging gently to 145°. The area consists of 17 discontinuous lenses that sit within a corridor that is 890 m in length.

**Gamma Block** – the area includes the 50C, 55C, 10C and 95F groups of mineralised nickel lenses and has an overall strike length of 1250 m and maximum width of 180 m. The width of the mineralised horizon is due, in part, to the convergence of nickel troughs towards the centre of the Kambalda Dome in the Gamma Block. Mineralisation is represented by 33 separate interpreted lenses that plunge gently to 145°. Gamma area nickel mineralisation is located on the south side of the Gamma Fault that has the mine geology sitting 80 m higher than that on the north side of the Alpha Island Fault. The group of lenses comprising the 50C, 55C and 95F deposits represent new discoveries from the 2021 drilling program and are part of the 50C nickel trend which makes up a

zone of northwest trending nickel mineralization located on the western margin of the 10C nickel resource.

**Beta Central** – mineralisation sits above the Beta Decline and includes the 20C and 25C groups of nickel lenses that have an overall orientation that strikes 335° and plunges gently to 155°.

**East Alpha** – nickel mineralisation sits on the eastern limb of the Kambalda Dome and dips steeply to the east. There are 33 identified discontinuous lenses of nickel mineralisation that have an overall length of approximately 1.5 km.

**Beta Southwest** – this resource area captures the southern end of the 40C and 30C group of nickel lenses and consists of 27 interpreted discontinuous nickel lenses. Lenses dip gently to moderately to the southwest and plunge gently to 145° and have a combined strike length and width of 950 m and 180 m, respectively.

## 14.5 Statistical Analysis of Assay Data

Statistics for nickel assays within zones of mineralisation from each nickel resource area are listed in Table 14.3. Other than nickel, some analytes have been analysed selectively by previous owners. This is evident when comparing the 30C and 40C population (majority of the dataset is Karora/SLM assay data) with the Beta Southwest population (data from WMC and Consolidated Minerals tenure).

**Table 14.3: Assay statistics by nickel area**

Area	Variable	Minimum	Maximum	No of points	Mean	Variance	Std Dev	Coeff. of Variation	Median
30C and 40C	Ni_pct	0.01	19.59	608	1.68	4.03	2.01	1.18	1.31
	Au_ppm	0.01	123.39	504	1.23	76.04	8.72	5.93	0.12
	As_ppm	2.5	1,300	557	107.25	21,531	147	1.43	50
	Co_ppm	5	3,610	295	401	221,180	470	1.13	315
	Cr_ppm	410	1,380	14	943	62,992	251	0.33	940
	Cu_ppm	5	50,000	557	1,307	4,930,204	2,220	1.83	930
	Fe_pct	1.42	51.28	543	11.48	61.33	7.83	0.69	10.29
	MgO_pct	0.34	35.6	543	19.74	70.93	8.42	0.48	19.9
	S_pct	0.06	41	293	6.26	60.24	7.76	1.15	4.82
Gamma	Ni_pct	0.02	20	560	2.24	10.36	3.22	1.32	1.17
	Au_ppm	0.01	21.75	162	0.6	3.95	1.99	3.11	0.16
	As_ppm	2.5	1,070	236	121.34	26,735	164	1.34	55
	Co_ppm	20	3,670	372	452	257,429	507	1.15	272.5
	Cr_ppm	100	38,500	262	1148	4,823,730	2196	2.28	730
	Cu_ppm	12.5	34,500	425	1,742	6,783,115	2,604	1.61	880
	Fe_pct	4.07	51.31	162	15.52	120.55	10.98	0.71	10.4
	MgO_pct	0.34	35.7	162	17.82	98.93	9.95	0.61	16.68
	S_pct	0.08	40.8	109	8.41	101.33	10.07	1.27	3.08



Area	Variable	Minimum	Maximum	No of points	Mean	Variance	Std Dev	Coeff. of Variation	Median
East Alpha	Ni_pct	0.008	23.77	1755	4.03	17.2	4.15	1.03	2.4
	Au_ppm	0.001	25.48	1536	0.22	1.11	1.06	4.76	0.07
	As_ppm	0.25	1,978	1727	23.35	7,757	88	3.77	5
	Co_ppm	5	3,900	92	636	606,377	779	1.22	310
	Cr_ppm	30	4,060	94	1055	570,133	755	0.72	900
	Cu_ppm	5	57,050	1750	3,343	23,885,404	4,887	1.46	1690
	Fe_pct	1.66	59.5	1661	20.5	154	12.42	0.61	16.46
	MgO_pct	0.11	40.23	1661	15.78	76.9	8.77	0.56	16.01
	S_pct	no data							
Beta Southwest	Ni_pct	0.01	13.9	444	2.66	5.61	2.37	0.89	1.99
	Au_ppm	0	466	339	2.03	651	25.5	12.6	0.11
	As_ppm	2.5	1,717	425	54	11,612	108	2	24.7
	Co_ppm	0	1,355	38	269	91,260	302	1.12	180.7
	Cr_ppm	0	2,074	38	637	381,478	618	0.97	532
	Cu_ppm	17	32,619	444	1,846	5,176,401	2,275	1.23	1229
	Fe_pct	2.47	45.6	420	13.35	47.27	6.88	0.52	11.5
	MgO_pct	1.06	36	420	16.7	56.7	7.53	0.45	18.1
	S_pct	0	38	38	5.64	53.9	7.34	1.3	4.47
Beta Central	Ni_pct	0.015	16.68	1061	3.68	9.22	3.04	0.83	2.82
	Au_ppm	0.001	2584	897	3.3	7441	86.26	26.14	0.11
	As_ppm	1	16,400	1054	237	697,819	835	3.52	53
	Co_ppm	60	1,710	22	695	279,227	528	0.76	435
	Cr_ppm	190	2,080	14	846	235,482	485	0.57	720
	Cu_ppm	0.031	108,000	1061	3,497	42,818,860	6,544	1.87	1814
	Fe_pct	0.01	55.6	1044	22.6	144	12	0.53	20.69
	MgO_pct	0.19	40.24	1047	13.58	70.5	8.4	0.62	13.59
	S_pct	0.01	46.2	42	13.28	150	12.25	0.92	6.46

## 14.6 Application of Linear Regressions

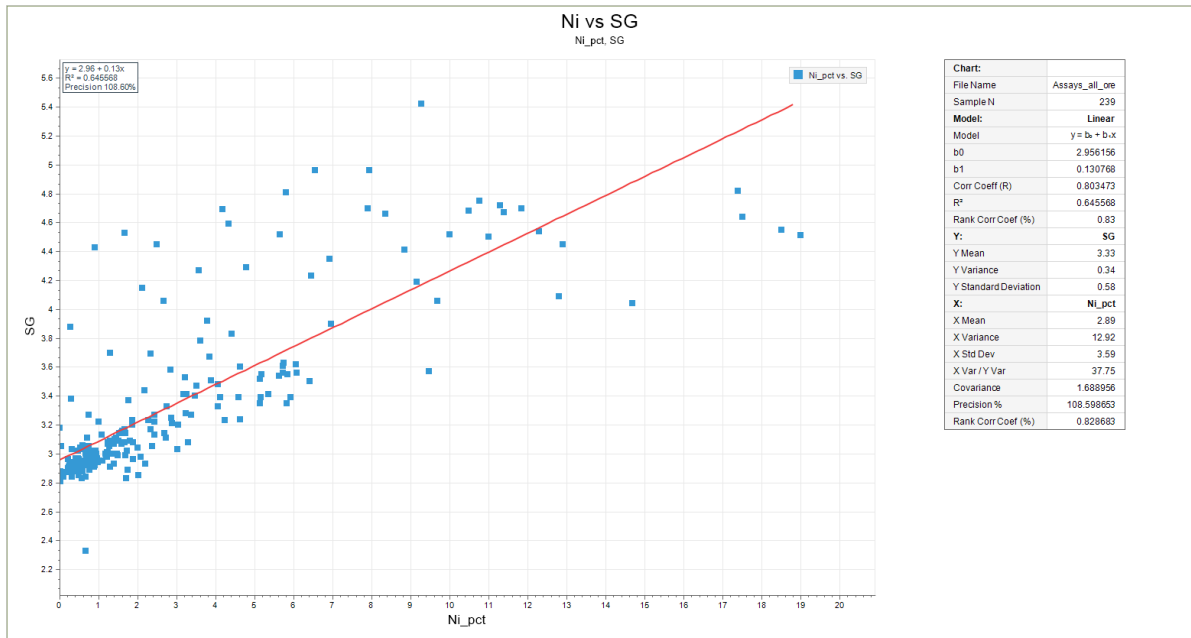
Beta Hunt nickel resource updates include evaluation of Co, Cu, Fe, MgO, As and S. These variables are not included in the reporting of resources and are considered service variables; however, Co and Cu occur in sub-economic concentrations and occasionally generate small revenue. The Beta Hunt drill database consists of historic drill data that often does not include assay values for these variables and subsequently “synthetic” values were generated with regression equations based on real assay data (Table 14.4). Density is evaluated as part of the estimation process and intervals that do not have measured density values are coded with synthetic values that are also based on regressions equations. Scatter plots of assay and density data were used to calculate the regression equations (Figure 14.4).

**Table 14.4: Regression formulae applied to Co, S and density for 30C, Beta Central and East Alpha**

Deposit	Variable	Linear Regression Formula Applied to Absent Values	Comment
BC	Density (t/m <sup>3</sup> )	DENSITY=NI*0.1610+2.9073	capped at 5 t/m <sup>3</sup>
	Co (ppm)	CO=NI*156.0719+137.9936	
	S (%)	STOT=NI*2.9220+3.4231	
EA	Density (t/m <sup>3</sup> )	DENSITY=NI*0.1351+2.9499	capped at 5 t/m <sup>3</sup>
	Co (ppm)	CO=NI*125.0039+174.5915	
	S (%)	STOT=NI*2.9220+3.4231	

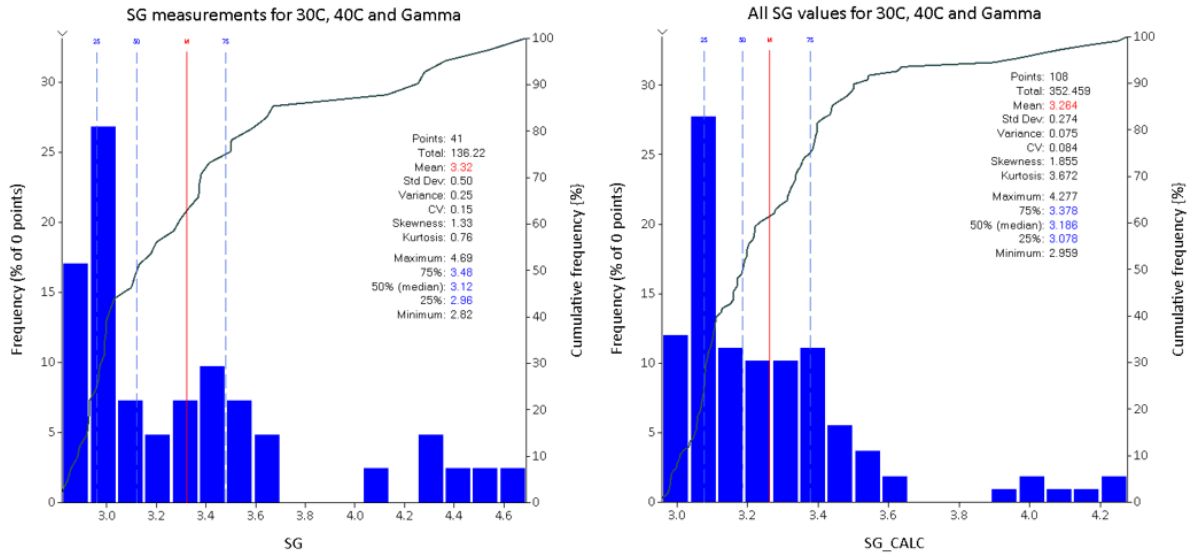
Source: Karora (2021a)

**Figure 14.4: Linear regression formula applied to Gamma and 30C and 40C drill data to calculate density: Density = 2.956 + Ni (%) \* 0.1308**



Source: Karora (2021a)

**Figure 14.5: Density measurements (left) and all density values (right) for the Gamma, 30C and 40C sample data**



## 14.7 Compositing of Drill Data

Drill assay data was subject to the following assay conditioning process:

- Selection of drill hole intervals within envelopes of mineralisation.
- Grouping of mineralisation domain coded drill data into estimation domain coded drill data. This step is required because there are many occurrences of small volume mineralisation domain areas that are tested by a handful of holes. In situations where mineralisation domains share similar geometries and stratigraphic settings, an estimation domain that consists of numerous mineralisation domains is acceptable and the grouping of data enables more statistical support for the estimate.
- Calculation of variables (other than nickel) using linear regression equations to fill in gaps in sampling. These variables include density, Co, S, Cu, Fe and MgO.
- Calculation of either true thickness or vertical thickness. Note: density values for B30 and Gamma data set were not subject to a thickness-based accumulation calculation.
- Calculation of length weighted accumulation variables.

The estimation methodology applied to Beta Hunt nickel is termed two-dimensional linear accumulation kriging and is a technique suited to narrow vein style mineralisation. The process of converting drill hole intersections to full length intervals and calculating accumulation variables minimises the adverse effects of acute drill hole intersection angles and irregularities in the geometry of mineralisation. The main detractor of this technique is that the estimate is very sensitive to the calculated thickness and the magnitude of estimation is proportionate to the error of estimated thickness.

Example of nickel accumulation variable (Karora, 2021a):

$MET\_NI = NI * VERT\_THICK$ , where  $VERT\_THICK$  is the thickness expressed in metres.

For the 50C and 30C areas, AMC estimated accumulation variables using vertical thickness. Vertical thickness was scaled to be order of magnitude similar to estimated grade variables as follows:

- 100 for vertical thickness used in the accumulation variable
- 1000 for vertical thickness used in the Co, Cr and Cu accumulation variables
- 10 for vertical thickness used in the Fe and MgO accumulation variables.

## 14.8 Statistical Summary – Full Length Composites

Summary statistics for the nickel accumulation variable and thickness by estimation domains from each of the five separate resource areas are summarised in Table 14.5 and Table 14.6.

**Table 14.5: Summary statistics for accumulated nickel by estimation domain**

Deposit	NIACC_M statistics	EDOM_N												
		1	2	3	4	5	6	7	8	9	10	11	12	13
30C and 40C	Number	81	11	4	5									
	Minimum	0.01	0.21	0.24	2.19									
	Maximum	19.31	3.57	6.35	10.13									
	Mean	5.47	1.43	3.04	6.15									
	Median	3.82	1.2	2.34	4.93									
	CV	0.93	0.67	0.72	0.46									
Gamma	Number	23	12	15	3	11	5	14	3	14	2	1		
	Minimum	0.13	0.56	0.21	2.84	0.04	0.59	1.37	2.2	0.15	0.53	2.25		
	Maximum	30.33	6.82	11.76	15.64	15.06	7.92	22	22.59	12.6	4.48	2.25		
	Mean	6.96	3.7	4.72	8.18	5.8	3.83	8.15	9.31	2.67	2.51	2.25		
	Median	3.33	2.84	2.88	4.44	4.32	2.92	5.28	2.68	1.61	0.53	2.25		
	CV	1.12	0.54	0.88	0.67	0.85	0.67	0.79	1	1.13	0.79	0		
EA	Number	27	58	12	19	86	27	24	6	62	153	2	32	58
	Minimum	0	0	0.4	0	0	0.2	0.8	1.1	0	0	0.6	0.2	0
	Maximum	23.4	20.8	7.8	12.9	28.8	13.9	63.8	13.5	38	23.9	2.6	8.9	18.8
	Mean	4.1	4	2.6	3.8	3.6	2.2	10.2	4.9	7	3.6	1.6	1.9	2.8
	Median	2.8	3.1	1.9	2.5	2	1.3	5.3	2.7	4.9	2.3	0.6	0.8	1.6
	CV	1.1	1	0.9	0.9	1.2	1.3	1.4	1	1	1	0.9	1.3	1.1
Beta SW	Number	101	112	305	68	37	37	15	28	8	24			
	Minimum	0	0	0.02	0.01	0.04	0.5	0.14	0.02	0.85	0.15			
	Maximum	35.7	29.56	17.54	7.49	23.04	15.9	16.57	17.14	6.94	5.16			
	Mean	6.78	5.3	1.95	1	3.21	3.56	3.6	5.01	1.98	1.19			
	Median	4.71	3.6	1.08	0.59	2.41	2.78	1.41	4.79	1.2	0.52			
	CV	1.04	1.05	1.24	1.28	1.25	0.95	1.41	0.92	1.03	1.25			

Deposit	NIACC_M statistics	EDOM_N												
		1	2	3	4	5	6	7	8	9	10	11	12	13
BC	Number	51	28	18	7	39	3	48	31	4	14			
	Minimum	0	0.5	0	0	0	2.9	0	0	0.2	0			
	Maximum	26.5	14.5	8.3	20.6	21.9	4.6	22.2	30.4	13.7	34.9			
	Mean	5.3	3.6	2.3	8.7	5.7	4	4.4	7.9	4.2	11.2			
	Median	2.6	2.4	1.5	5.8	3.1	3.7	2.5	7.1	1.1	6.3			
	CV	1.1	0.9	1	0.9	1	0.2	1.1	0.9	1.5	1			

Values for B30, B40 and Gamma supplied by AMC January 2022.

**Table 14.6: Summary statistics for thickness variable by estimation domain**

Deposit	Thickness_ statistics	True/ Vertical	EDOM_N												
			1	2	3	4	5	6	7	8	9	10	11	12	13
30C and 40C	Number	Vert	91	11	4	8									
	Minimum	Vert	0.08	0.17	0.62	0.07									
	Maximum	Vert	10.5	1.58	2.05	4.72									
	Mean	Vert	2.95	0.82	1.19	2.8									
	Median	Vert	2.28	0.78	0.63	2.79									
	CV	Vert	0.81	0.5	0.51	0.49									
Gamma	Number	Vert	25	13	15	3	12	6	15	3	15	2	1		
	Minimum	Vert	0.16	0.35	0.37	5.3	0.66	0.21	1	0.73	0.09	0.14	2.4		
	Maximum	Vert	8.23	7.81	12.2	8.65	5.82	4.31	7.3	6.16	3.81	1.83	2.4		
	Mean	Vert	2.58	2.77	3.54	7.09	2.96	2.04	2.55	2.61	1.71	0.99	2.4		
	Median	Vert	2.27	1.62	2.33	6.3	2.39	1.99	1.59	0.84	1.58	0.14	2.4		
	CV	Vert	0.74	0.86	0.87	0.19	0.55	0.65	0.7	0.96	0.63	0.86	0		
EA	Number	True	27	58	12	19	86	27	24	6	62	153	2	32	58
	Minimum	True	0.2	0.1	0.2	0.1	0.1	0.1	0.3	0.4	0.1	0.1	0.1	0.1	0
	Maximum	True	4.7	4.2	2.5	4.3	4.8	2.4	6	1.3	4.6	8.2	1.6	2.3	3.4
	Mean	True	1.4	1	0.7	1.4	1.4	0.6	1.7	0.9	1.7	1.2	0.9	0.7	0.9
	Median	True	1.2	0.8	0.4	0.8	1.2	0.4	1.1	0.7	1.4	0.9	0.1	0.6	0.8
	CV	True	0.7	0.7	0.9	0.9	0.7	1	0.8	0.4	0.7	0.9	1.2	0.8	0.7
Beta SW	Number	True	101	112	32	68	37	37	15	28	8	24			
	Minimum	True	0.02	0.06	0.04	0.05	0.09	0.09	0.2	0.04	0.83	0.07			
	Maximum	True	5.75	12.3	11.3	8.21	6.14	5.3	6.26	1.24	2.21	2.51			
	Mean	True	1.61	2.27	2.52	1.17	1.73	1.53	1.54	2.88	1.43	0.53			
	Median	True	1.48	1.47	1.76	0.78	1.35	1.21	0.95	1.04	1.04	0.37			
	CV	True	0.7	0.95	0.91	1.05	0.78	0.9	1	0.66	0.39	1.04			

Deposit	Thickness_ statistics	True/ Vertical	EDOM_N												
			1	2	3	4	5	6	7	8	9	10	11	12	13
BC	Number	True	51	28	18	7	39	3	48	31	4	14			
	Minimum	True	0	0.2	0.2	0	0.1	1.1	0.1	0.1	0.2	0			
	Maximum	True	5.8	4.1	2.8	4.4	5.8	1.6	5.8	4.8	1	5.1			
	Mean	True	1.6	1.2	1	2.3	1.9	1.4	1.4	2.2	0.5	1.9			
	Median	True	1.3	1.1	0.7	1.9	1.5	1.3	1	2	0.4	1.2			
	CV	True	0.8	0.7	0.7	0.7	0.8	0.2	1	0.6	0.7	0.9			

Values for 30C, 40C and Gamma supplied by AMC February 2022.

