Amended and Restated NI 43-101 Technical Report:

Mineral Resource Update, Beatons Creek Conglomerate Gold Project, Pilbara Region, Western Australia

EFFECTIVE DATE: 28TH FEBRUARY 2019

ISSUE DATE: 22 OCTOBER 2020

Prepared by:

Dr Simon C. Dominy FAusIMM(CP) FAIG(RPGeo)

Dr Quinton T. Hennigh PGeo

TABLE OF CONTENTS

1. SUMMARY **1**
1.1 Location, Property Description and Ownership 1
1.2 Geology and Mineralization 2
1.3 Exploration, Drilling, Sampling and QA/QC 2
1.4 Mineral Processing and Metallurgical Testing 3
1.5 Mineral Resource Estimation 4
1.6 Interpretations and Conclusions 7
1.7 Recommendations 7
2. INTRODUCTION **8**
2.1 Units of Measure 9
2.2 Abbreviations 9
3. RELIANCE ON OTHER EXPERTS **11**
4. PROPERTY DESCRIPTION AND LOCATION **12**
4.1 Location 12
4.2 Tenements and Ownership Status 13
4.3 Exploration and Mining Permitting 17
4.4 Environmental and Permitting 17
4.5 Risk Factors 18
5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY **19**
5.1 Accessibility 19
5.2 Physiography 19
5.3 Climate 19
5.4 Local Resources and Infrastructure 20
6. HISTORY **22**
6.1 Ownership History 22
6.2 Exploration History 22
6.2.1 Previous Exploration in the Beatons Creek Project Area 22
6.2.2 Historical Production for the Beatons Creek Area 25
7. GEOLOGICAL SETTING AND MINERALIZATION **26**
7.1 Regional Geology 26
7.1.1 Regional Structure and Metamorphism 29
7.2 Local Geology 29
7.3 Property Geology 34
7.4 Property Mineralization 36
7.4.1 Channel Mineralization 37
7.4.2 Marine Lag Mineralization 38
8. DEPOSIT TYPES **42**
9. EXPLORATION **44**
10. DRILLING **46**
10.1 Drill Collars 47
10.2 Downhole Surveys 48
10.3 Geological Logging 48
10.4 Sampling Methodology 49
10.5 2013 and 2017 RC Drilling Programmes 49
11. SAMPLE PREPARATION, ANALYSES AND SECURITY **53**

11.1 Trench Channel Sampling Methodology 53
11.2 Sample Preparation 53
11.3 RC Drilling Sample Preparation and Analysis 54
11.4 Trench Channel Sample Preparation and Analysis 54
11.5 Diamond Drill Core Sample Preparation and Analysis 55
11.6 Quality Assurance and Quality Control for Sample Analysis 55
11.7 Comparison by Sample Type 61

12. DATA VERIFICATION 63
12.1 LeachWELL Assay Validation .... **Error! Bookmark not defined.**

13. MINERAL PROCESSING AND METALLURGICAL TESTING 65
13.1 Historical Metallurgical Testwork (Oxide and Fresh) 65
13.2 Fresh Mineralisation Testwork 