## 14.9 Bulk Density

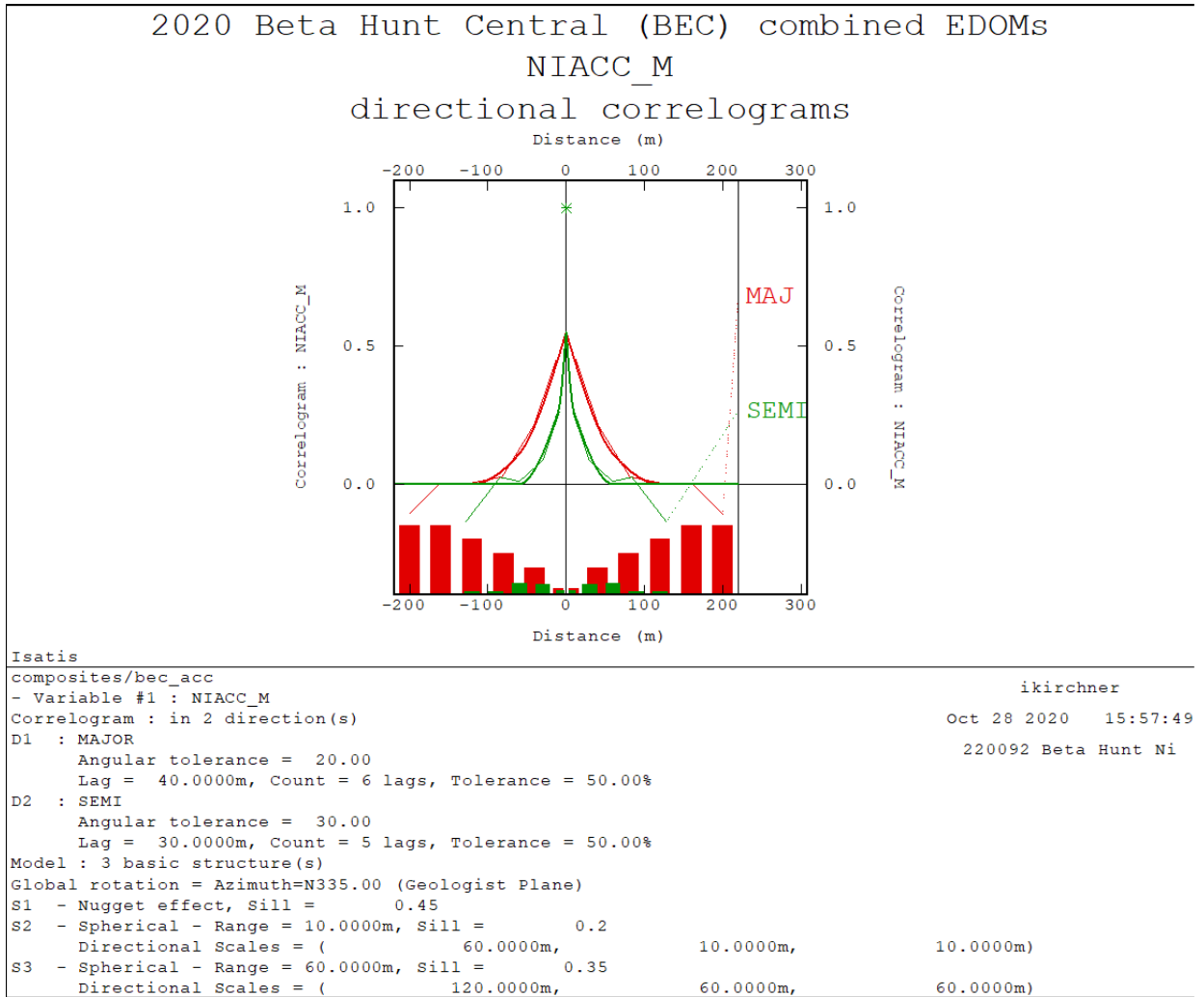
Collection of bulk density values has changed during the various periods of Beta Hunt ownership. Prior to SLM ownership, density measurements were collected in a selective and sporadic fashion; during SLM/Karora ownership, density measurements have been taken routinely wherever intervals of nickel mineralisation are intersected. All mineralised intervals that are not accompanied by a density measurement have been coded with “synthetic” density values that are based on regression equations for % Ni vs specific gravity (see Figure 14.5 for the comparison of measured density values and % Ni for samples from the B30C, B40C and Gamma nickel resource drill data).

## 14.10 Variography

Variogram models for accumulated nickel variables from each of the nickel resource areas were used to estimate thickness plus variables that are not reported (As, Co, Cu, Fe, MgO, S). The following description is taken from AMC (2021):

*“Variography was completed on the accumulation variable (named NIACC\_M in the estimation data set) in the EDOM\_N lode domains (EDOM\_N was the variable for estimation domain). As is required for the accumulation process, only the NIACC\_M variogram model parameters are utilized for estimation of the lode variables including the associated TRUETHK variables for the corresponding to the Ni accumulations. Similar variography was generated for other elements that are not being reported (As, Co, Cu, Fe, MgO, S). Variography was also generated for density data.”*

Figure 14.6: Beta Central directional correlogram for nickel accumulation variable NiACC\_M



Source: AMC, 2021

**Table 14.7: Variography used for estimating Beta Central, East Alpha and B30, B40 and Gamma**

Resource Area	EDOM_N	Variable	Major Axis		Semi Major Axis		Minor Axis		Relative Nugget	Sill 1	Range Structure 1 (m)			Sill 2	Range Structure 2 (m)		
	(Estimation Domains)		Dip	Azimuth	Dip	Azimuth	Dip	Azimuth			Major Axis	Semi Major Axis	Minor Axis		Major Axis	Semi Major Axis	Minor Axis
			(°e)	(°)	(°)	(°)	(°)	(°)			(m)	(m)	(m)		(m)	(m)	(m)
Beta Central	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	NIACC_M/TRUETHK	0	335	0	65	-90	335	45	20	60	10	10	35	120	60	60
		DENSITY	0	335	0	65	-90	335	70	10	100	10	10	20	190	60	60
East Alpha	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	NIACC_M/TRUETHK	0	337	0	67	-90	67	45	20	60	15	15	35	75	55	55
		DENSITY	0	337	0	67	-90	67	45	45	15	35	35	10	140	40	40
B30, B40 and Gamma	all	Ni_Met/TRUETHK	0	145	0	235	0	235	109	56.4	7.9	43	19	32.8	80.6	100	1000

Source: AMC ,2021

**Table 14.8: Variograms used for estimating Beta Southwest**

Resource Area	Estimation Domain	Variable	Vario Rotation Angle 1	Vario Rotation Angle 2	Vario Rotation Angle 3	Rotation Axis 1	Rotation Axis 2	Rotation Axis 3	Relative Nugget	Sill 1	ST1 Range 1	ST1 Range 2	ST1 Range 3	Sill 2	ST2 Range 1	ST2 Range 2	ST2 Range 3
Beta Southwest	1	NIACC_M	150	-25	125	3	2	3	0.11	0.1	58	22	3	0.79	88	34	8
		TRUETHK	150	-25	125	3	2	3	0.11	0.1	58	22	3	0.79	88	34	8
		DENSITY	150	-25	125	3	2	3	0.11	0.1	58	22	3	0.79	88	34	8
	2	NIACC_M	155	-15	-95	3	2	3	0.35	0.17	11	8	2	0.48	32	16	9
		TRUETHK	155	-15	-95	3	2	3	0.35	0.17	11	8	2	0.48	32	16	9
		DENSITY	155	-15	-95	3	2	3	0.35	0.17	11	8	2	0.48	32	16	9
	3	NIACC_M	155	-15	90	3	2	3	0.08	0.04	20	5	2	0.88	57	23	6
		TRUETHK	155	-15	90	3	2	3	0.08	0.04	20	5	2	0.88	57	23	6
		DENSITY	155	-15	90	3	2	3	0.08	0.04	20	5	2	0.88	57	23	6
4	NIACC_M	0	0	50	3	2	3	0.25	0.1	63	20	3	0.65	106	43	5	
	TRUETHK	0	0	50	3	2	3	0.25	0.1	63	20	3	0.65	106	43	5	
	DENSITY	0	0	50	3	2	3	0.25	0.1	63	20	3	0.65	106	43	5	



Resource Area	Estimation Domain	Variable	Vario Rotation Angle 1	Vario Rotation Angle 2	Vario Rotation Angle 3	Rotation Axis 1	Rotation Axis 2	Rotation Axis 3	Relative Nugget	Sill 1	ST1 Range 1	ST1 Range 2	ST1 Range 3	Sill 2	ST2 Range 1	ST2 Range 2	ST2 Range 3
	5	NIACC_M	135	-35	175	3	2	3	0.19	0.22	40	16	1	0.59	49	21	6
		TRUETHK	135	-35	175	3	2	3	0.19	0.22	40	16	1	0.59	49	21	6
		DENSITY	135	-35	175	3	2	3	0.19	0.22	40	16	1	0.59	49	21	6
	6	NIACC_M	145	-25	-100	3	2	3	0.17	0.18	119	20	3	0.65	153	28	8
		TRUETHK	145	-25	-100	3	2	3	0.17	0.18	119	20	3	0.65	153	28	8
		DENSITY	145	-25	-100	3	2	3	0.17	0.18	119	20	3	0.65	153	28	8
	7	NIACC_M	135	-40	100	3	2	3	0.32	0.18	19	20	3	0.5	40	22	4
		TRUETHK	135	-40	100	3	2	3	0.32	0.18	19	20	3	0.5	40	22	4
		DENSITY	135	-40	100	3	2	3	0.32	0.18	19	20	3	0.5	40	22	4
	8	NIACC_M	135	-20	-100	3	2	3	0.14	0.25	22	20	1	0.61	42	22	5
		TRUETHK	135	-20	-100	3	2	3	0.14	0.25	22	20	1	0.61	42	22	5
		DENSITY	135	-20	-100	3	2	3	0.14	0.25	22	20	1	0.61	42	22	5
	9	NIACC_M	-35	-130	65	3	2	3	0.28	0.24	22	20	4	0.48	53	40	7
		TRUETHK	-35	-130	65	3	2	3	0.28	0.24	22	20	4	0.48	53	40	7
		DENSITY	-35	-130	65	3	2	3	0.28	0.24	22	20	4	0.48	53	40	7
	10	NIACC_M	140	-20	-100	3	2	3	0.14	0.4	10	20	1	0.46	29	22	5
		TRUETHK	140	-20	-100	3	2	3	0.14	0.4	10	20	1	0.46	29	22	5
		DENSITY	140	-20	-100	3	2	3	0.14	0.4	10	20	1	0.46	29	22	5

Source: Karora

## 14.11 Estimation Search Neighbourhoods

Search neighbourhoods were orientated parallel with variogram models for each estimation domain for the 30C, 40C, Gamma resource estimate and the Beta Southwest estimate. The search neighbourhood arrangement for Beta Central and East Alpha estimates was isotropic, search distance details are listed in Table 14.9.

**Table 14.9: Search neighbourhood parameters**

Orebody	EDOM_N	Variable	Search Ellipse Ranges			First Pass		Second Pass			Max. No. of Comps From Any Drillhole
			Major Axis (m)	Semi-Major Axis (m)	Minor Axis (m)	Min. No. of Comps	Max. No. of Comps	Search Volume Factor	Min. No. of Comps Used	Max. No. of Comps Used	
Beta Central	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	NIACC_M	50	50	50	4	6	2	1	6	999
		TRUETHK	50	50	50	4	6	2	1	6	999
		DENSITY	50	50	50	4	6	2	1	6	999
East Alpha	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	NIACC_M	50	50	50	4	6	2	1	6	999
		TRUETHK	50	50	50	4	6	2	1	6	999
		DENSITY	50	50	50	4	6	2	1	6	999
30C, 40C and Gamma	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	NI_MET	59	42	16	4	6	2	4	6	6
		VER_THK	59	42	16	4	6	2	4	6	6
BSW	1	NIACC_M	60	40	15	2	10	1.25	1	10	999
		TRUETHK	60	40	15	2	10	1.25	1	10	999
		DENSITY	60	40	15	2	10	1.25	1	10	999
	2	NIACC_M	60	40	15	2	12	1.25	1	12	999
		TRUETHK	60	40	15	2	12	1.25	1	12	999
		DENSITY	60	40	15	2	12	1.25	1	12	999
	3	NIACC_M	60	40	15	2	7	1.25	1	7	999
		TRUETHK	60	40	15	2	7	1.25	1	7	999
		DENSITY	60	40	15	2	7	1.25	1	7	999
	4	NIACC_M	60	40	15	2	14	1.25	2	14	999
		TRUETHK	60	40	15	2	14	1.25	2	14	999
		DENSITY	60	40	15	2	14	1.25	2	14	999
	5	NIACC_M	60	40	10	2	8	1.25	1	8	999
		TRUETHK	60	40	10	2	8	1.25	1	8	999
		DENSITY	60	40	10	2	8	1.25	1	8	999
	6	NIACC_M	60	40	30	2	10	1.25	1	10	999
		TRUETHK	60	40	30	2	10	1.25	1	10	999
		DENSITY	60	40	30	2	10	1.25	1	10	999
	7	NIACC_M	60	40	15	2	4	1.25	1	3	999
		TRUETHK	60	40	15	2	4	1.25	1	3	999
		DENSITY	60	40	15	2	4	1.25	1	3	999
	8	NIACC_M	60	40	15	2	4	1.25	1	4	999

Orebody	EDOM_N	Variable	Search Ellipse Ranges			First Pass		Second Pass			Max. No. of Comps From Any Drillhole
			Major Axis (m)	Semi-Major Axis (m)	Minor Axis (m)	Min. No. of Comps	Max. No. of Comps	Search Volume Factor	Min. No. of Comps Used	Max. No. of Comps Used	
		TRUETHK	60	40	15	2	4	1.25	1	4	999
		DENSITY	60	40	15	2	4	1.25	1	4	999
	9	NIACC_M	60	40	15	2	6	1.25	1	6	999
		TRUETHK	60	40	15	2	6	1.25	1	6	999
		DENSITY	60	40	15	2	6	1.25	1	6	999
	10	NIACC_M	30	20	15	2	12	1.25	1	12	999
		TRUETHK	30	20	15	2	12	1.25	1	12	999
		DENSITY	30	20	15	2	12	1.25	1	12	999

## 14.12 Block Model and Grade Estimation - Ni

All nickel resource models have been built using a 10 m x 10 m parent block framework. Sub-celling along the axis of least continuity allows for sufficient definition so that correct volumes have been modelled.

In the same way as the data, the block model was coded by the mineralization and geology wireframes. The nickel block model parameters are shown in Table 14.10.

**Table 14.10: Nickel block model parameters**

Area	30C, 40C and Gamma	Beta Southwest	East Alpha	Beta Central
Model	Beta_Hunt_Model _G_B30_B40_032022	bsw_ni_20200204-m	EA_2020res-m	BeC_2020res-m
Software	Micromine	Datamine Studio RM	Datamine Studio RM	Datamine Studio RM
Rotation	No	No	No	No
X Origin	375004.5	375465	375300	375000
Y Origin	541004.5	541500	542300	542000
Z Origin mRL	-900	-630	-800	-600
X Extent	2000	720	1,200	1,100
Y Extent	3250	1,090	2,000	1,200
Z Extent	10000	370	600	600
X Block Size	10	10	1200	10
Y Block Size	10	10	10	10
Z Block Size	10000	370	10	600
X Sub-cell	1	0.5	na	0.5
Y Sub-cell	1	0.5	0.5	0.5
Z Sub-cell	na	na	0.5	na

Discretisations were set to the following:

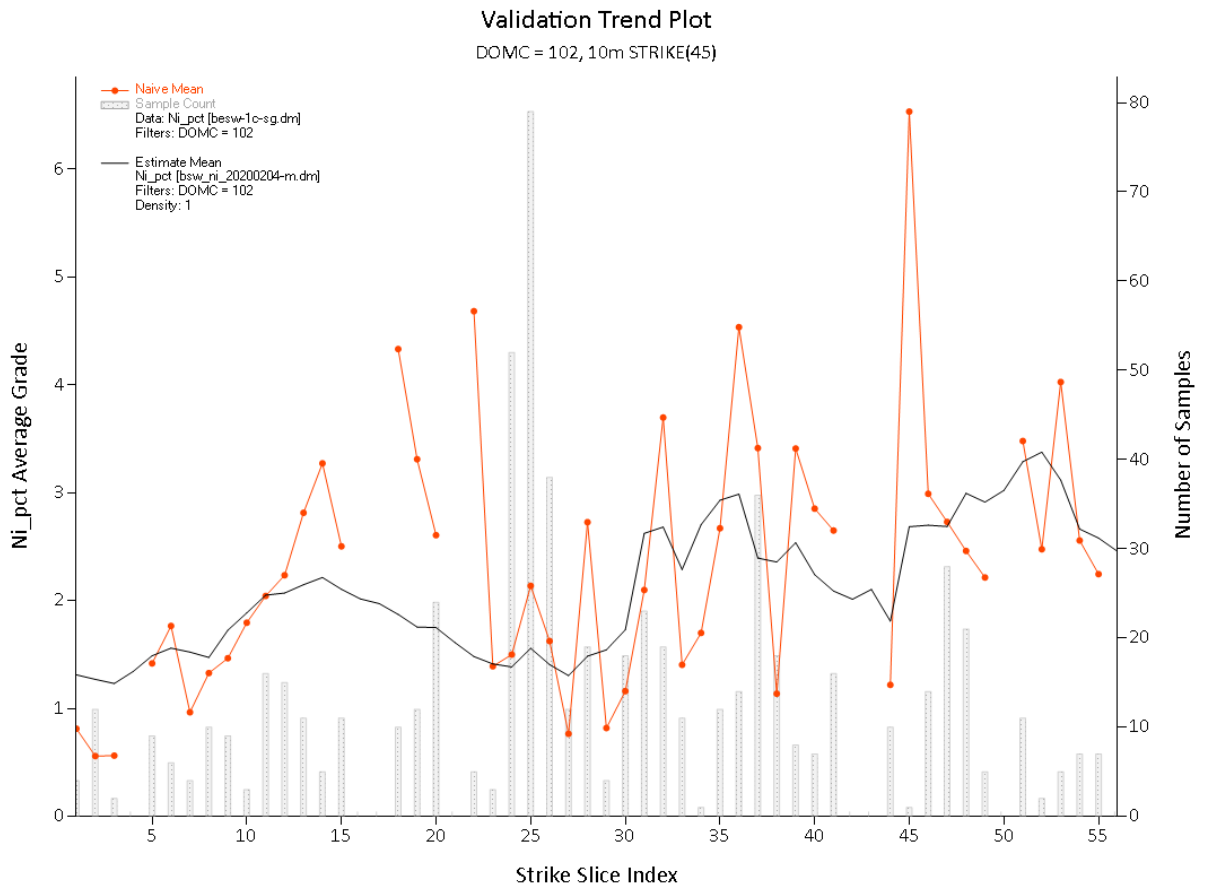
- 2 X by 2 Y by 2 Z for 30C, 40C and Gamma
- 10 X by 10 Y by 10 Z for Beta Southwest
- 10 X by 10 Y by 10 Z for East Alpha.

### 14.13 Model Validation

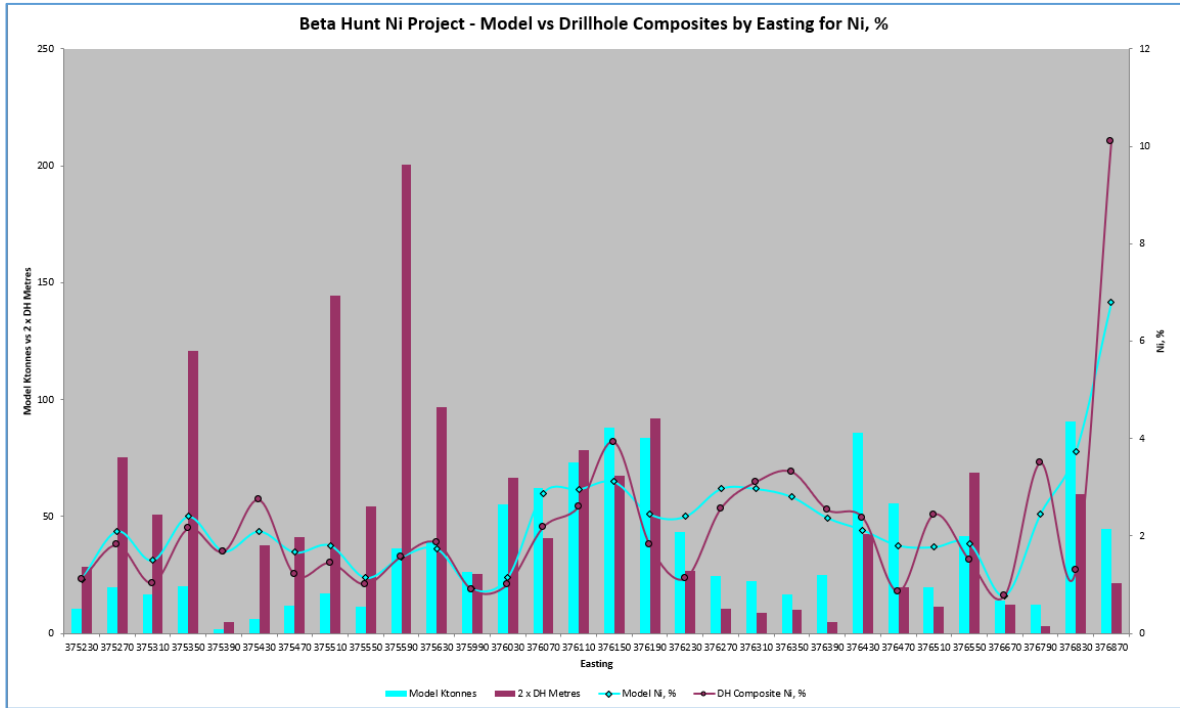
Estimated variables were validated using the following steps:

- Global statistical comparison of assay data and estimated values by estimation domain. The Beta Southwest example is shown in Figure 14.7.
- Swath plot validation in cross-strike direction, northing, easting and/or elevation slices where appropriate. 30C, 40C and Gamma example shown in Figure 14.8.
- Visual examination of both the estimated grades and Ni accumulation values with drill assay and composite data to ensure the expected grade appropriately honours assay grades from drilling. East Alpha example shown in Figure 14.10.

**Figure 14.7: Swath plot across the strike of Beta Southwest Estimation Domain 2 with estimated Ni% and naïve Ni% in drill assays**

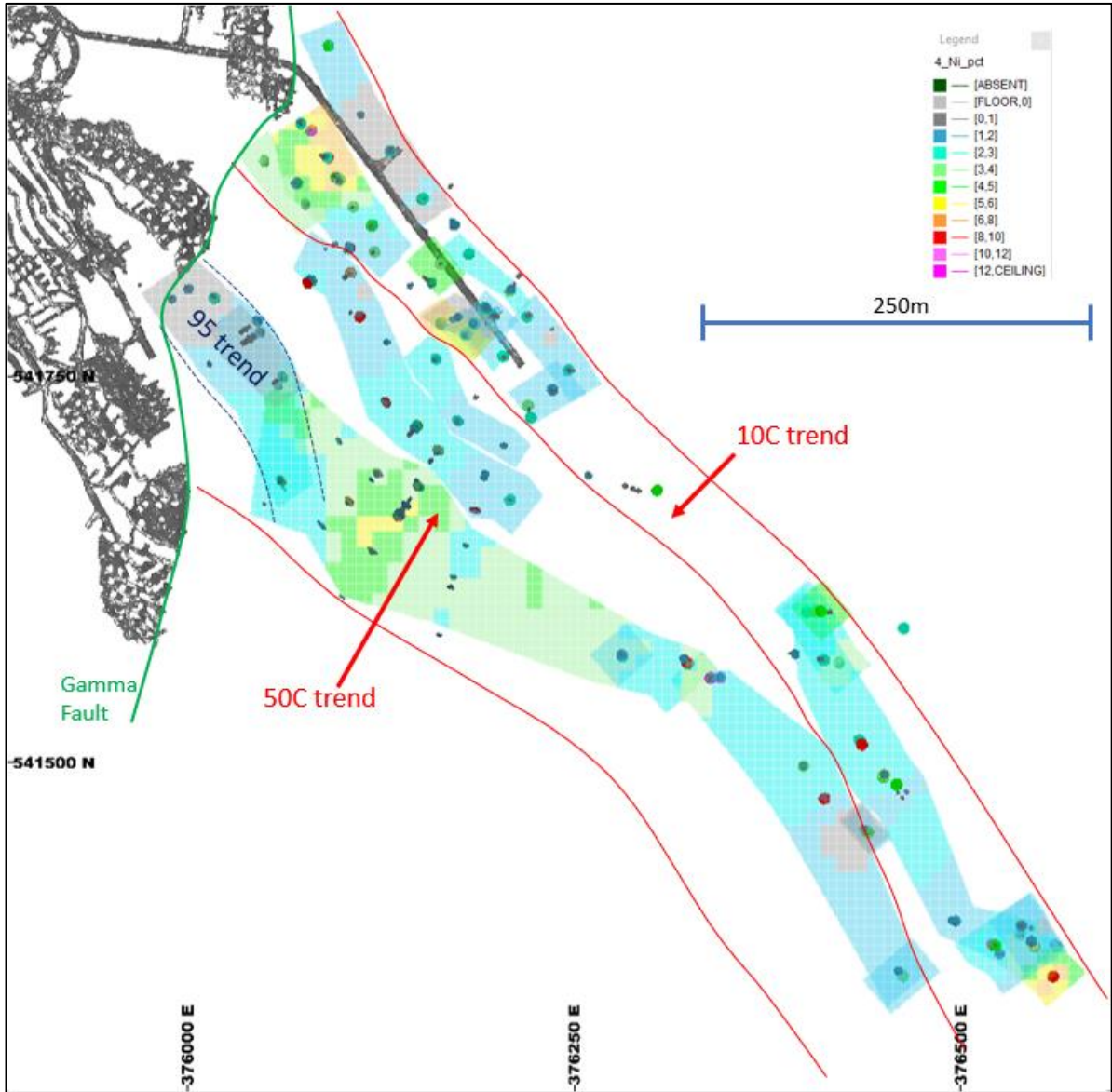


**Figure 14.8: Swath plot by Eastings for 30C, 40C (named B30, B40 by AMC) and Gamma global estimated grades and naïve Ni% assay data**



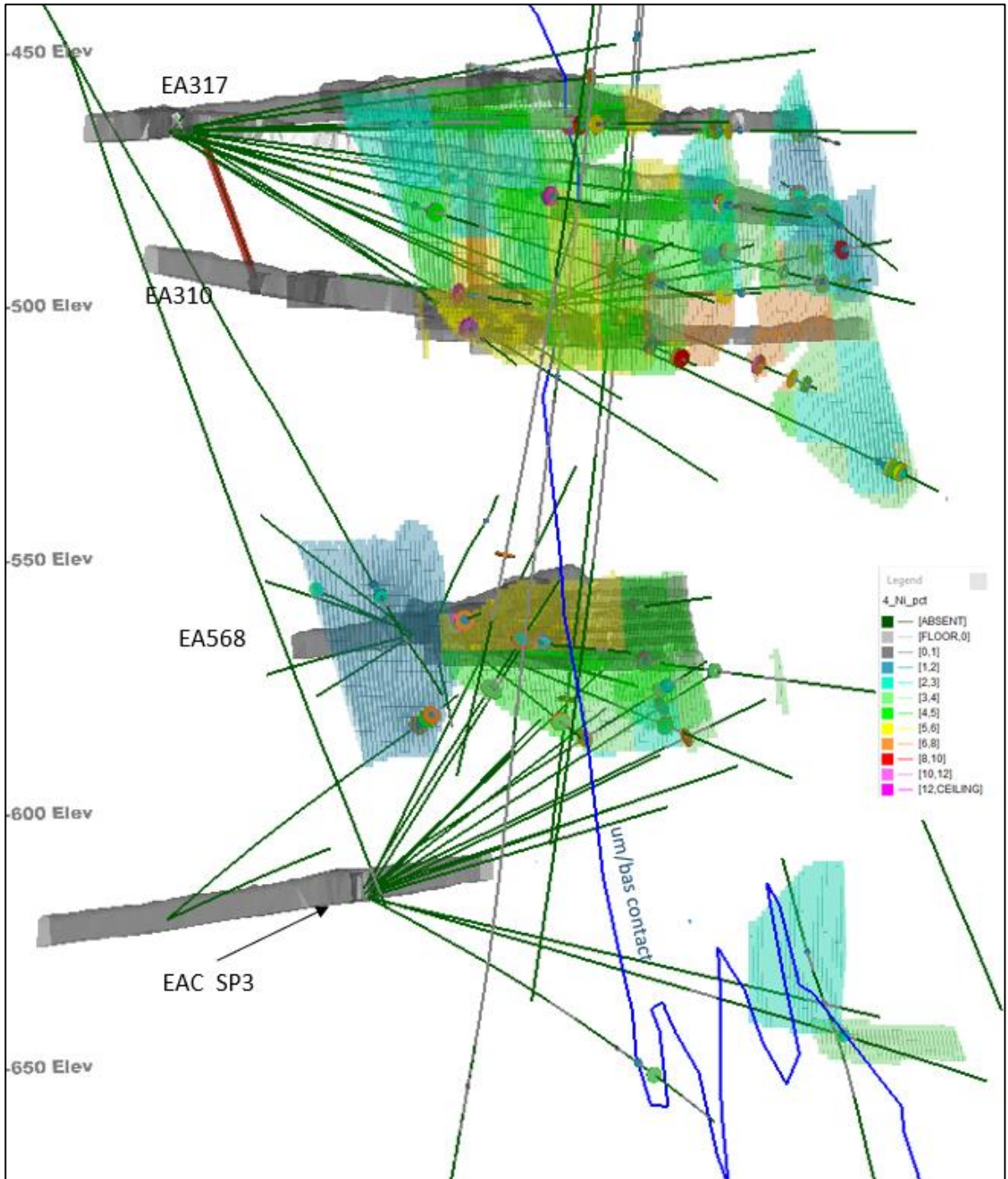
Source: AMC February 2022

Figure 14.9: Gamma Area – plan view of drilling from Beta Return Ingress with estimated Ni% with 10C, 50C and 95 nickel trends



Note that the 95 trend is located above the 50C trend.

Figure 14.10: Isometric view of drilling from East Alpha mine areas with estimated Ni %



View is facing west of northwest and field of view is ±50 m.

## 14.14 Mineral Resource Classification

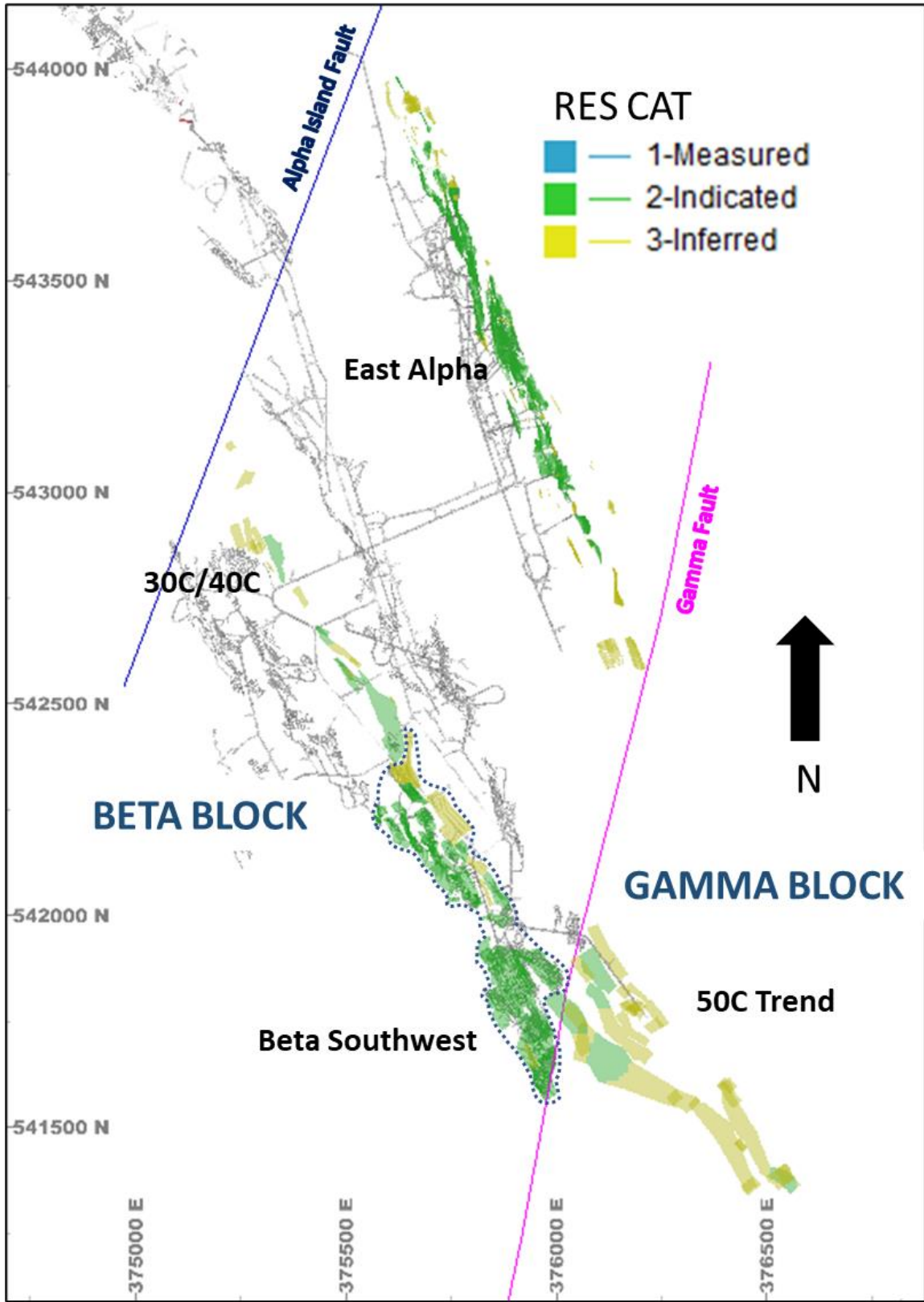
Block model quantities and grade estimates for Beta Hunt nickel resource were classified according to the CIM Definition Standards (2014).

Categories were applied to the resource estimates based on data density and quality. The drill density required for each area was assessed from the knowledge of the geology and continuity of mineralization in this area. The general criteria for classification are as follows:

- Measured Mineral Resources:
  - There are no measured category nickel resources.
- Indicated Mineral Resources:
  - East Alpha and Beta Central – blocks estimated in the first estimation pass and within 20 m of a diamond drill hole.
  - 30C, 40C and Gamma – blocks estimated in either the first or second estimation pass with four or more holes and within the range of the variogram model utilised in each estimation domain.
  - Beta Southwest – blocks estimated in first estimation pass and within 30 m of two diamond drill holes.
- Inferred Mineral Resources:
  - East Alpha and Beta Central – blocks estimated in either the first or second estimation pass with less than four holes. Isolated occurrences of mineralisation tested by a single hole are classed as inferred.
  - 30C, 40C and Gamma – blocks estimated in either the first or second estimation pass with two or three holes. Isolated occurrences of mineralisation tested by a single holes are classed as Inferred.
  - Beta Southwest – blocks estimated in first estimation pass and within 30 m of two diamond drill holes. Isolated occurrences of mineralisation tested by a single hole are classed as Inferred.



Figure 14.11: Plan view of Beta Hunt Nickel Mineral Resource by Resource Category



## 14.15 Mineral Resource Statement

The updated nickel Mineral Resource represents a replacement of the September 30, 2020 nickel Mineral Resource detailed in the February 6, 2021 Technical Report (Karora, 2021a). The update takes into account new resource estimates for the 30C and 40C nickel sulphide deposits in the Beta Block and the Gamma Block nickel sulphide deposits, using new information from the recently completed drilling. The new resource estimates were completed by AMC.

Grade-tonnage-metal distributions have been subdivided by appropriate Mineral Resource categories. The Beta Hunt nickel Mineral Resource estimate is net of mine production depletion of 7 kt grading 3.0% Ni for 211t Ni over the period October 1, 2020 to January 31, 2022. The depletion is from the Beta Southwest resource.

The Mineral Resource is proximal to existing underground development and Stephen Devlin, FAusIMM considers the Mineral Resource to meet reasonable prospects for eventual economic extraction (RPEEE) requirements.

The new, consolidated nickel Mineral Resource incorporates all of Beta Hunt's nickel deposits, including those updated by AMC, and is shown in Table 14.11. Table 14.12 is a breakdown of deposits that make up the summary table.

**Table 14.11: Nickel– Mineral Resources as at 31 January, 2022– 1% Ni lower cut-off**

January-2022 Mineral Resource	Measured			Indicated			Measured & Indicated			Inferred		
	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)
Beta Block	-	-	-	494	2.8%	13,600	494	2.8%	13,600	175	2.8%	5,000
Gamma Block	-	-	-	197	3.0%	6,000	197	3.0%	6,000	317	2.6%	8,200
<b>Total</b>	-	-	-	<b>692</b>	<b>2.8%</b>	<b>19,600</b>	<b>692</b>	<b>2.8%</b>	<b>19,600</b>	<b>492</b>	<b>2.7%</b>	<b>13,200</b>

1. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves.
2. The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce Mineral Reserves.
3. The Mineral Resource estimates include Inferred Mineral Resources that are normally considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is also no certainty that Inferred Mineral Resources will be converted to Measured and Indicated categories through further drilling, or into Mineral Reserves once economic considerations are applied.
4. Mineral Resources are reported within proximity to underground development and a nominal 1% Ni lower cut-off grade for the nickel sulphide mineralization.
5. Estimation for the Mineral Resources is by ordinary kriging using an accumulation method to account for narrow lodes.
6. The Mineral Resources assume an underground mining scenario and a high level of selectivity.
7. Classification is according to JORC Code and CIM Definition Standards Mineral Resource classification categories.
8. The models are depleted for underground mining to January 31, 2022.
9. Totals may vary due to rounded figures.
10. Nickel Mineral Resource Estimates were prepared under the supervision of Qualified Person S. Devlin, FAusIMM (Group Geologist, Karora Resources).

**Table 14.12: Beta Hunt Nickel Mineral Resources (by deposit) as at 31 January, 2022 – 1% Ni lower cut-off**

January-2022 Mineral Resource		Measured			Indicated			Measured & Indicated			Inferred		
		(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)	(kt)	Ni (%)	Ni (t)
Beta Block	30C	-	-	-	138	1.8%	2,500	138	1.8%	2,500	24	1.7%	400
	40C	-	-	-	-	-	-	-	-	-	7	2.3%	200
	Beta Central	-	-	-	67	3.1%	2,100	67	3.1%	2,100	9	2.9%	300
	Beta Southwest	-	-	-	14	3.5%	500	14	3.5%	500	36	3.5%	1,300
	East Alpha	-	-	-	276	3.1%	8,600	276	3.1%	8,600	98	2.9%	2,900
Gamma Block	10C	-	-	-	44	3.8%	1700	44	3.8%	1700	193	2.3%	4,400
	50C Trend <sup>1</sup>	-	-	-	153	2.8%	4,300	153	2.8%	4,300	124	3.1%	3,800
<b>Total</b>		-	-	-	<b>692</b>	<b>2.8%</b>	<b>19,600</b>	<b>692</b>	<b>2.8%</b>	<b>19,600</b>	<b>492</b>	<b>2.7%</b>	<b>13,200</b>

1. 50C trend includes the 50C, 55C and 95F nickel sulphide deposits

## 15 Mineral Reserve Estimates

No mineral reserves have been estimated for the project.

## 16 Mining Methods

### 16.1 Overview

Beta Hunt is an operating mine that enjoys relatively good ground conditions, as:

- Water inflows to the working areas are limited
- Nickel footwall rocks (Lunnon Basalt) are competent while the depth of workings at less than 1 km is relatively shallow. As a result, development ground conditions within the Lunnon Basalt development headings can be classed as good and support large openings, while the nickel host rock ranges from good to poor and thus requires smaller openings and greater support.

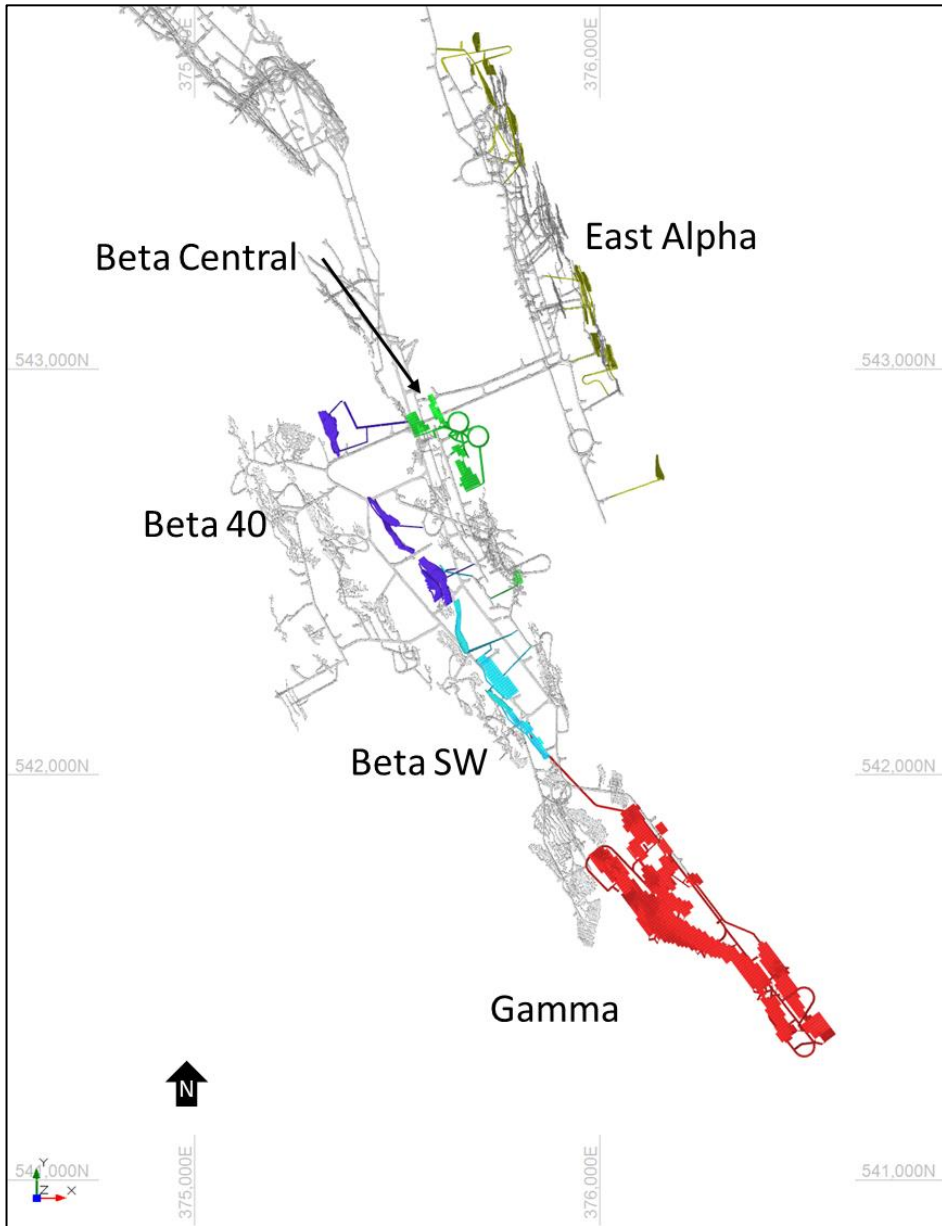
The following two methods were considered for the mining of the varying geometries of the nickel mining/resource areas shown in Figure 16.1:

- In the Gamma, Beta Central and parts of Beta Southwest zones, where nickel mineralization is narrow vein and flat lying, mineralization is mostly mined with handheld airleg drills, using the room-and-pillar method.
- In the East Alpha, Beta 40, and parts of Beta Southwest zones, where nickel mineralization is narrow vein and more steeply dipping, mineralization is mined with small scale mechanised equipment, using a cut-and-fill method.

The main decline that provides access to all the various zones of mineralization is already in place and only limited ongoing development is required. The most significant additional primary development required includes an exploration incline and return air drive system to access the Gamma zone. This development, while providing access to the Gamma nickel resources, is essential to the continuation of the gold exploration efforts.

Similarly, the existing pumping and initial ventilation systems are sufficient for the plan. Capacity of the existing fleet of mobile equipment will need to be upgraded to match the requirements of the additional nickel activities and, in the medium term, additional primary ventilation infrastructure installed. The workforce is non-unionized and flexible, which will allow short-term priorities between gold and nickel to be adjusted if warranted by market conditions.

Figure 16.1: Nickel sections within the mine design – plan view



Source: ABGM Pty Ltd

## 16.2 Hydrology and Groundwater

Surface hydrology of the Beta Hunt area is dominated by the Lake Lefroy Salt Lake. The lake is subject to occasional inundation from rainfall and associated runoff. Surface water is hypersaline, with salinity of up to 450 g/L. Groundwater within aquifers is also hypersaline with lower salinity in the range of 250 g/L to 350 g/L. Groundwater is used for service water, with the excess pumped to Lake Lefroy. No treatment is necessary as the surface water (when present) has higher salinity and is otherwise chemically similar to the discharge.

The mining methods employed are non-caving and a solid crown pillar has been established between the workings and Lake Lefroy. Procedures are in place to ensure that exploration drill holes do not create a hydraulic connection through to the lake.

No significant sources of groundwater have been identified on the Beta Hunt property to date and the mining methods do not introduce hydraulic fill. Inflows to the working areas are consequently limited.

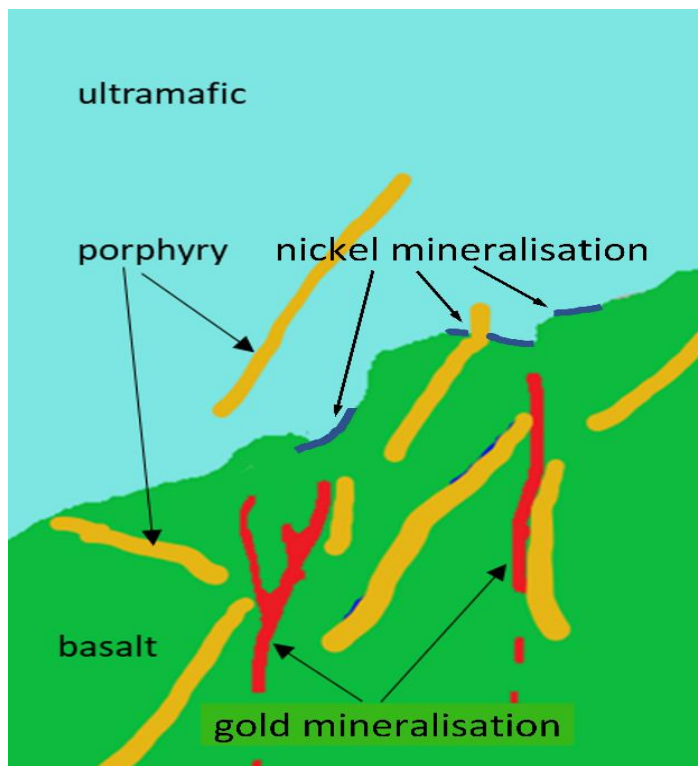
### 16.3 Geotechnical

The generalised lithological package for all styles of mineralisation at Beta Hunt comprises the following:

- Basalt; containing the steeply dipping mineralised surfaces
- Intermediate porphyry
- Felsic porphyry
- The mineralised horizon, comprising massive and disseminated sulphides
- Ultramafic rocks situated above the basalt.

Figure 16.2 provides an idealised view of the relationship between the major lithologies.

**Figure 16.2: Major lithologies**



Geotechnical logging and laboratory testing on these various lithologies was performed by WMC, with results as summarised in Table 16.1.

**Table 16.1: Rock properties**

Lithology	Logging	Laboratory			
	RQD	UCS (MPa)	UTS (MPa)	Young's Modulus (GPa)	Poisson's Ratio
Basalt	100	203	27	81	0.26
Intermediate Porphyry	90	115	16	58	0.21
Felsic Porphyry	90	252	21	64	0.26
Mineralisation	100	118	11	55	0.32
Ultramafic	95	83	8	52	0.37

These results indicate that all Beta Hunt lithologies are competent, if somewhat brittle. The risk of bursting is mitigated by a stress regime where the maximum principal stress is on the lower end of that reported regionally, with the principal stress being parallel to the strike of the gold mineralisation.

Waste development excavations are predominantly located in the footwall basalt, which is the most competent lithology. The backs of all waste development are arched to improve stability. Ends are supported with galvanised rock bolts, typically installed on a 1.4 m by 1.1 m pattern and supplemented with wire mesh.

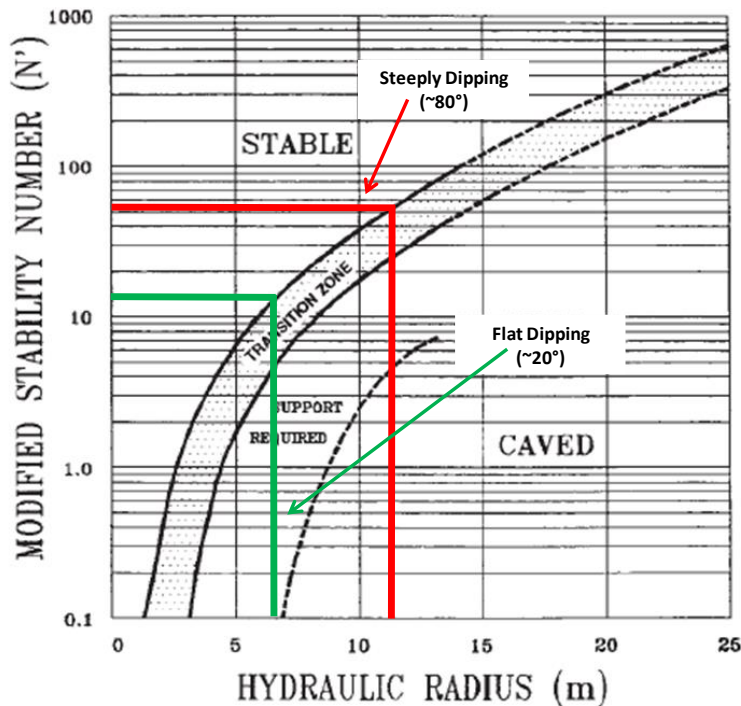
In areas where higher stress is encountered, such as intersections and the break-aways to stopes, cablebolts are installed. Previous operators also used shotcrete in places, particularly to support wider development excavations in ultramafic rocks.

Stope spans have been designed using Potvin's Modified Stability Diagram (Figure 16.3). A key input to the Modified Stability Number that is plotted on the Y-axis is the Q-value, or measure of rock quality. For the range of RQD given in Figure 16.3 and the various joint parameters for the rock mass, a Q-value of approximately 22 has been calculated.

For flatter lying nickel mineralization, the dip of approximately 20° results in an N' value of 16, for which the maximum stable hydraulic radius is approximately 6 m.



Figure 16.3: Modified Stability Diagram (after Potvin, 1988)



Source: Potvin (1988)

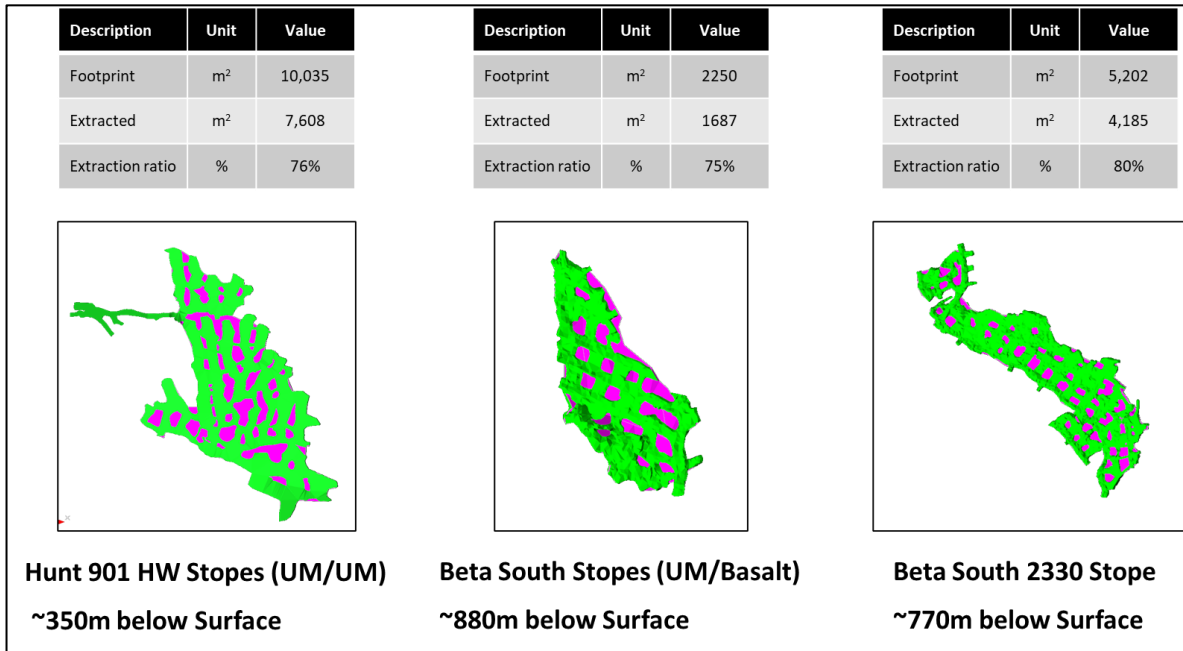
Support regimes for the various stoping methods reflect both hydraulic radius and economic considerations.

For the steeply dipping narrow vein East Alpha nickel mineralization, the flat back cut-and-fill method is employed. This overhand method results in a stope being opened to its strike limits using an ore drive with a 4.0 m height, then backfilled with uncemented rock fill (URF) before progressing up-dip, taking 3.0 m subsequent lifts.

For the flat-lying narrow vein nickel mineralization, it is logistically challenging to introduce fill, so the room-and-pillar method is used. After an ore drive has been established along the perimeter of a stope, primary slots measuring 2.5 m are driven between pillars that measure 4.5 m wide. Holings of 2.5 m wide are spaced at 7 m centres, producing a primary extraction percentage of 60%. Depending on how well these pillars perform over time, the mine may attempt localised secondary extraction to increase the final overall extraction percentage, performed in a retreat manner.

Historical room-and-pillar sections, as pictured in Figure 16.4, achieved more than 50% of pillars recovered, with an overall extraction of 75% to 80% achieved. For this PEA the primary ore extraction of 60% and a further 37% of the pillars are extracted, implying that 75% of the economic ore within room-and-pillar sections are planned for eventual extraction.

**Figure 16.4: Beta Hunt room-and-pillar mining**



Source: Karora

## 16.4 Mine Design

The cut-off grade calculation is influenced by:

- The primary constraint on underground production is not the capacity of the main ramp and/or truck fleet for hauling to surface (there is currently surplus capacity), but rather the number of mining faces available.
- Within the range of feasible production rates, there is no restriction on the tonnage of mineralization that can be processed.

As a result, the decision to potentially mine lower grade mineralization zones/areas will not result in displacement of higher-grade material and the operating cut-off can be determined based on marginal rather than full costs. Table 16.2 summarizes these marginal costs along with the calculated marginal cut-off grades.

**Table 16.2: Calculated cut-off grades Base Case**

Item	Units	Ni
Metal Price	A\$/t	\$26,700
Metal Price (after Royalty)	A\$/t	\$24,300
Average Mined Ni Grade	% Ni	1.99%
Average Operating Cost	A\$/t mined and processed <sup>1,2</sup>	\$159
Recovery	saleable Ni % (inc payability)	55%
Value	\$/1% Ni	\$134
COG <sup>3</sup>	% Ni	1.19%

1. Parameters supplied by Karora to use for the nickel mine planning
2. All production costs inclusive of operating development
3. Accounts for processing recovery and payability of marginal grade mineralization included in production.

Economic viability of individual areas was tested utilising Beta Hunt's unit rates, allowing for the following costs:

- Full development cuts (large and small drives)
- Stripping
- Vertical development
- Stoping
- Backfill
- Processing
- Royalties.

A different approach was used to maximise mining inventory, where a nickel cut-off grade of 0.5% Ni was used to generate stope shapes using Datamine's Mineable Stope Optimiser (MSO) to maximize marginal payable inventory. Designs were completed for all likely mining blocks and all these areas were included in the Deswik SCHED file, allowing specific areas with less access development to be offered to opportunity for inclusion in the economically viable inventory. Individual blocks' break-even cut-off grade (BECoG) and stope only cut-off grade (SOCoG - Marginal) were calculated, where the SOCoG excludes the cost of development, but includes all the remaining costs listed above. The BECoG of the individual economical blocks varies between 0.7% Ni and 1.8% Ni, while the SOCoG varies between 0.6% Ni and 0.8% Ni. This is calculated at a metal price of A\$26,000/t Ni.

Each individual activity was assigned a processing extraction factor, based on its evaluated nickel grade, and shown in Table 16.3.

**Table 16.3: Process recovery percentage**

Nickel % Bin	Process Recovery
>=0.5 and <1.5%	74%
>=1.5 and <2%	83%
>=2 and <2.5%	87%
>=2.5 and <3%	89%
>=3 and <3.5%	91%
>=3.5%	92%

Smelting charges result in the reduction in price received by Karora:

Total payable Ni= 65% x Process recovery of Ni.

As discussed in Section 21, the mining costs used in the above calculation are not entirely marginal in nature – particularly for the Ni operation, where labour is fixed and represents over 50% of total costs. As a result, the inclusion of lower grade mineralization that allowed the overall production rate to be increased would improve economics. Conversely, additional material that increased overhead costs (by extending the life of mine) or necessitated a step change in capital costs (by requiring purchase of additional fleet) could be detrimental to overall economics.

Mineable resource stope shapes were developed using Datamine’s MSO. A key stope design criterion is minimum mining width/stoping height.

Table 16.4 summarises the general mine design criteria for the respective mining zones.

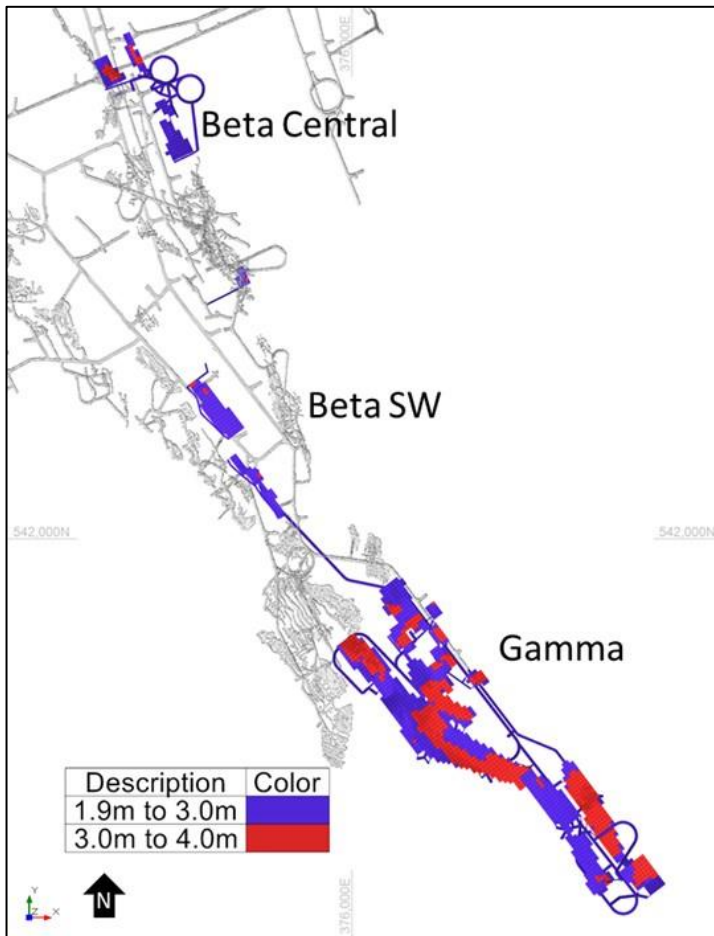
**Table 16.4: Mine design criteria per zone**

Zone	Gamma	Beta Central	Beta SW	Beta SW	Beta 40	East Alpha
Mining Method	Room-and-pillar			Cut-and-fill		
Dip of Resource	<40°			>40°		
Minimum SW	1.9m			0.5m		
Maximum SW	4m (incl. 1m FW ripping)			Resource width		
Access Drive Size	3.5mW x 3.5mH (Shanty Profile)			3.3mW x 4.0mH (First cut)		
Materials Handling	Winch & Large Bogger onto Trucks			Small and Large Bogger onto Trucks		

Dilution for the flat dipping nickel mineralization is calculated and considers the following approach. Stopes are established with an initial 3.5 m by 3.5 m cleaning/bogging ore drive along the down-dip side of the stope, extending the entire strike length. This bogging drive allows sufficient operating space for a typical narrow vein LHD to load ore which ultimately gets scraped down from the room-and-pillar broken ore sections. Some areas aimed to reduce development by establishing a crosscut below the mining horizon and developing two separate rises to access the room-and-pillar sections. One rise is used for a travelling way, while the other serves as a short orepass, cleaning ore via electrical winch to a Stockpile. Ore is scraped from rooms and holings into this ore drive or orepass using electrical scraper winches, allowing these stopes to be developed at a low stope width which is the greater of either a 1.9 m minimum width cut (measured on true-width) or actual thickness of mineralization (note that the actual thickness of mineralization gets up to 3.0 m for single pass extraction). MSO runs included material up to a maximum height of 4 m, thus allowing up to a

further 1 m footwall ripping on a retreat basis. A significant portion of the Gamma orebody allows for the additional maximum of 1 m footwall ripping, as shown in Figure 16.5. The control afforded by use of handheld drills (at the expense of productivity) results in no additional dilution beyond the minimum stoping height. The planned stoping width is 1.7 m, with planned overbreak equating to an additional 0.2 m, resulting in a finished excavation height at a minimum of 1.9 m high. With the resource being wider in places, room-and-pillar ore drives were designed utilising a shanty profile and were evaluated in the design. As such no additional dilution was allowed for within these drives but were reported as ore or waste according to their evaluated grades.

**Figure 16.5: Room-and-pillar width distribution – plan view**



Source: ABGM Pty Ltd

Dilution for the steeper dipping nickel mineralization was calculated and considers the following approach:

- Ore is mined at the thickness of mineralization down to a minimum of 0.5 m and allows an additional dilution skin of 0.15 m between the ore and waste.
- A minimum ore drive of 3.3 m is required for LHD access into the stope panel. The initial ore drive measures 3.3 m wide by 4.0 m high. Where the orebody width is less than 2.3 m wide, the ore is blasted preferentially to increase the mined Nickel grades in these sections, while improving their process recoveries. In these areas production rates are reduced, allowing for a two-pass strategy in recovering the higher-grade ore.

- Where the resource width is between 2.3 m and 3.3 m wide, the ore is diluted with waste to the minimum 3.3 m wide ore drive.
- Where the resource is wider than 3.3 m wide, the ore drive is mined to the width of the resource.

Two methods exist to ensure reasonable extraction and recovery as per design criteria:

1) Management of drill hole spacing between ore and waste, resulting in variable fragmentation profiles that is amenable to screening processes.

2) Wider portion of the drive is fired first and bogged, then firing the other part and thus ensuring conformance to plan. The procedure and exact cut-over point will need to be explored in detail in subsequent study phases. Timing of rounds may also improve muck pile profiles and improve overall recovery of the nickel ore.

All cut-and-fill sections allowed for 10% unplanned dilution, similar to traditional development, but the split-fire ore less than 2.3 m resource width included an additional 0.15 m dilution between the ore and waste contact. Recovery was planned as a standard 90% recovery, as some of the ore may be left behind bogging on top of previous waste filled cuts. A further 10% ore loss can be applied to the <1 m resource cut-and-fill sections, but will impact recovered tonnes only marginally, as these tonnes equate only 3% of the cut-and-fill mined ore tonnes and only 0.5% of the total ore tonnes mined in the project.

**Table 16.5: Cut-and-fill resource width distribution**

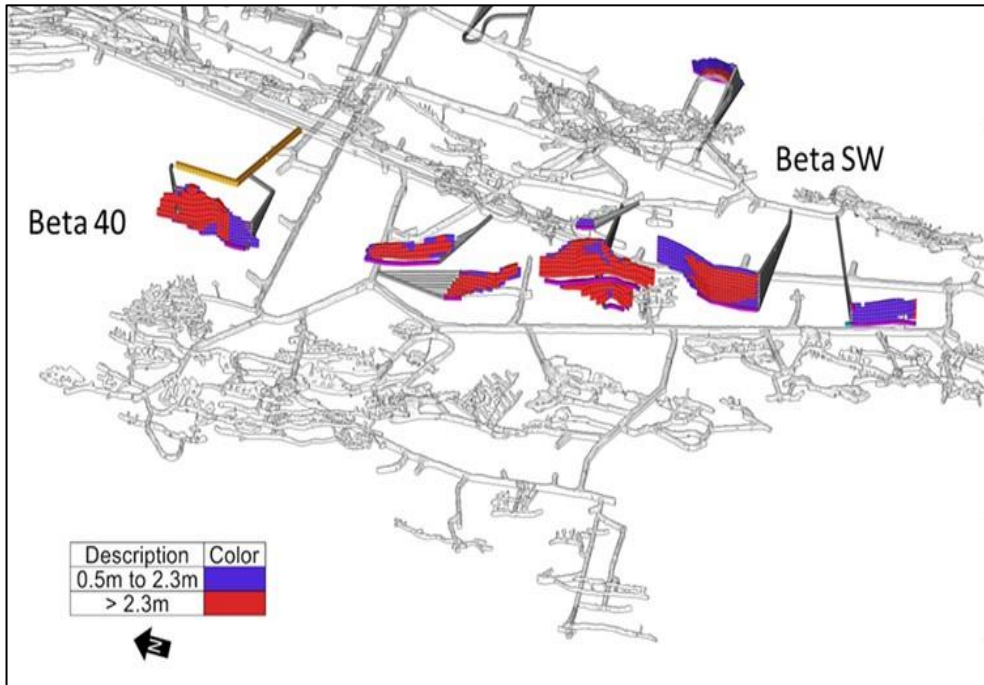
Item	C&F Ore Tonnes Mined	Percentage of Total
Ore Drives above PoCOG	24,832	9.0%
C&F 0.5 < > 0.8 width	3,979	1.4%
C&F 0.8 < > 1.0 width	4,531	1.6%
C&F 1.0 < > 2.3 width	66,604	24.0%
C&F 2.3 < > 3.3 width	56,217	20.3%
C&F 3.3 < > 6.5 width	67,386	24.3%
C&F > 6.5 width	53,391	19.3%
<b>Total</b>	<b>276,939</b>	<b>100.0%</b>

A portion of the cut-and-fill tonnes (~19.3% of cut-and-fill mined ore tonnes) has widths in excess of 6.5 m up to a maximum of 15.4 m wide. In subsequent levels of study these areas can be investigated in more detail and possibly utilise an alternative mining method. Some of these stopes may be more conducive to mine with room-and-pillar as dip flattens in some places or alternatively opportune sections or in steeper dipping sections longhole open stoping may be considered, dependent on geotechnical recommendations.

Split fire mining is widely practiced around the world and it has been done in the narrow gold sections at Beta Hunt, and thus form a reasonable basis for the employment of this method within the steeper dipping areas of the nickel sections.

Figure 16.6 shows that most mining blocks will be extracted in a single pass, not requiring split-firing practices in the Beta 40 and Beta Southwest Zones, 27% of the cut-and-fill stope tonnes are generated from split firing (75,114 t).

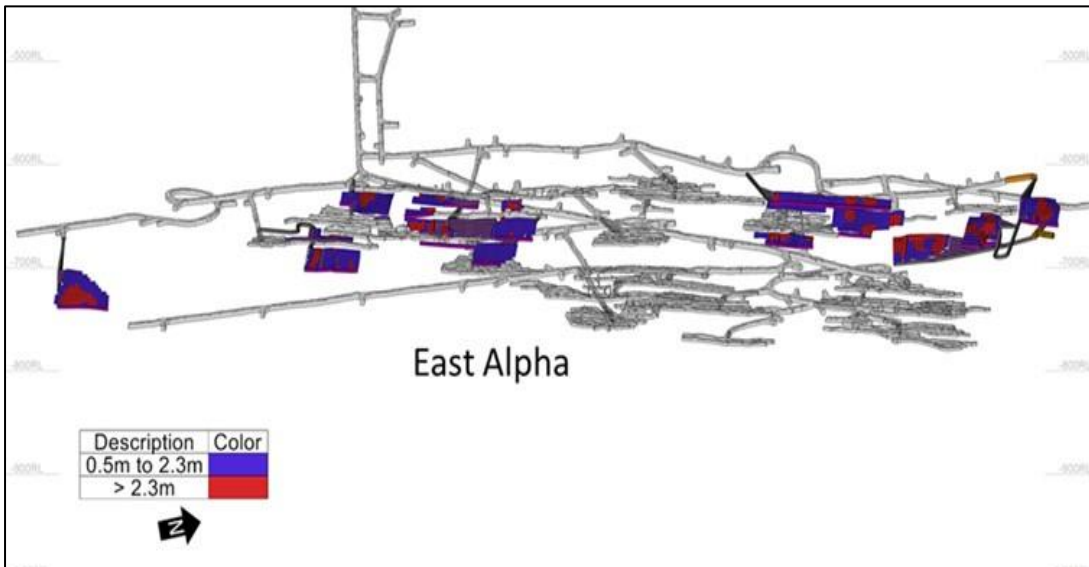
**Figure 16.6: Beta 40 and Beta Southwest cut-and-fill areas with resource width greater than 2.3 m**



Source: ABGM Pty Ltd

Figure 16.7 shows that most mining blocks will be extracted in a dual pass strategy in East Alpha, thus frequently requiring split-firing practices, resulting in lower productivity in general in this zone.

**Figure 16.7: East Alpha cut and fill area with resource width greater than 2.3 m**



Source: ABGM Pty Ltd

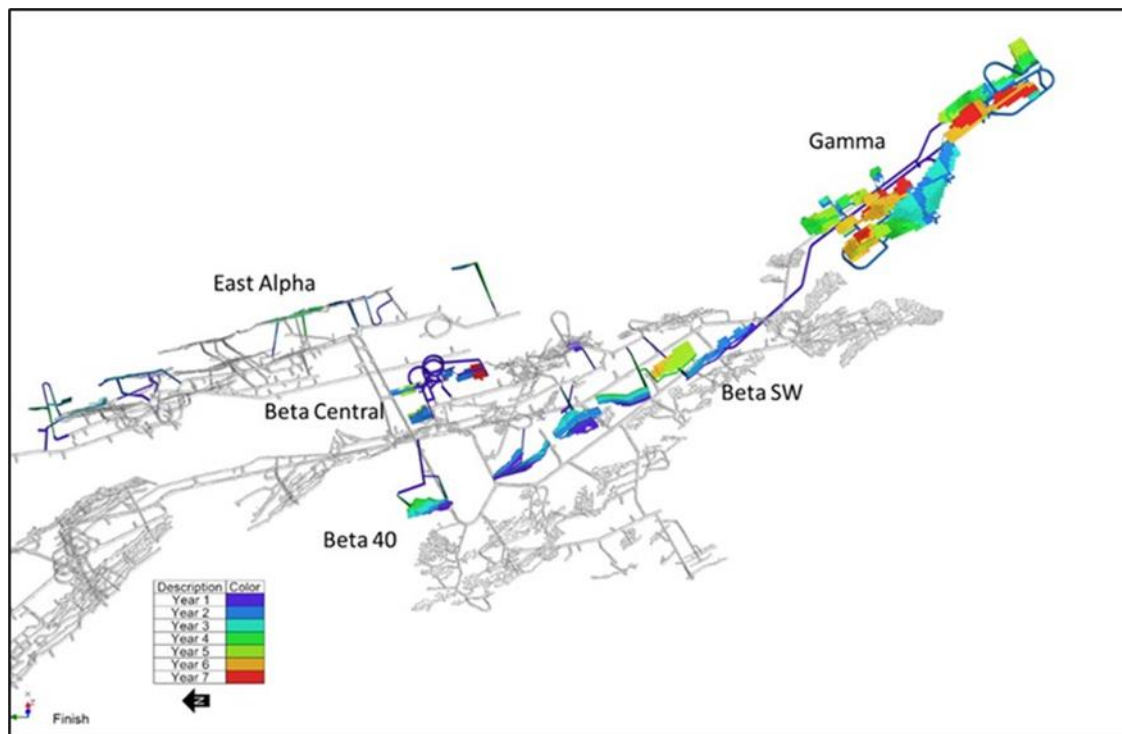
The resource within the mining shapes covering the nickel sections consists of only Indicated and Inferred Resources. The split between these for the economic mining inventory is approximately 55% and 45%, respectively.

Other key design criteria used in mine design are based on current practice, including:

- The decline gradient of 1:7 allows for maximum productivity of the haul truck fleet.
- The footwall pillar (between mineralization and lateral or decline development) is five times the width of excavation, or 25 m for the main decline.
- Where mineralization occurs in multiple lenses, the minimum thickness of interstitial pillar is three times the thickness of the minimum mining width of the mineralization.

The total extent of development and stoping in the nickel sections at the end of life of mine (LOM) is illustrated in Figure 16.8.

**Figure 16.8: Isometric plan of total development and stoping of nickel sections by year**



Source: ABGM Pty Ltd

## 16.5 Conceptual Mine Plan

### 16.5.1 Nickel Operations

The nickel operation extracts mineralization hosted in two distinctly different styles of mineralization:

- In the Central, Gamma and some areas of Beta Southwest zones, nickel mineralization is narrow vein and flat lying (typically dipping at  $\sim 20^\circ$ ). This style of mineralization is mined using the room-and-pillar method.
- In the East Alpha, Beta 40 and some areas of Beta Southwest zones, nickel mineralization is also narrow vein but more steeply dipping (typically at  $\sim 65^\circ$ ). This style is also mined using the flat back cut-and-fill method.



The room-and-pillar method is mined conventionally, using handheld airleg drills. These drills are also used for installation of rock bolts. Holes are charged using ANFO and the target advance is 2.0 m per round. In the flat-lying room-and-pillar stopes, broken ground is scraped using winches to ore drives at the front of the stopes or into an orepass feeding a stockpile. Here, material is excavated using narrow vein (3 t payload) LHDs and trammed to re-muck stockpiles where it is rehandled by the large LHD onto 50 t trucks.

In the steeply dipping flat back stopes, the loading drives have been sized to allow immediate loading of broken material by narrow vein LHDs, eliminating the need for scrapers. Material is also excavated using narrow vein (3 t payload) LHDs and trammed to re-muck stockpiles where it is rehandled by the large LHD onto AD60 trucks.

Design criteria used in the development of the nickel sections production schedule are based on current operating performance and include the following based upon current Beta Hunt operations schedule criteria:

- Large mechanized development ends are driven at a maximum rate of 72 m/month, which equates to two cuts every three days at 3.6 m advance per cut over a 30 day month.
- A single crew would be responsible for three development ends and thus achieves 2.5 rounds per day on average, achieving 250 m/month per jumbo.
- Small mechanized development ends are driven at a maximum rate of 62 m/month, which equates to two cuts every three days at 3.1 m advance per cut over a 30 day month.
- A single crew would be responsible for four development ends and thus achieves 3.2 rounds per day on average, achieving 300 m/month per jumbo.
- The nickel stoping operation will produce between 10 kt/month and 14 kt/month during the first three years of operation, after which only room-and-pillar sections remain operational. The last four years of production is limited by the number of experienced handheld miners the mine can employ and is currently limited to a total of twelve over the evaluation period. The mine currently employs five handheld miners and is able to increase them to ten within the first six month period if required.
- Handheld miners currently work on an 8/6 and 5/2 mining roster. Assuming they only work Monday to Friday, the schedule allows for each airleg miner to produce 900 t/month. The above airleg productivity per experienced miner is expected to be achieved with the addition of offsidiers to assist in the handheld mining activity increasing current productivity by 35%. The number of experienced airleg miners will increase to a maximum of 10, around Year 4. Room-and-pillar mining was thus constrained to a steady state production rate of 8 kt/month over the period of evaluation.

Table 16.6 provides a summary of the nickel production.

**Table 16.6: Mining production plan**

Item	units	Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Exploration	m	2,380	682.1	1,593.0	104.7	-	-	-	-	-
Twin Boom Jumbo	m	2,128	849.8	817.2	461.5	-	-	-	-	-
Single Boom Jumbo	m	11,312	2,621.5	3,834.8	2,847.6	1,905.8	102.6	-	-	-
Nickel Mineralization Mined	kt	862	35.1	159.5	175.8	150.5	99.6	96.0	96.2	49.7
Nickel Grade Mined	% Ni	1.98%	1.93%	1.90%	2.10%	2.42%	2.27%	1.85%	1.43%	1.35%
Contained Nickel	t	17,145	677.7	3,037.8	3,700.1	3,643.6	2,257.5	1,779.1	1,376.7	673.0

The global dilution and mining recovery is as follows:

- Nickel operations extract 51% of the total Measured, Indicated and Inferred (MII) Resource with overall planned dilution of 5% over and above the dilution included within the MSO shapes.
- The room-and-pillar shape contains a maximum of 12% dilution in the MSO shape (0.2 m hangingwall outbye over minimum stoping width of 1.7 m).
- The cut-and-fill shape contains no dilution in the MSO shape, but the schedule allows for 0.15 m planned dilution between the ore and waste boundary, as well as an unplanned dilution of 10% over that allowance, for a total of 14%.

## 16.6 Mine Operations

### 16.6.1 Development

Existing development in the Beta and East Alpha mine areas is utilised to access most of the new Nickel mining zones. Means of secondary egress is currently in place for most of the new areas due to their location relative to previously mined stoping areas. The Gamma orebody requires a dedicated Incline that will be utilised for fresh air intake purposes, and a dedicated return air drive to exhaust utilised air, which also serves as primary access and egress for this area. Individual room-and-pillar mining blocks have their own escapeways designed and where possible adjacent blocks provide secondary access the stoping horizon.

The various types of development include:

- The main decline, sized at 5.0 m wide by 5.5 m high
- Lateral development located in the footwall of both nickel and gold mineralization. These are generally sized at 4.0 m wide by 4.5 m high
- Room-and-pillar ore drives in nickel mineralization utilizes a 3.5 m wide by 3.5 m high shanty profile
- Cut-and-fill ore drives in nickel mineralization utilizes a 3.3 m wide by 4.0 m high arched profile, with subsequent lifts mined at 3.0 m per lift.

Development headings are excavated using mechanized equipment, including:

- Twin boom jumbos are used for drilling both blastholes and for installation of rockbolts for large excavations. The length of advance is 3.6 m per round.

- Single boom jumbos are used for drilling both blastholes and for installation of rockbolts for small excavations. The length of advance is 3.1 m per round.
- Blast holes are charged using an explosives charger. As the mine is dry, ANFO is used.
- Development blasts are cleaned using the small LHDs. A maximum of 46% of the waste development tonnes produced in the nickel sections can be used to backfill mined out voids in the cut-and-fill sections. The waste placement was calculated based on waste mined per period vs cut-and-fill backfill requirement per period. This provides a reasonable estimation of the quantity of waste the mine will be able to place underground vs haul to surface. Material that must be trammed out to the surface waste dump is first delivered to a re-muck stockpile that is typically located at 125 m intervals along the main decline.
- Ore and waste material that is delivered to the surface is done using a 17 t loader and trucked using a 60 t AD60 truck.

### 16.6.2 Mining Fleet

The fleet of mechanized mining equipment includes:

- Twin boom jumbos for drilling development blast holes and wall support
- An explosives charger for charging blast holes
- Narrow vein LHDs used for cleaning the narrow vein nickel stopes
- Large LHD (17 t capacity) used for loading mineralization and waste into trucks
- 60 t trucks for hauling material to surface.

Table 16.7 compares the current nickel fleet levels to the maximum required by year over the nickel evaluation period.

**Table 16.7: Mechanized mining fleet (nickel sections)**

Additional Equipment - Nickel	Existing Equipment	Maximum Requirement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Item	units	units	units	units	units	units	units	units	units	units
Jumbo – Twin Boom	1	1	1	1	1	0	0	0	0	0
Jumbo – Single Boom	1	2	2	2	1	1	1	0	0	0
Charger	0	1	1	1	1	0	0	0	0	0
Narrow Vein LHD (3t)	1	2	2	2	2	1	1	1	1	1
Large LHD (17t)	1	1	1	1	1	1	1	1	1	1
Truck	1	3	3	3	2	1	1	1	1	1
Compressor Units	1	3	1	3	3	3	3	3	3	3

### 16.6.3 Labour

The current site complement of approximately 7 full-time equivalent employees will increase to a maximum of 44 when the nickel operations are at full production. The average annual complement over the period of nickel evaluation is shown in Table 16.8.

**Table 16.8: Indicative average annual incremental nickel labour complement**

Nickel Manning Profile	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Diesel Crew	28	27	18	14	8	7	7	6
UG Management & Supervision	2	2	2	2	2	2	2	2
Site Management	0	0	0	0	0	0	0	0
Airleg Stopping	2	5	9	10	10	10	10	7
Technical Services AU	5	5	5	5	5	5	5	5
Training & HS	0	0	0	0	0	0	0	0
Electrical Maintenance	1	1	1	1	1	1	1	1
Mobile Maintenance	3	3	3	3	3	3	3	3
Diamond Drilling	0	0	0	0	0	0	0	0
<b>Manning Total</b>	<b>41</b>	<b>43</b>	<b>38</b>	<b>35</b>	<b>29</b>	<b>28</b>	<b>28</b>	<b>24</b>

### 16.6.4 Ventilation Requirements

Beta Hunt is an operating gold and nickel underground mine with good mining infrastructure. The gold operations, however, do require more equipment and therefore more ventilation, yet for the purpose of this conceptual mine design and schedule on the nickel areas of interest, a Ventsim model was developed to determine if the proposed nickel areas could be serviced with sufficient air volumes. The nickel production is from two districts: East Alpha and Beta Ni Areas. The mining equipment fleet will be utilised within both districts, thus a flow through each district of 79 m<sup>3</sup>/s and 80 m<sup>3</sup>/s is required.

The ventilation simulation run in Ventsim considered the following equipment fleet/requirements for ventilation quantities shown in Table 16.9.

**Table 16.9: Ventilation calculations (air volume requirements per district)**

Maximum Equipment Requirements	Number of Units	Engine Rating	Total Engine Power	% In Drives & Operating at Full Capacity	kW for Ventilation Calculations	Minimum Air Required	Air Required Beta	Air Required Gamma
		kW	kW	%	kW	m <sup>3</sup> /s	m <sup>3</sup> /s	m <sup>3</sup> /s
LV	2	110	220	100%	220	11	11	11
Twin boom jumbo	1	180	180	100%	180	9	9	9
Single boom development rigs	2	70	140	100%	140	14	7	7
Scrapers	10	2.5	25	100%	25	1.25		1.25
LHD - Development	1	300	300	100%	300	15	15	15
LHD ore	2	75	150	100%	150	7.5	7.5	7.5
Trucks	1	585	585	100%	585	29.25	29.25	29.25
<b>Totals</b>					<b>1670</b>	<b>87</b>	<b>79</b>	<b>80</b>
							<b>159</b>	

A key constraint considered during mine production scheduling of the Ni areas is ventilation. The mine schedule therefore tried to aggregate the mining activities (insofar practically and economically possible) to enable a simpler ventilation distribution requirement. Fresh air enters the mine via the portal and two small fresh air intake raise bores, ultimately exhausting air via 3.9 m diameter raise and 2.4 m diameter raises. The Beta area exhaust system currently supplies approximately 250 m<sup>3</sup>/s of exhaust capacity that is used predominantly to support gold production. In the second half of 2022, additional infrastructure is being installed to support gold production that includes duplicating the upper section of the Hunt decline from the surface and the installation of a second exhaust raise. This will allow the gold production areas to be ventilated more efficiently and will free up ventilation capacity within the Beta and Gamma mine areas that can be utilised by nickel activities. Ultimately to support both nickel and increased future gold production, an additional large diameter fresh air raise will be needed to reduce the mine ventilation network operating pressures. Total required primary flow capacity for the nickel production is 160 m<sup>3</sup>/s.

The minimum airflow required in the nickel district has been calculated based on the Australian regulation of 0.05 m<sup>3</sup>/s per kW equipment. The contribution to the total life of mine load is as follows:

- Development fleet = 20%. The load from this equipment remains relatively constant during the first three years, then reduces significantly while handheld mining rounds out the nickel production.
- LHD fleet = 28% (two different sizes). The load from this equipment follows a similar path for the development fleet, with significant LHD requirement while mining zones are established and the cut-and-fill sections are in operation but reduces significantly once only room-and-pillar remains during the second half of the evaluation period.
- Haulage fleet = 37% (two trucks with one full truck active in the Ni mining areas at any one point in time). The load from this equipment varies as a function of the tonnage hauled,

distance hauled and associated travel time. The depth of nickel mineralization from East Alpha is approximately 270 m below the depth of gold mineralization at A Zone, resulting in an additional 21-minute truck cycle. Note the tonnage fill factor for nickel trucks is much greater than those for gold.

- Light vehicles (LV) and scrapers = 15% and were allocated on a 100% load capacity.

A further air leakage assumption of 20% was considered during the ventilation calculations and simulations for Beta Hunt's nickel operations.

## 17 Recovery Methods

Processing of Beta Hunt mineralization is performed offsite, by BHP under a tolling contract.

### 17.1 Current Situation

Nickel mineralization is processed by BHP at the Kambalda Nickel Concentrator and more recently at the Leinster Nickel Concentrator, both are flotation-style nickel concentrators. There is limited risk associated with the ongoing processing of nickel mineralization as:

- LNO and KNC has successfully processed nickel production from Beta Hunt for several years.

Mineralization is blended with mill feed from other mines and the recovery credited to Beta Hunt is based on the grade of feed. Concentrate produced from Beta Hunt mineralization is treated and refined by BHP under standard commercial terms.

The Base Case assumes ore to be treated through the KNO facility.

### 17.2 Alternative Treatment Opportunities

Other ore treatment routes and saleable nickel products are being investigated; however, these are beyond the scope of this Technical Report.

## 18 Project Infrastructure

Beta Hunt is an operating mine with all required infrastructure already in place. The main elements of this infrastructure include the following:

- Normal infrastructure associated with a ramp access underground mine includes the portal (Figure 18.1), a decline ramp measuring 5.0 m wide x 5.5 m high, the trackless mining fleet (described in Section 16.6.2) and refuge stations. This existing surface infrastructure and planned additions to support gold production are adequate to support the nickel plan.
- A surface workshop is used for major maintenance and weekly services for the mobile equipment fleet.
- An underground workshop is used for minor maintenance of the mobile fleet. This is in the footwall side of the main decline in the East Alpha section.
- A ventilation system for this study uses the Hunt decline and West decline (under construction 2022) and two smaller raises as intakes, with a Beta B6 exhaust raise measuring 3.9 m in diameter (Figure 18.2) and the 801 exhaust raise (under construction 2022). The system will have a capacity to supply in excess of 500 m<sup>3</sup>/s. At the maximum production rate, nickel activities require an airflow of approximately 160 m<sup>3</sup>/s based upon maintaining airflows to both the Beta and Gamma production areas.
- A dewatering system includes a number of staged mono pumps that discharge, via a 100 mm line, into Lake Lefroy.
- The management and administration offices are portable buildings that will be easy to de-commission at closure (Figure 18.3).
- Utilities provided to the mine include:
  - Electricity is supplied by SIGMC at a cost of A\$0.23/kWh.
  - Service water is sourced from groundwater stored in an aquifer created by the mined out Silver Lake nickel deposit. Storage tanks have been added to provide surge capacity.
  - Potable water is supplied from the Water Corporation distribution network via SIGMC infrastructure.



**Figure 18.1: Beta Hunt decline portal**



**Figure 18.2: Beta Hunt return airway and emergency egress hoist**



**Figure 18.3: Beta Hunt management and administration offices**



## 19 Market Studies and Contracts

### 19.1 Market Studies

The following price forecasts used in this study (see Section 22) are taken from recent pricing (2022) forecasts from several financial institutions and investment groups.

#### 19.1.1 Nickel Price


A flat nickel price of US\$19,500/t Ni has been adopted as the Base Case price; this is in line with the consensus price forecasts shown in Table 19.1.

**Table 19.1: Nickel market consensus pricing**

**HAYWOOD**

**Karora Resources**

Consensus Nickel Price Forecast (US\$/t)



Consensus Nickel Price Forecast (US\$/t)										
Contributor	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	LT
Bell Potter	\$19,467	\$18,629	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739
BMO Capital Markets	\$22,686	\$19,004	\$16,998	\$17,990	\$16,998	\$16,998	\$16,998	\$16,998	\$16,998	\$16,998
Canaccord Genuity	\$20,944	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842
CGS-CIMB / CIMB Research	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001
CIBC Capital Markets	\$37,126	\$37,126	\$37,126	\$37,126	\$37,126	\$37,126	\$37,126	\$37,126	\$37,126	\$37,126
Desjardins Securities Inc.	\$23,479	\$23,479	\$23,479	\$23,479	\$23,479	\$23,479	\$23,479	\$23,479	\$23,479	\$23,479
Haywood Securities Inc.	\$20,944	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842
Laurentian Bank Securities, Inc.	\$30,049	\$26,455	\$22,046	\$22,046	\$22,046	\$22,046	\$22,046	\$22,046	\$22,046	\$22,046
National Bank Financial	\$20,944	\$20,944	\$18,739	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637
Paradigm Capital, Inc.	\$20,393	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739
Pareto Securities	\$20,225	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001
PI Financial Corp.	\$17,549	\$17,549	\$17,549	\$17,549	\$17,549	\$17,549	\$17,549	\$17,549	\$17,549	\$17,549
Raymond James Ltd.	\$20,260	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842	\$19,842
RBC Capital Markets	\$19,842	\$19,842	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637
SBG Securities (Proprietary) Limited	\$18,497	\$16,036	\$16,094	\$16,151	\$16,208	\$16,266	\$16,323	\$16,380	\$16,438	\$16,438
Scotiabank GBM	\$18,739	\$17,637	\$16,535	\$17,086	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739	\$18,739
Shaw and Partners Limited	\$19,842	\$17,791	\$17,350	\$17,350	\$17,350	\$17,350	\$17,350	\$17,350	\$17,350	\$17,350
Societe Generale Cross Asset Research	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001	\$18,001
Stifel Canada	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637
TD Securities Equity Research	\$19,401	\$18,188	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637	\$17,637
<b>Average</b>	<b>\$21,201</b>	<b>\$20,129</b>	<b>\$19,492</b>	<b>\$19,517</b>	<b>\$19,552</b>	<b>\$19,555</b>	<b>\$19,558</b>	<b>\$19,561</b>	<b>\$19,564</b>	<b>\$19,564</b>

Source: Capital IQ

Private & Confidential 1

### 19.2 Contracts

Karora operates the mining activities as owner-operator. The material contracts are those relating to the toll treatment of ore and ore haulage.

### 19.2.1 Nickel Tolling

Nickel mineralisation processing is covered by the Ore Tolling and Concentrate Purchase Agreement (OTCPA) with BHP.

Material is blended with ores from other mines, and the metallurgical recovery credited to Beta Hunt is based on the mineralization grade.

Material is trucked approximately 5 km to KNC or 430 km to Leinster under the contract. The Base Case assumes treatment at KNC.

## 20 Environmental Studies, Permitting, and Social or Community Impact

Beta Hunt is an operating underground mine that is in possession of all required approvals and permits. Karora owns and operates Beta Hunt through a sub-lease agreement with SIGMC. The environmental permitting and compliance requirements for mining operations on the sub-lease tenements are the responsibility of both Karora and the primary tenement holder, SIGMC. Beta Hunt is a small mine with a limited disturbance footprint and the environmental impacts of the project are correspondingly modest. The information in this chapter is based on information provided by Karora or sourced from publicly accessible sources and government databases.

### 20.1 Environmental Studies

Beta Hunt is located within a developed mining envelope that has been subject to many environmental studies throughout its history. Most recently, SIGMC completed The Beyond 2018 Project – Environmental Review Document (Gold Fields, 2018) which covered all SIGMC tenements. This review also covered the Beta-Hunt sub-lease tenements and was produced by SIGMC in response to the framework set out in the Environmental Scoping Document prepared by the Environmental Protection Authority in October 2017. The objective of the Beyond 2018 Project is to ensure the continuation of mining activities, including those leases that make up the Beta Hunt sub-lease tenements. Key findings of this and earlier studies are summarised in the following sub-sections.

#### 20.1.1 Soils and Flora

Soils in the region are typically composed of weathered basalt mixed with gravels and wind-blown sands. Soils in the immediate project area have been heavily disturbed by prior mining activity and have been covered with crushed rock to provide stability for equipment and machinery. Soils in the adjacent lake embayment are saline sediments.

The predominant vegetation species is eucalyptus, which is a fast-growing tree that emits compounds inhibiting other species from growing nearby. Species that have managed to overcome the effects of these compounds include those in the acacia, figwort, protea and soapberry families. No known declared rare flora or restricted flora occurs in the region.

The Beta Hunt sub-lease covers the following Lefroy and Red Hill Land Systems:

- Lefroy – salt lakes and fringing saline plains, sandy plains and dunes with chenopod low shrublands
- Red Hill – basalt hills and ridges supporting acacia shrublands and patchy eucalypt woodlands with mainly non-halophytic undershrubs.

#### 20.1.2 Fauna

A wide range of fauna is indigenous to the Goldfields area in which Beta Hunt is located. None of the species is restricted to the immediate locale habitat type. Studies have found that the long history of mining has had little impact on the fauna of the area, with the reduction in both diversity

and abundance being temporary (resulting from habitat removal), with a return of diversity and abundance following reclamation. As a result, operations at Beta Hunt are not expected to cause the loss of any species or populations.

### 20.1.3 Hydrology

Surface hydrology of the Beta Hunt area is dominated by the Lake Lefroy salt lake. The lake is subject to occasional inundation from rainfall and associated runoff. Surface water is hypersaline, with salinity of up to 450 g/L.

Groundwater within aquifers is also hypersaline, though with lower salinity in the range of 250 g/L to 350 g/L. As discussed in Section 18, groundwater is used for service water. Where possible, this water is recirculated to minimise discharge. Where discharge is necessary, the excess is pumped to Lake Lefroy. No treatment is necessary as the surface water (when present) has higher salinity than, and is otherwise chemically and physically similar to, the discharge.

## 20.2 Required Permits and Status

### 20.2.1 Permitting History

Karora acquired Beta Hunt from CNKO in December 2013. The mine was non-operational at this time, having been placed on care and maintenance in November 2008 in response to the financial crisis and associated collapse in nickel metal prices. Permits held by the mine remained valid, allowing Karora to resume mining in April 2014.

Beta Hunt is located on tenements held by SIGMC and operated by Karora under a sub-lease agreement. Karora hold a premises licence (L8893/2015/2) granted by DWER under Part V of the EP Act for the discharge of mine dewater to Lake Lefroy. Karora also has an approved mining proposal and closure plan (Reg ID: 101317) to undertake mining activities granted by DMIRS under the Mining Act.

### 20.2.2 Environmental Protection Act 1986

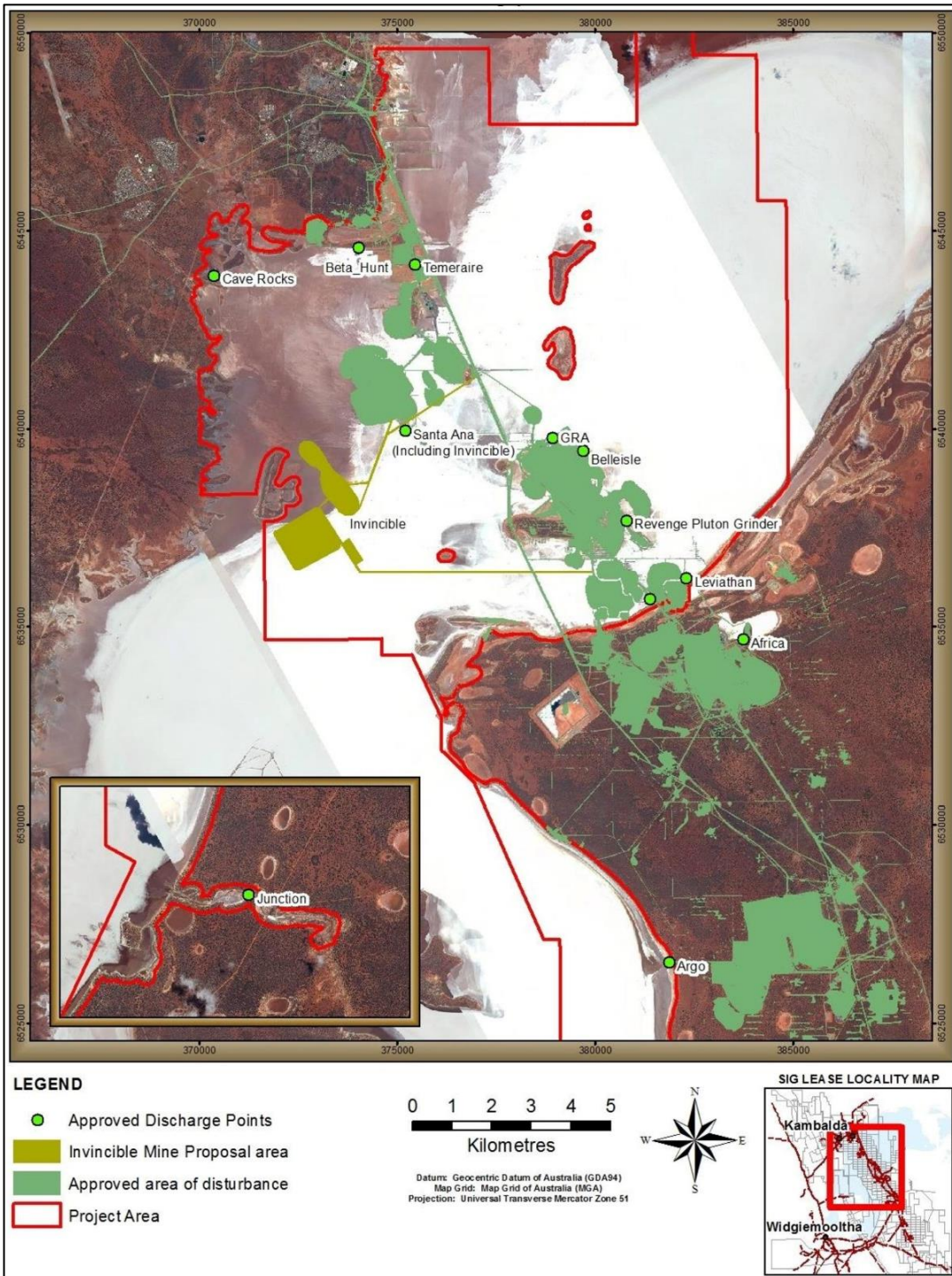
#### **Part IV**

Part IV of the EP Act applies to “environmentally significant proposals”. The term “environmentally significant” is not defined in the EP Act, but is described in the Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2012.

The Beta Hunt operation has not been separately assessed under Part IV of the EP Act, but discharges from Beta Hunt are recognised under Part IV assessments for SIGMC operations at Lake Lefroy (Figure 20.1).

Gold mining on Lake Lefroy was originally approved in July 2000 under Ministerial Statement 548. In 2011, an expansion of lake-based mining activities was assessed by the EPA (Assessment Number 1809, EPA Report 1411) and was approved under Ministerial Statement 879 in November 2011. The two Ministerial approvals were subsequently consolidated, and the Part IV approval is now entirely described in Ministerial Statement 548. The Ministerial approval for mining on Lake Lefroy is held by SIGMC. Accordingly, the implementation conditions contained in any Ministerial approvals under Part IV of the EP Act are not directly binding on Karora.

Figure 20.1: Approved discharge points



Source: St. Ives Gold, Ministerial Statement 879

## Part V – Work Approvals and Licenses

Although mining itself is not regulated under Part V of the EP Act, the Act and associated regulations stipulate that certain “prescribed activities”, including mine dewatering, must be permitted through a works approval and licence if the scale of the activity exceeds a specified threshold. The licensing threshold for mine dewatering is 50,000 t/a or more.

Beta Hunt is currently licensed for discharge of up to 480 kt/a of water from mine dewatering (DWER licence number L8893/2015/2). As groundwater inflows from the mined-out Silver Lake mine are the source of service water (discussed in Section 18), actual discharge is below this limit. The licence was amended in March 2020 to include two Class II putrescible waste landfills (450 t/a) and inert waste type 2 (tyres only) – 1000 t/a.

In 2021, Karora applied for a review to extend the licence duration for an additional five years. The licence extension was approved until July 8, 2026 after which Karora will need to apply for another licence extension.

In addition to limiting the quantity of water that may be discharged, the licence imposes a number of implementation conditions relating to the discharge location, monitoring requirements, and environmental management and reporting obligations. Although the licence specifies requirements for monthly and quarterly water quality monitoring, and for reporting monitoring results to the DWER, it does not impose any explicit limits on the concentration or load of any chemical constituent in the discharge water. In part, this reflects levels of salinity in the discharge that are lower than the salinity of surface water into which it is discharged.

## Part V – Native Vegetation Clearing Permits

Under some circumstances, a permit for clearing of native vegetation is required under Part V of the EP Act. Holders of approved mining proposals or other authorisations under the Mining Act are allowed to clear up to 10 ha of native vegetation per tenement per financial year without a vegetation-clearing permit, providing the vegetation is not specially protected and does not lie in an environmentally sensitive area.

Public databases of native vegetation clearing permits do not include any records of permits issued to SLM or to the previous operator of Beta Hunt, CNKO. Note that as mining operations take place underground, most waste rock is used as backfill for mined out voids, while processing and the associated storage of tailings is performed offsite by third parties. As a result, only limited clearing of vegetation is required.

In the event that clearing of native vegetation were required for future development at Beta Hunt, it is likely that authorization for clearing would need to be sought by, or in consultation with, SIGMC (as primary tenement holder). SIGMC holds many clearing permits relating to its Lake Lefroy mining operations and it is expected that permits would be issued if required in the future.

### 20.2.3 Mining Act 1978

DWER licence L8626/2012/2 lists 17 mining tenements as relevant to the Beta Hunt mine. According to the project management plan for Beta Hunt (SLM, 2013), the main surface infrastructure is located on M15/1529 and M15/1531 and associated infrastructure for ventilation and dewatering are located on M15/1512, M15/1516, M15/1517 and M15/1518. The licensed dewater discharge point for Beta Hunt on Lake Lefroy is situated on tenement M15/1512.

Environmental aspects of mining and mineral processing (and related infrastructure) are regulated under the Mining Act and are administered by the DMIRS. Approval to undertake mining operations



is granted by DMIRS through an assessment process of a mining proposal and closure plan that states the environmental risks and mitigation strategies for potential environmental impacts due to the proposed mining activities. Karora lodged a mining proposal and closure plan for the Beta Hunt expansion project that was approved by DMIRS in January 2022. The approval summarised all mining activities to be undertaken at Beta Hunt and encompassed all prior approvals for the mine.

#### 20.2.4 Rights in Water and Irrigation Act 1914

Construction of bores, taking of surface water and groundwater and implementation of works that may affect watercourses are generally regulated under the *Rights in Water and Irrigation Act 1914*. However, special administrative and policy arrangements have been agreed between DMIRS and DWER, such that some mining activities that would normally require formal DWER approval are exempt from DWER permitting and are instead managed through the instrument of a mining proposal approved by the DMIRS (DMIRS and DWER, 2021). Licensing exemptions do not apply to the taking of water.

Abstraction of water from Beta Hunt workings is regulated under groundwater licence GWL62505, which is held by SIGMC. The licence provides a water allocation of 5 GL/a and is valid until April 2031. Beta Hunt's dewatering requirements (up to 500 kt/a) represent less than 1% of the water that may be abstracted under the current licence.

#### 20.2.5 Aboriginal Cultural Heritage Act 2021 & Aboriginal Heritage Act 1972

In late 2021, Karora engaged Heritage WA to complete an Aboriginal Heritage Desktop Assessment for Beta Hunt and the expansion footprint. The assessment reviewed all available heritage reports and site files relevant to Beta Hunt. The report stated that survey coverage has been thorough and reliable and did not reveal the presence of any heritage values. The AHIS database of known registered heritage sites did not show any records within the four tenements (M15/1512, M15/1516, M15/1529 and M15/1531) where Karora is likely to disturb the surface.

### 20.3 Environmental Aspects, Impacts and Management

Beta Hunt is an operation with a small surface disturbance footprint, and the environmental impacts of the project are correspondingly modest. The information reviewed suggests that the key environmental aspects requiring management effort are:

- Water resource and availability, and
- Mine rehabilitation and closure.

Karora has disclosed that there are no other outstanding significant environmental issues.

#### 20.3.1 Water Management

Mine dewatering at Beta Hunt is generally required to be undertaken in accordance with the Licence to Take Water (GWL 62505) and the conditions attached to that licence. SIGMC is the licence holder and accordingly has primary responsibility for ensuring compliance with the licence.

Discharge of mine water, however, is regulated under DWER licence L8893/2015/2, held by SLM. SLM is required to lodge annual compliance in relation to its water discharge licence and periodic

surveillance by the DWER should be expected. The water quality monitoring results presented in the 2018–2021 annual environmental reports showed relatively consistent results for the concentration of dissolved metals. The greatest fluctuation was seen with copper and zinc in water being discharged to Lake Lefroy, as well as trace amounts of hydrocarbons and slight turbidity. The variation however returns to an average which appears static with no long-term trends identified. The licence approved by DWER specifies no limits for the parameters to be monitored, given that the water is hypersaline.

### 20.3.2 Mine Rehabilitation and Closure

Under the Mining Act, responsibility for mine rehabilitation and closure generally lies with the tenement holder (SIGMC, in this case). The Beta Hunt project management plan explains that accountability for rehabilitation of the Beta Hunt tenements will be allocated as follows:

- Karora will be responsible for disturbance arising from September 9, 2003 to the completion of its operations.
- SIGMC will be responsible for disturbance prior to September 9, 2003 or after the cessation of Karora's operations and mine rehabilitation/closure activities.

Karora does not contemplate any clearing of large areas of native vegetation or new surface disturbance above that required for the 2022 expansion project.

The estimated closure costs are described in Section 21.3.

### 20.3.3 Mining Rehabilitation Fund

The Mining Rehabilitation Fund (MRF) is a state government levy, the responsibility of the DMIRS, which provides a pooled fund, based on the environmental disturbance existing on a tenement at the annual reporting date. Levies paid into the MRF will be used for rehabilitation where the operator fails to meet rehabilitation obligations and every other effort has been used to recover funds from the operator. Liability to pay the MRF Levy became compulsory from July 1, 2014. This means that tenement holders now need to report for the MRF each year prior to the close of the levy period, which is on June 30 each year (prescribed day).

The MRF Liabilities are based on a negotiated set of standard rates for the purposes of setting the levy. The amount of levy payable is assessed as the Rehabilitation Liability Estimate (if over \$50,000) multiplied by the Fund Contribution Rate which is set at 1%.

With respect to the Beta Hunt sub-lease, the MRF levy is paid by SIGMC as registered owners of the leases to which SLM contributes an agreed to amount based on its rehabilitation commitments as defined in the Beta Hunt sub-lease Agreement. Karora's annual contribution is in the order of A\$10,000.

It should be noted that levies paid into the MRF required under the *Mining Rehabilitation Fund Act 2012* and the *Mining Rehabilitation Fund Regulations 2013* are non-refundable and separate from the internal accounting provisions for closure and rehabilitation and should not be used to offset the costs for rehabilitation.

## 20.4 Social and Community

The Kambalda region has a substantial history of exploration, mining, and pastoral activity. This includes small alluvial and underground mining around the early 1900s, salt mining at Lake Lefroy during the 1960s to 1980s, nickel and gold mining from the 1970s to the present, and pastoral grazing on the nearby Woolibar and Mt Monger pastoral stations. Beta Hunt operates within an environment of strong local community support.

The nearest town to Beta Hunt is Kambalda, with a population of 2462 (2021 Census). The closest houses are approximately 2 km from the portal. As the active underground workings are a further 1 km to 4 km down the decline and the scale of operation is small, noise and vibration do not affect the residents. The mine workings are underground, and waste rock is generally used to backfill mined-out voids so there is no active surface waste dump. There is also no concentrator or tailings storage facility. As a result, dust generation is not an issue.

Kalgoorlie-Boulder has a population of 29,306 (2021 Census) and is located 60 km north of Kambalda. Kalgoorlie is the regional centre for the Eastern Goldfields and is a regional hub for transport, communications, commercial activities and community facilities.

Most of the current workforce of approximately 150 persons is accommodated within these two towns. The recent upturn in base metal prices and associated increase in demand for experienced mine workers has resulted in a local labour shortage, requiring FIFO labour to be sourced to meet the increased staffing requirements as the Beta Hunt gold operation ramps up.

There are no registered heritage sites within the project area or nearby. Red Hill lookout is situated on nearby Red Hill and overlooks the Lake Lefroy area.

The nearest port is Esperance, 330 km south of Kambalda.

## 21 Nickel Capital and Operating Costs

Nickel activity capital and operating costs for Beta Hunt have been estimated using a zero-based model. The design criteria, unit costs and other assumptions used in this model are based on current actual performance at Beta Hunt. The currency for all costs presented in this section is Australian dollars (A\$).

### 21.1 Capital Costs

Beta Hunt is an operating gold mine with access infrastructure already in place adjacent to existing and proposed nickel mining areas. However, there is a requirement to excavate additional waste tunnels to provide access and ventilation returns to service the new Nickel mining areas. Capacity of the existing mining fleet is assumed to be allocated to the production of gold ore, thus the additional development activity requires additional personnel and equipment.

Processing of nickel mineralization is performed offsite and by third parties, so there is no required investment by Karora in surface infrastructure such as a mill or tailings storage facility.

No contingency has not been included in the capital estimates.

Table 21.1 summarizes the nickel project capital requirements for the Base Case mine plan that depletes the current Measured, Indicated and Inferred (MII) Resources.

**Table 21.1: Beta Hunt Ni capital cost estimate**

Item	Units	Base Case
Capitalized Development	A\$	\$11,968,021
Vertical Development	A\$	\$513,450
Mining Fleet	A\$	\$4,700,000
Misc Equipment	A\$	\$1,490,620
<b>Nickel Subtotal</b>	A\$	\$18,672,091

Discussion on each of the areas of spending follows below.

#### 21.1.1 Capitalized Development

Significant gold mineralisation potential exists in the Gamma area below the nickel mineralisation; however, to access this area to test and define the mineralisation from underground requires the development of drill drives and supporting ventilation infrastructure.

Any development access in waste that has a useful life exceeding 12 months is classified as capital and includes:

- Extensions to the main decline (mined at 5.0 m wide x 5.5 m high)
- Lateral accesses to nickel mineralization (mined at 4.0 m wide x 4.0 m high)
- Raises installed for storage of broken mineralization, access and ventilation (raisebore by contractors).

Costs for lateral development reflect the design criteria, productivity and unit costs for the current operation.

The cost for contracted raise boring is based on the current fixed unit rate.

Table 21.2 summarizes total quantities of capital development and associated costs for the nickel plan.

**Table 21.2: Beta Hunt capital development**

Capital Development	Units	Base Case
Capitalized Development Ni	A\$	\$11,968,021
Escapeway Ni	A\$	\$513,450
Capital Development Physicals	Units	Base Case
Capital Development Advance	m	2,128
Escapeway Raises	m	352
Large Lateral Development	A\$/m	\$5,623

### 21.1.2 Mining Fleet and Capital Equipment

The current nickel fleet of production equipment at Beta Hunt includes:

- One twin boom jumbo
- Two narrow vein LHDs (3 t capacity) used in narrow vein stoping
- One small LHD (6 t capacity) used in development and bulk stoping
- One large LHD (17 t capacity) used for rehandling mineralization into trucks
- One AD60t truck.

The existing units are either owned, leased or held on a lease-to-buy option. Many of the units that are currently owned were used at time of purchase. Key assumptions used in estimating the fleet capital requirements were:

- There would be no buy-out of existing leases, which are reflected as an operating cost.
- Given the relatively short evaluation period, it would not be necessary to replace any of the units of existing fleet however additional fleet items are required.
- It would be possible to source any additional units that may be required. Note that the assumed cost of additional equipment was estimated at rates for previous purchases.

Additional capital expenditure relates to the following:

- Mine infrastructure – additional air compressors to support handheld stoping
- Mobile equipment – single boom jumbos, small loaders, charge-up vehicle, 60 t trucks, and light vehicles
- Miscellaneous equipment – additional handheld mining equipment
- Safety – refuge chambers and self rescuers
- Primary ventilation – Underground booster fans to control air distribution
- Secondary ventilation – Underground secondary ventilation fans for small development.

Table 21.3 summarizes the capital equipment requirements cost.

**Table 21.3: Beta Hunt equipment capital requirements**

Item	Unit	Cost
Mine Infrastructure	A\$	286,000
Mobile Equipment Purchase	A\$	4,700,000
Misc Equipment - Plant Purchase	A\$	107,500
Safety	A\$	213,800
Ventilation - Primary	A\$	524,780
Ventilation - Secondary	A\$	358,540
<b>Total Fleet Capital</b>	<b>A\$</b>	<b>6,190,620</b>

## 21.2 Operating Costs

The nickel mining operations are costed either directly or indirectly through pro rata cost allocations based upon tonnes for the activity, as summarized in Table 21.4.

**Table 21.4: Operating cost estimate**

Item	Units	Base Case Nickel
Mineralization Mined Mech C/F <sup>1</sup>	kt	586
Mineralization Mined R & P <sup>2</sup>	kt	277
<b>Total Mineralization Mined</b>	<b>kt</b>	<b>862</b>
Nickel Mining Mech C/F <sup>1</sup>	A\$/t ore	\$139
Nickel Mining R&P <sup>2</sup>	A\$/t ore	\$86
Average Mining	A\$/t ore	\$103
Processing and Haulage	A\$/t ore	\$50.18
Grade Control	A\$/t ore	\$0.83
<b>Total Operating Costs</b>	<b>A\$/t ore</b>	<b>\$154</b>
<b>Total Operating Costs</b>	<b>A\$ '000</b>	<b>\$137,000</b>

1. Mechanised Cut-and-fill inclined access development
2. Handheld room-and-pillar inc operating development

Discussion on each of the areas of spending follows below.

### 21.2.1 Nickel Mining Activities

Activity cost distributions to the primary activity are summarised below (Table 21.5).

**Table 21.5: Beta Hunt nickel mining costs distributions**

Activity Allocations (\$k)	Twin boom	Single Boom	Airleg Driving Development	Handheld Stopping	Vertical Development
Truck Allocation	\$3,275	\$4,231	\$171	\$3,986	\$17
Mine Services Allocation	\$8,603	\$13,419	\$518.36	\$17,476	\$58
Large Loader Allocation	\$1,228	\$1,452	\$2.69	\$1,213	\$6
Mine Management Allocation	\$1,550	\$2,018	\$81	\$2,237	\$9
2 Boom Jumbo Allocation	\$10,759				
1 Boom Jumbo Allocation		\$13,505			
Small Loader Allocation		\$3,944	\$160	\$3,292	
Airleg Development			\$3,248		
Airleg Stopping				\$22,199	
Vertical Development					\$423
<b>Total</b>	<b>\$25,415</b>	<b>\$38,568</b>	<b>\$4,180</b>	<b>\$50,402</b>	<b>\$513</b>

#### Trucking Allocation

Costs associated with the trucking operation include operators, fuel and maintenance based upon Beta Hunt truck operating costs.

#### Mine Services

Mine services costs include:

- Mine Supervision & Overheads -additional cost to cover nickel activity
- Mine Services – to support the additional nickel activity
- Maintenance Supervision & Overheads – from additional maintenance labour requirements
- Electrical Services – to support nickel development and production
- Geological and Mine Engineering – to support nickel activity.

#### Large Loader and Small Loader

Costs associated with the large loader operation include operators, fuel and maintenance based upon Beta Hunt loader operating costs.

#### Mine Management Allocation

Costs associated with the mine management include:

- Warehousing
- Safety & Training & Mines Rescue
- General Administration (includes corporate overheads).

## Two Boom and Single Boom Allocations

Costs associated with the two boom and single boom allocations include:

- Operators, fuel and miscellaneous consumables
- maintenance based upon Beta Hunt jumbo maintenance costs
- Drilling and bolting consumables
- Blasting consumables and explosives.

## Airleg Development and Airleg Stopping

Costs associated with handheld activity include:

- Airleg miner costs
- maintenance of handheld equipment based upon Beta Hunt maintenance costs
- Drilling and bolting consumables
- Blasting consumables and explosives.

## Vertical Development

Costs associated with vertical activity are based upon unit rates from recent development works at Beta Hunt.

### 21.2.2 Nickel Processing and Road Haulage

Nickel processing costs are fixed under the processing arrangements with BHP, with recovery rates linked to the assayed head grade, and nickel payability is also specified under the contract arrangement.

Nickel payments are made on assayed grades determined from sampling of delivered material from a blended stockpile (Table 21.6). For the Base Case, it is assumed that there is a delay of one month between mining and receiving payment.

**Table 21.6: BHP processing parameters**

	Description	Units	Value
Mill Delay	Mill Delay - Months from mining	Months	1
Ni Recovery	>=1% and <1.5% Head Grade	%	74
	>=1.5% and <2% Head Grade	%	83
	>=2% and <2.5% Head Grade	%	87
	>=2.5% and <3% Head Grade	%	89
	>=3% and <3.5% Head Grade	%	91
	>=3.5% Head Grade	%	92
Payability	Payable Ni % Recovered t Ni	%	65

Haulage cost is also fixed under contract, the contract included loading and haulage costs except for fuel. Fuel is free issued and accounted for in the cost estimate with haulage to Leinster additional fuel consumption being offset by a \$10/t processing credit from BHP.



### 21.2.3 Total Cash Cost Per Ore Tonne

The breakdown in the total cost per ore tonne is provided in Table 21.7.

**Table 21.7: Cash cost per ore tone mined**

Item	Units	Base Case
Total Mineralization	kt	862
Mining Rate average	kt/month	9.0
Labour Cost	A\$/t ore	56.4
Consumables	A\$/t ore	28.9
Maintenance	A\$/t ore	38.6
Energy	A\$/t ore	13.1
Equipment Leases	A\$/t ore	0.2
Contract Services	A\$/t ore	51.9
<b>Total Cash Costs per Ore tonne</b>	<b>A\$/t ore</b>	<b>189.1</b>

### 21.3 Closure

An independent audit and mine closure estimate prepared in 2018 by consultant MBS Environmental estimated the current rehabilitation liability accruing to Karora for the Beta Hunt sub-lease at A\$881k. These costs have not been included into the evaluation as the gold operations are expected to continue beyond the nickel activities which will have minimal impact upon the final closure costs.

## 22 Economic Analysis

The economic analysis contained in this Technical Report is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

### 22.1 Summary

Table 22.1 summarizes key metrics for the Base Case evaluation and Table 22.2 indicates the value metrics for the Upside Case using a nickel price of US\$25,000.

**Table 22.1: Beta Hunt summary metrics**

Area	Item	Units	Base Case
Production	Mineralization Mined <sup>1</sup>	kt	862
	Payable Nickel <sup>2</sup>	t	9,435
Opex	Revenue/tonne <sup>3</sup>	A\$/t	\$292
	Total Operating Costs	A\$/t	\$159
	Ni Net C1 Costs	A\$/t Ni	\$14,542
Capex & Total Costs	Total Capital Investment	A\$M	\$18.67
	Ni Net AISC <sup>4</sup>	A\$/t Ni	\$16,946
Valuation <sup>5,6</sup>	NPV 5% (US\$19,500/t Ni)	A\$M	\$57.4
	IRR	%	105%

1. Over evaluation period
2. Nickel recovered to concentrate
3. Revenue includes deductions for payability
4. AISC: All-in sustaining cost includes site costs, off-site costs, royalties, and sustaining capital
5. NPV includes operating cash flow and Investment
6. Pre-tax NPV and IRR

**Table 22.2: Beta Hunt summary metrics**

Upside Case	Item	Units	Value
Opex	Revenue/tonne <sup>1</sup>	A\$/t	\$375
	Total Operating Costs	A\$/t	\$159
	Ni Net C1 Costs	A\$/t Ni <sup>1</sup>	\$14,542
Capex & Total Costs	Total Capital Investment <sup>2</sup>	A\$M	\$18.67
	Ni Net AISC <sup>3</sup>	A\$/t Ni <sup>1</sup>	\$17,624
Valuation <sup>4,5</sup>	NPV 5% (US\$25,000/t Ni)	A\$M	\$110.6
	IRR	%	232%

1. Revenue includes deductions for payability
2. Capital investment excludes closure costs
3. AISC: all-in sustaining cost includes site costs, offsite costs, royalties and sustaining capital
4. NPV includes operating cash flow and investment,
5. Pre-tax NPV and IRR

## 22.2 Key Assumptions

All financial metrics presented in Table 22.1 are expressed in real Q1 2022 terms. Metrics reflect the potential value of the of Beta Hunt nickel resources from 2023.

Macro-economic assumptions are based on the analysis presented in Section 19 and are summarized in Table 22.3.

**Table 22.3: Macro-economic assumptions**

Item	Units	Base Case
Nickel Price <sup>1</sup>	US\$/t Ni	\$19,500
AU\$/US\$ FX <sup>1</sup>	ratio	0.73

Returns are expressed on a pre-tax basis.

## 22.3 Base Case Evaluation

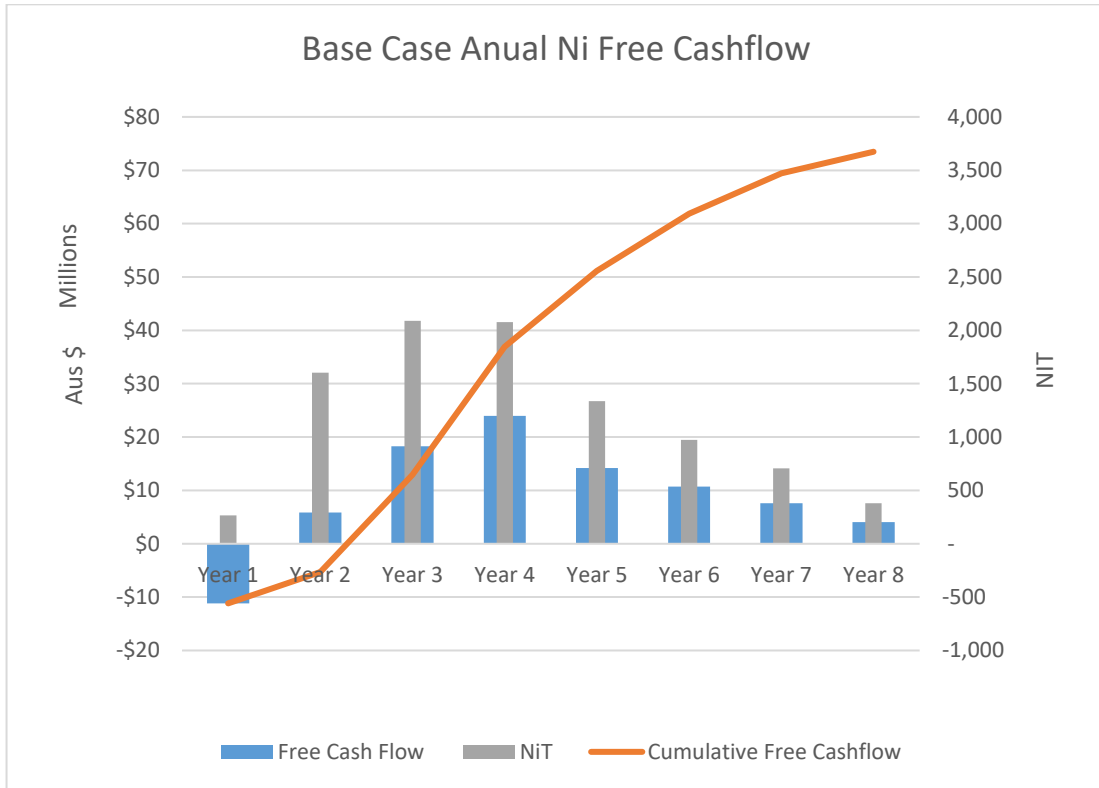
The Base Case plan entails the following:

- A continuation of remnant mining within developed areas and the commencement of development into new nickel production areas. The nickel operation at current production rates of between 2000 t/month and 3000 t/month until access to additional stoping blocks early 2023.
- Utilisation of mechanised cut-and-fill and handheld room-and-pillar mining methods (room-and-pillar assumes an extraction ratio of 75% of the mineable volume).

Table 22.4 provides a summary of annual production, revenue and costs.

Under the Base Case macro-economic forecast, from Year 1, the Base Case is forecast to consistently generate a positive free cash flow from the end of Year 2 (Figure 22.1).

Figure 22.1: Base Case LOM production and cashflow



**Table 22.4: Base Case LOM summary**

Macro-Economic	units	Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Ni	US\$/t Ni		\$19,500	\$19,500	\$19,500	\$19,500	\$19,500	\$19,500	\$19,500	\$19,500
Exchange Rate	US/AUS FX		0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Payable t Ni	t Ni	9,435	267	1,604	2,090	2,077	1,337	974	708	379
Gross Revenue	A\$k	\$252,031	\$7,129	\$42,835	\$55,834	\$55,473	\$35,715	\$26,019	\$18,904	\$10,122
Operating Costs	A\$k	\$137,201	\$10,529	\$26,137	\$28,488	\$26,150	\$18,304	\$12,869	\$9,559	\$5,165
Net C1 Costs - Ni	US\$/t Ni	\$10,615	\$28,799	\$11,899	\$9,949	\$9,192	\$9,994	\$9,645	\$9,861	\$9,951
Net C1 Costs - Ni	A\$/t Ni	\$14,542	\$39,451	\$16,299	\$13,629	\$12,592	\$13,690	\$13,213	\$13,508	\$13,631
Royalties	A\$k	\$22,683	\$642	\$3,855	\$5,025	\$4,993	\$3,214	\$2,342	\$1,701	\$911
Net AISC (Payable Ni in conc)	A\$/t Ni	\$16,946	\$41,855	\$18,704	\$16,033	\$14,996	\$16,094	\$15,617	\$15,912	\$16,035
Pre-Tax Cash OCF	A\$k	\$92,147	-\$4,041	\$12,843	\$22,321	\$24,330	\$14,197	\$10,807	\$7,643	\$4,046
Total Investment	A\$k	\$18,672	\$7,126	\$6,973	\$4,072	\$337	\$0	\$93	\$71	\$0

## 22.4 Sensitivity Analysis

Analysis was performed to test the sensitivity of returns to variation in the following key parameters:

- The reduction in the room-and-pillar extraction from 70% to 60%
- A +/- 20% change in:
  - Grade of nickel mineralization
  - Site operating costs
  - Total capital costs
  - Price of nickel.

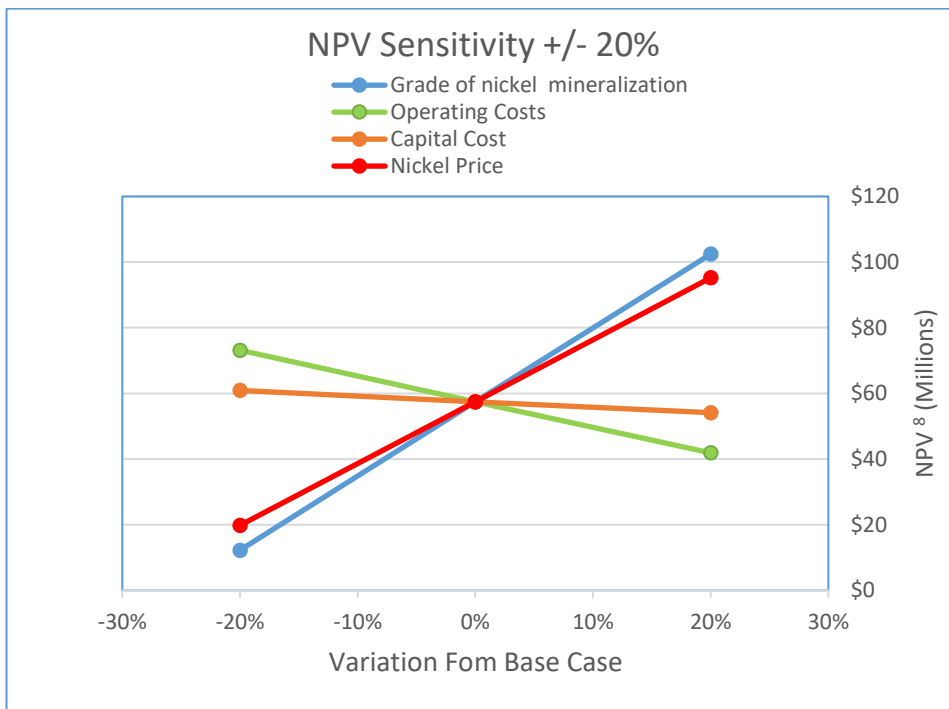
The sensitivity to room-and-pillar extraction percentages is indicated in Table 22.5.

**Table 22.5: Sensitivity analysis room-and-pillar extraction**

Room-and-Pillar Recovery	NPV @5%
R&P @ 75% extraction (Base)	\$57.4
R&P @ 70% extraction	\$46.8
R&P @ 60% extraction	\$38.9

As illustrated in the ‘spider’ graph Figure 22.2 and detailed in Table 22.6, returns are most sensitive to factors impacting revenue (grade and metal price) and less sensitive to capital than operating costs.

**Figure 22.2: Base Case – sensitivity analysis**



**Table 22.6: Base Case sensitivity analysis**

<b>Base Case Pre-Tax NPV Sensitivity Value</b>	<b>Change -20%</b>	<b>Change +20%</b>
Grade of Nickel Mineralization	\$12.2	\$102.4
Site Operating Costs	\$73.1	\$41.9
Total Capital Costs	\$60.9	\$54.1
Price of Nickel	\$19.8	\$95.2

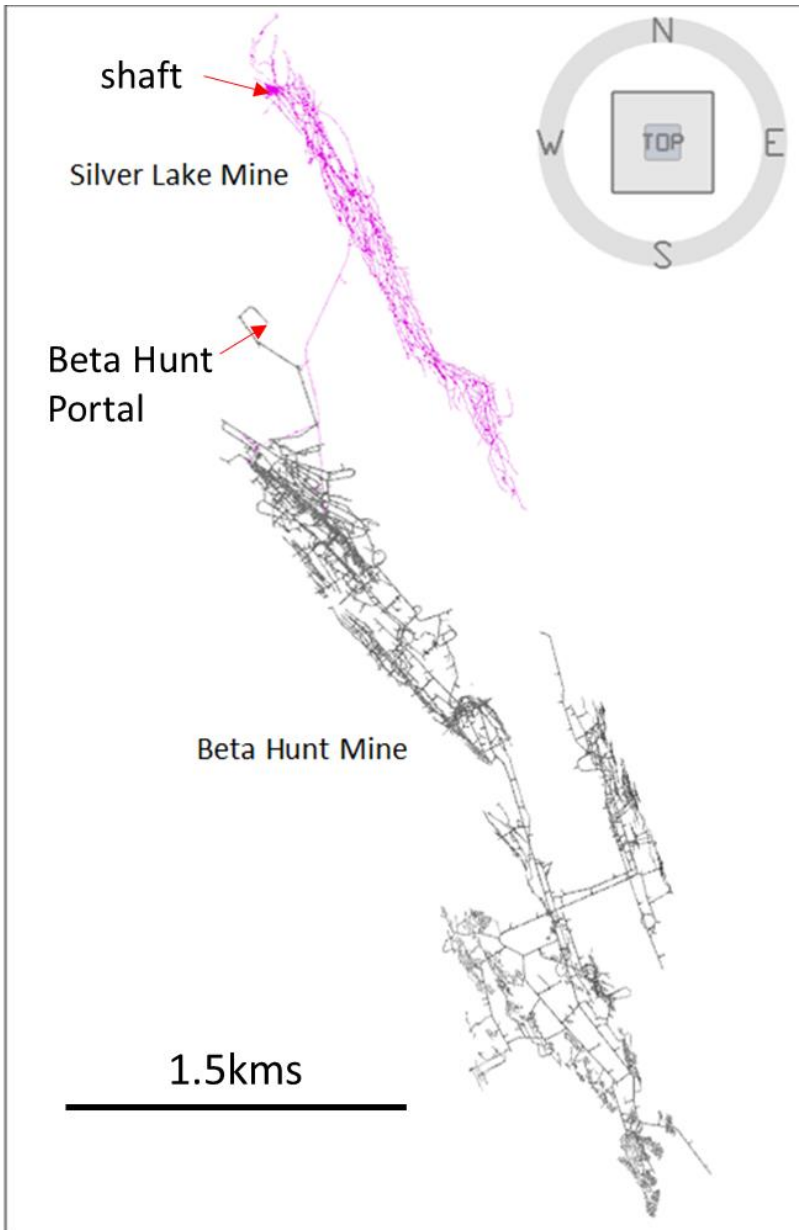
## 23 Adjacent Properties

### 23.1 Adjacent Nickel Deposits

Nickel sulphides was first mined in the Kambalda region from WMC Resources Silver Lake shaft (Figure 23.1) in 1966. The deposits mined from this shaft were known as the Lunnon shoot or deposit. The Silver Lake mine commenced in 1966/67 with final remnant mining being completed in 1985/86.

Total production from this deposit was 4.5 Mt of ore at a grade of 2.7% Ni for a total of 123 kt Ni contained in ore (WMC, 1985).

**Figure 23.1: Location of Silver Lake mine (purple) with respect to Beta Mine**





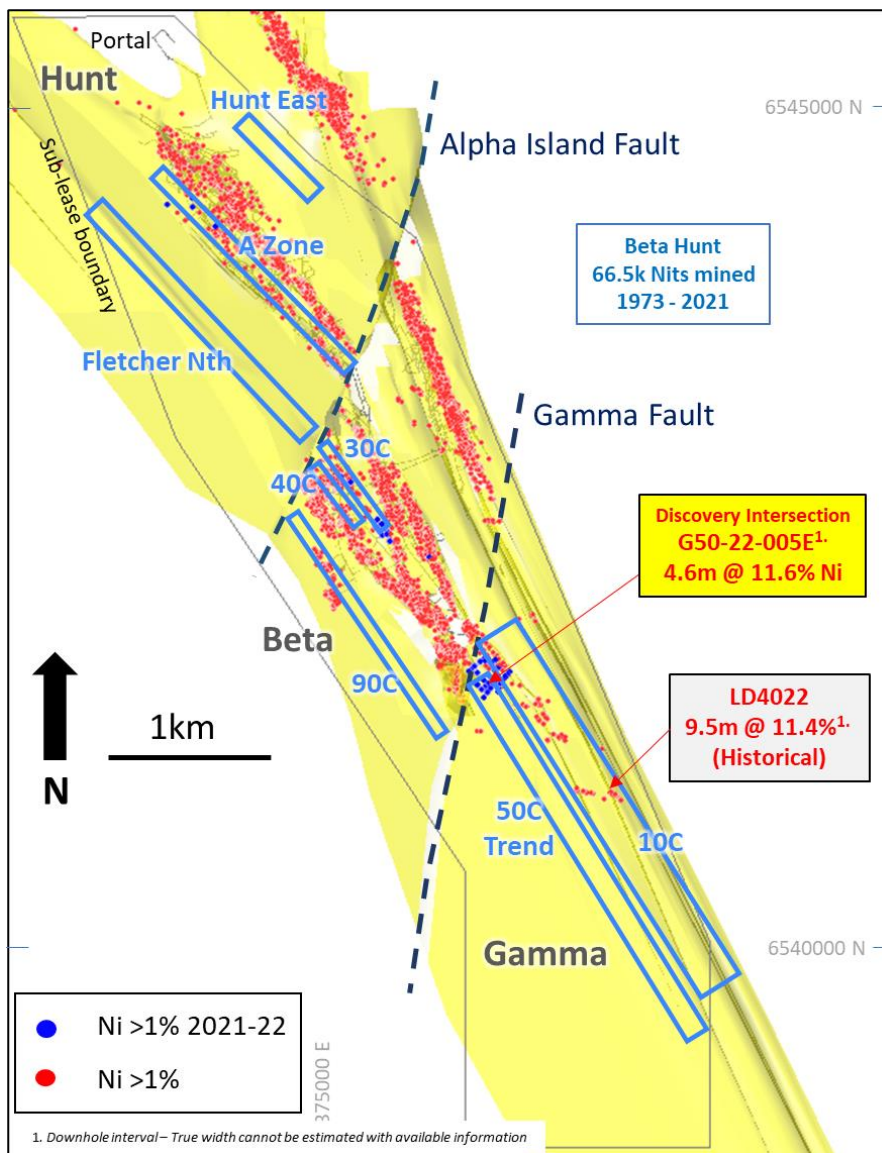
## 24 Other Relevant Data and Information

### 24.1 Nickel Exploration Potential

Significant potential exists for the discovery of additional nickel deposits at Beta Hunt along trend from known nickel shoots and in parallel structures north and south of the Alpha Island Fault (Figure 24.1).

Since the release of the 2016 PEA, drilling activity has mostly focused on gold mineralization. This situation, changed in 2020 when Karora recommenced drilling nickel targets, primarily testing targets south of the AIF. This work was successful in discovering the 30C nickel trough and, more recently the 50C nickel trend.

**Figure 24.1: Basalt geology model showing, nickel targets and plus 1% Ni drill intersections**



Nickel targets are highlighted as blue outlines. Source: Karora

### 24.1.1 Hunt Block

#### **A Zone Trend (Top of Western Flanks Gold)**

A Zone nickel mineralization was mined from Hunt and was recognized as the single most important mineralized surface with the highest grade-tonnage of any nickel surface. Infill drilling has been completed from surface south of the last known occurrence in the 13 level and appears to cut off A Zone mineralization to the immediate south. However, 700 m further south along strike, hole WF14-14 was drilled in 2014 for Western Flanks gold and intersected a small amount of high tenor massive sulphide in the expected position of the A Zone surface. This nickel occurrence intersected 2.35 m grading 5.8% Ni including 0.65 m grading 14.4% Ni (Figure 24.2). This intersection was supported with additional intersections in 2020 resulting from drilling aimed at upgrading the existing Western Flanks Gold Mineral Resource. Drill holes from this program were extended through the basalt/ultramafic contact to test the continuity of the Western Flanks mineralization—historically referred to as the A Zone nickel trend—at this contact position. Drilling intersected both massive and matrix nickel sulphides on the contact position and a thrust ultramafic (lower) position within the basalt. Results to date have highlighted the potential for discontinuous, high grade nickel sulphide shoots to occur within the Western Thrust system above the Western Flanks Gold Mineral Resource. This mineralization is outside of any nickel mineral resources previously reported by Karora and occurs parallel to the historically mined D Zone nickel trough (above A Zone Gold Mineral Resource) 150 m to the east.

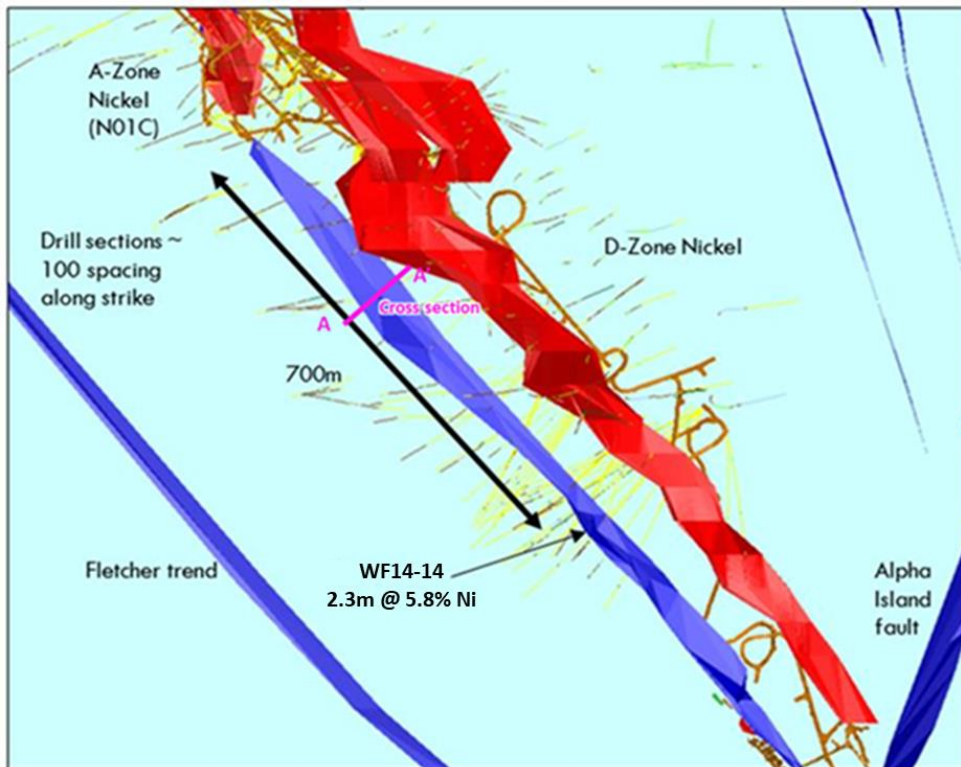
Significant results were reported in Karora (2020b) and included:

Western Flanks Nickel-Upper<sup>1</sup>:

- WFN-103A: 7.2% over 1.2 m
- WFN-096: 5.3% over 0.5 m
- WFN-135: 5.2% over 0.8 m
- WFN-134: 5.6% over 0.7 m
- WFN-118: 4.1% over 2.2 m.

<sup>1</sup> Estimated true widths.

Figure 24.2: A Zone trend nickel exploration potential west of D Zone



Oblique view looking northeast. Source: Karora

### Hunt East

The potential exists for a nickel shoot to lie in poorly tested ground between the Hunt and Lunnon shoots. Named Hunt East, the target is conceptual, first identified in a global study of the Kambalda Dome undertaken by WMC in 1994. No work has been conducted on this target since, so the target remains largely conceptual. The 1994 study concurs with earlier studies on the Dome in correlating the Hunt shoot on the south side of the Dome with the Fisher shoot to the north, while a 1978 re-interpretation of the structurally complex Fisher ore environment recognized that the deposit in fact consists of two separate mineralized belts, the North Belt and the South Belt. It is the South Belt which correlates with Hunt; two intersections of nickeliferous sediment on the contact to the east of Hunt, on either side of the prospective zone, add support to the hypothesis that potential exists here. Very few holes – were drilled to the contact in this area.

### Fletcher North

Excellent potential exists for exploration drilling to the west of the already mined surfaces in the Hunt Block. The Fletcher North target which is interpreted as the up-plunge position of the Beta West nickel shoot, north of the Alpha Island Fault (AIF) highlights this potential. The Fletcher North nickel target is interpreted to lie above the recently discovered Fletcher gold mineralised shear zone on the ultramafic/basalt contact. This target is poorly tested with existing drilling limited to surface holes with a minimum spacing of 300 m up to several kilometres.

### 24.1.2 Beta Block

Drilling in 2020 has confirmed the potential for nickel trough extensions and new discoveries south of the AIF. The extensions south of the AIF represent down-plunge, dextral offsets from the Hunt Block mineralization (A and D Zone) mined by WMC from the 1970s to the late 1990s and are part of the Beta mineralization system mined by CNKO and Karora. Karora are currently actively mining this part of the nickel mineralization system.

Review work undertaken late in 2019 identified a number of nickel targets along the major nickel trends south of the AIF associated with the Lunnon Basalt and overlying Kambalda Komatiite contact position. These targets included the 10C, 20C, 25C, 30C, 40C and 90C trends. Specific targets included open contacts, western pinches, step contacts and thrust wedges.

Drilling of these targets commenced in May 2020 and marked the first nickel drill testing in six years. The interpreted 30C trough position was prioritised for drilling and intersected nickel sulphide mineralization, both massive and the matrix texture typical of adjacent mined nickel troughs, marking the first new nickel trough discovery at Beta Hunt in 13 years (Karora, 2020c).

Assay intersection<sup>1</sup> highlights from the 30C drilling are listed below:

- BE30-001: 2.1% Ni over 2.4 m
- BE30-002: 3.7% Ni over 0.8 m
- BE30-007: 3.8% Ni over 2.3 m
- BE30-009: 7.7% Ni over 1.3 m
- BE30-010: 8.6% Ni over 1.0 m.

<sup>1</sup> Downhole thickness. True thickness cannot be estimated with available information.

Follow-up surface drilling in 2022 is planned to extend mineralization identified in 2021 and test the 90C target. The 90C target is an extension to the Beta West mineralisation and remains untested to the south.

### 24.1.3 Gamma Block

Exploration potential remains open south of the Gamma Fault. This potential was highlighted in 2021 with the discovery of the 50C nickel trend from drilling completed in late 2020.

The targeted basalt/ultramafic contact was intersected in four of five diamond holes with nickel mineralization intersected in three holes: G50-22-005E, G50-22-003E and G50-22-002 in the nickel contact position. Two holes, G50-22-005E and G50-22-003E encountered strong nickel mineralization logged as massive and disseminated nickel sulphide, with hole G50-22-005E intersecting 2.2 m (downhole) of massive nickel sulphide. Assay results<sup>1</sup> support the visual observation of high tenor mineralization in this hole:

- G50-22-005E: 11.6% Ni over 4.6 m, including 18.4% Ni over 2.2 m
- G50-22-002E: 1.2% Ni over 0.3 m
- G50-22-003E: 2.4% Ni over 1.8 m.

<sup>1</sup> Downhole intervals. True widths cannot be determined with currently available information.

This result was the catalyst for follow-up infill and extensional drilling facilitating the production of updated nickel resources and a maiden nickel resource for the 50C trend (refer Section 14).

Both the 10C and 50C trends remain open along strike to the southeast with potential to extend 2.6 km of strike to the sub-lease boundary. This potential is highlighted by historical surface drill hole LD4022 which intersected 9.5 m (downhole) @ 11.4% Ni, 400 m southeast along strike of the new Mineral Resource (see Karora, 2022b).

## 25 Interpretation and Conclusions

In the opinion of the authors, the PEA demonstrates the viability of developing a plan to expand the Beta Hunt Nickel operations.

This analysis and the associated conclusion of viability is based, in part, on Inferred Resources and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Specific conclusions by area follow.

### 25.1 Mineral Resources

The increase in Karora's 2022 Mineral Resource and Mineral Reserve for nickel is a significant milestone. The consolidated Measured and Indicated Nickel Mineral Resource of 19,600t Ni represents a 22% increase from 2020, providing a strong and substantial platform from which to produce Mineral Reserves and provide the Company with the opportunity to develop medium to long term plans. Inferred Nickel Mineral Resources now total 13,200t Ni, an increase of 52%, compared to the September 2020 Inferred Mineral Resource estimate.

This result underlines the re-invigoration of the nickel opportunity at Beta Hunt. After a four-year pause in nickel focused drilling (2016 to 2020), a targeted and well-planned exploration drilling program has now successfully discovered and defined the 30C nickel trough and 50C nickel trend and highlights the ongoing potential to add to the current nickel Mineral Resources.

The property-wide exploration potential for nickel remains significant and is outlined in Section 24.

### 25.2 Mineral Processing

There is limited risk associated with the ongoing processing of mineralization from Beta Hunt as:

- Beta Hunt is an operating mine with existing contracts in place for processing of nickel.
- Beta Hunt mineralisation has been successfully processed by the toll operator (BHP) for many years and is well understood.
- The toll operator (BHP) is currently operating at less than capacity and feed from Beta Hunt is an important component of their business plans.

### 25.3 Mining

Karora has maintained a core workforce with the skills to successfully mine the recently identified nickel resources. The ramp-up of nickel production would leverage of this existing skill base, along with the recommencement of mechanized cut-and-fill mining.

## 25.4 Environmental

Risks associated with environmental issues at Beta Hunt are considered low, for the following reasons:

- Beta Hunt is an operating mine and in possession of all required permits.
- The mine is high grade, low tonnage and uses underground methods. Furthermore, there is no processing of ore and associated impoundment of tailings performed on the site. The consequent impact on the environment is low.
- The mine is located in a region that hosts a number of active mines and local communities are strongly supportive of the mining industry.
- The region is located in a state that was recently ranked as the top jurisdiction globally for mining investment.

## 25.5 Capital and Operating Costs

The capital intensity to access the recent Ni mineralisation extensions at Beta Hunt is relatively low for the following reasons:

- It is an operating mine with significant infrastructure already in place and primary development to the various working areas already established.
- Processing of mineralization is performed offsite and by third parties, so there is no required investment in surface infrastructure such as a mill or tailings facility.

The nickel and gold mining operations share common infrastructure and overhead costs, resulting in lower costs for the combined operation.

## 25.6 Economic Evaluation

Evaluation of the Base Case plan indicates that, for an average price of US\$19,500/t Ni, Beta Hunt would achieve the following metrics:

- Net C1 cash costs of A\$14,542/t Ni
- An EBITDA of A\$92M
- AISC costs of A\$17,946/t Ni
- A pre-tax NPV<sub>5%</sub> of A\$57.5M
- A pre-tax IRR of 105%.

Returns are most sensitive to grade and price, with a 20% grade increase leading to a 78% increase in pre-tax NPV and a 20% price increase leading to a 66% increase in pre-tax NPV. Conversely, a 20% increase in operating cost would lead to a 27% decline in NPV while a 20% increase in capital costs would lead to a 6% contraction in NPV.

## 26 Recommendations

The authors recommend that Karora proceed with data collection and analysis necessary for the reporting of Mineral Reserves as well as further work to expand the resource base with the aim of providing medium to long term security for the on-going development of the Beta Hunt mine.

Specific recommendations include:

- Infill drilling of existing Inferred Resources should be performed to confirm resource estimates and upgrade these resources to Indicated or Measured categories.
- Infill drilling should be followed by a pre-feasibility study (PFS) to identify the economically viable portion of Measured and Indicated Resources that can be classified as reserves.
- After infill drilling and in parallel with the engineering study, step-out drilling of exploration targets should be conducted to define new resources that would permit mine life to be extended.
- Continue to evaluate and test with drilling the nickel (and gold) potential at Beta Hunt.

The authors are unaware of any other significant factors and risks that may affect access, title, or the right or ability to perform the exploration work recommended for the Beta Hunt Mine.



## 27 References

- AMC Consultants (2021). Beta Hunt Nickel Resource Estimates, prepared for Karora Resources, January 2021.
- Australian Bureau of Statistics (2021) 2021 Census
- Australasian Joint Ore Reserves Committee (JORC), (2012). The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition. (the JORC Code).
- Banasik, C & Cramer, KP (2006). Managing geological complexity – Beta Hunt Mine, Kambalda, Western Australia, in Proceedings Sixth International Mining Geology Conference, pp.23-28 (The Australasian Institute of Mining and Metallurgy: Melbourne).
- Canadian Institute of Mining, Metallurgy and Petroleum (CIM), (2014). CIM Definition Standards for Mineral Resources & Mineral Reserves. May 2014. (CIM Definition Standards).
- Consolidated Minerals Limited (2005a). Mineral Resource Estimate for the Beta Hunt Gold Deposits, Kambalda, Western Australia, internal unpublished report by Price, D.
- Consolidated Minerals Limited (2005b). Beta Hunt Gold Exploration Strategy & Targets, internal unpublished report by Twyerould, S. and Price, D.
- Consolidated Nickel Kambalda Operations (2008). CNKO Beta & East Alpha Progress Report December 2008, internal unpublished report by Storkey, A. and Whaanga, A.
- Dames and Moore (1999). The Public Environmental Review – Gold Mining Developments on Lake Lefroy for WMC Resources Ltd (St Ives Gold), September 1999.
- Department of Mines and Petroleum and Department of Water (2012). Administrative agreement for mineral exploration and mining operations in water resource areas of Western Australia, March 2012.
- Department of Mines, Industry Regulation and Safety and the Department of Water and Environmental Regulation (2021). Administrative Agreement ENV-MEB-016, January 2021.
- Eckstrand, OR & Hulbert, LJ (2007). Magmatic nickel-copper-platinum group element deposits. Mineral deposits of Canada: A synthesis of major deposit types, district metallogeny, the evolution of geological provinces, and exploration methods: Geological association of Canada, Mineral Deposits Division, Special Publication, 5, pp.205-222.
- Gold Fields Limited (2015), Mineral Resource and Mineral Reserve Supplement to the Integrated Annual Report 31 December 2014.
- Jones, S (2008). Beta Hunt Structural Mapping, Eastern Goldfields, Western Australia. Consolidated Minerals internal unpublished report.
- Karora Resources Inc. (2016). NI 43-101 Technical Report Preliminary Economic Assessment – The Beta Hunt Mine, Kambalda, Western Australia. March 4, 2016 by D. Penswick & E. Haren.
- Karora Resources Inc. (2020). Technical Report February 6, 2020. [www.sedar.com](http://www.sedar.com)
- Karora Resources Inc. (2020b). Karora news release, September 8, 2020
- Karora Resources Inc. (2020c). Karora news release, September 10, 2020
- Karora Resources Inc. (2021a). NI 43-101 Technical Report, February 1, 2021. [www.sedar.com](http://www.sedar.com)
- Karora Resources Inc. (2021b). KRR news release, April 6, 2021.

Karora Resources Inc. (2022a). Karora news release, March 1, 2022.

Karora Resources Inc. (2022b). KRR news release, May 11, 2022.

Karora Resources Inc. (2022c). Annual Environmental Report, 2021 Beta Hunt Mine Environmental Licence L8893/2015/2, February 2022.

MBS Environmental (2015). Annual Environmental Report - November 2013 to October 2014, Beta Hunt Mine, Environmental Licence L8626/2012/1, internal unpublished report.

Mindex Database, Western Australia Department of Mines and Petroleum, Mindex Database.

Phillips, GN & Groves, DI (1982). Fluid Access and Fluid-Wall Rock Interaction in the Genesis of the Archaean Gold-Quartz vein deposit at the Hunt Mine Kambalda Western Australia. Gold-82

Potvin, Y (1988) Empirical open stope design in Canada. Ph.D. thesis, Dept. Mining and Mineral Processing, University of British Columbia.

Prendergast, K (2007). Application of lithogeochemistry to gold exploration in the St Ives goldfield, Western Australia. *Geochemistry: Exploration, Environment, Analysis*, 7(2), 99-108.

Salt Lake Mining Pty Ltd (2013). Beta Hunt, Kambalda WA - Project Management Plan, November 2013.

St Ives Gold Mining Company Pty Limited (2012). Technical Short Form Report – 31 December 2012.

St Ives Gold Mining Company Pty Limited (2014). Goldfields Site Visit Presentation, St. Ives Gold Mine, Graeme Ovens, July 2014.

Stedman, A & Green, KP (2018). Fraser Institute Annual Survey of Mining Companies 2018. Fraser Institute. <<http://www.fraserinstitute.org>>.

Stone, WE & Archibald, NJ (2004). Structural controls on nickel sulphide ore shoots in Archaean komatiite, Kambalda, WA: the volcanic trough controversy revisited. *Journal of structural geology*, 26(6), 1173-1194.

Stone, WE, Beresford, SW & Archibald, NJ (2005). Structural setting and shape analysis of nickel sulfide shoots at the Kambalda dome, Western Australia: implications for deformation and remobilization. *Economic Geology*, 100(7), 1441-1455.

Urosevic, M, Bhat, G & Grochau, MH (2012). Targeting nickel sulfide deposits from 3D seismic reflection data at Kambalda, Australia. *Geophysics*, 77(5), WC123-WC132.

Western Mining Corporation Limited (1985). K.N.O. Progress Report November 1985 – Hunt Shoot K/2850, internal unpublished report by Thomson, B.

**APPENDIX A**  
**CERTIFICATE OF QUALIFIED PERSON**

## **CERTIFICATE OF QUALIFIED PERSON**

**Stephen Devlin**

Karora Resources Inc

Ground Floor, 15 Altona St, West Perth WA 6005, Australia

Telephone: +61 (0)427 778 299

Email: [steve.devlin@karoraresources.com.au](mailto:steve.devlin@karoraresources.com.au)

To accompany the Technical Report titled: "Preliminary Economic Assessment Beta Hunt Mine Nickel Resources, Kambalda, Western Australia " dated July 6, 2022.

I, Stephen Devlin, BSc ,FAusIMM, do hereby certify that:

1. I am Group Geologist at Karora Resources Inc, with an office at Ground Floor, 15 Altona St, West Perth, Western Australia, Australia;
2. I am a graduate from Sydney University, NSW, Australia in 1980 with a B.Sc. Hons in Geology and from Curtin University, Perth, Western Australia in 2013 with a Grad. Certificate in Mineral & Energy Economics; and I have practised my profession continuously since 1981. My relevant experience for the purpose of the Technical Report is: Over 35 years of mine industry experience including 9 years nickel experience in exploration, resource development, resource auditing and mining of the Beta Hunt nickel deposits in the Archean of Western Australia;
3. I am a Fellow of the Australasian Institute of Mining and Metallurgy;
4. I have read the definition of "Qualified Person" set out in National Instrument 43- 101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.
5. I have prior involvement with the properties that are the subject of the Report. This involvement is via my role as Group Geologist with Karora Resources Inc between January 2019 and present, as well as fulfilling the role of Business Development Manager with Salt Lake Mining Pty Ltd (prior owners of the Beta Hunt Mine) between 2014 and 2018.
6. I am responsible for preparation of the Technical Report entitled " Preliminary Economic Assessment Beta Hunt Mine Nickel Resources, Kambalda, Western Australia " dated July 6, 2022.
7. I am not an independent "qualified person" within the meaning of section 1.5 of National Instrument 43-101 – Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators.
8. I have read NI 43-101 and Form 43-101F1 and have prepared and read the previously-mentioned section of the report entitled " Preliminary Economic Assessment Beta Hunt Mine Nickel Resources, Kambalda, Western Australia " dated July 6, 2022 for Karora Resources Inc, in compliance with NI 43-101 and Form 43-101F1.
9. That, at the effective date of this technical report July 6, 2022, to the best of my knowledge, information, and belief it contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

This sixth day of July 2022

A handwritten signature in black ink that reads "Steve Devlin". The signature is written in a cursive style with a large, looped initial "S" and a distinct "Devlin" ending.

---

Steve Devlin

## CERTIFICATE OF QUALIFIED PERSON

**Shane McLeay**

Entech Pty Ltd

8 Cook, West Perth WA 6005, Australia

Telephone: +61 (0) 418 940 433

Email: [shane.mcleay@entechmining.com](mailto:shane.mcleay@entechmining.com)

To accompany the Technical Report entitled: "Preliminary Economic Assessment Beta Hunt Mine Nickel Resources, Kambalda, Western Australia" dated July 6, 2022.

I, Shane McLeay, B.Eng (mining) .FAusIMM, do hereby certify that:

1. I am Principal Consultant of Entech Pty Ltd, an independent mining consultant, with an office at 8 Cook St, West Perth, Western Australia, Australia;
2. I am a graduate from the Western Australian School of Mines, Curtin University Australia in 1995 with a B.Eng (mining). Hons. I have practised my profession continuously since 1995. My relevant experience for the purpose of the Technical Report is: Over 20 years of gold and base metals industry experience in feasibility studies, operational mine start-up, mine costing and steady state production.
3. I am a Fellow of the Australasian Institute of Mining and Metallurgy;
4. I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101;
5. I have prior involvement with the property that is the subject of the Report having assisted Salt Lake Mining with design and operational reviews since 2014.
6. I am responsible for part of Section 15, 16 and 21 of the Technical Report entitled "Preliminary Economic Assessment Beta Hunt Mine Nickel Resources, Kambalda, Western Australia" dated July 6, 2022, specifically 15.2, 16.1 and 21.1.
7. I am an independent "qualified person" within the meaning of section 1.5 of National Instrument 43-101 – Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators;
8. I have read NI 43-101 and Form 43-101F1 and have prepared and read the report entitled "Preliminary Economic Assessment Beta Hunt Mine Nickel Resources, Kambalda, Western Australia" dated July 6, 2022 for Karora Resources Inc, in compliance with NI 43-101 and Form 43-101F1.
9. That, at the effective date of this technical report July 6, 2022, to the best of my knowledge, information, and belief it contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

This 6<sup>th</sup> day of July 2022

'Original Signed and Sealed'

A handwritten signature in blue ink, appearing to read 'Shane McLeay', written in a cursive style.

---

Shane McLeay

Principal Consultant

Entech Pty Ltd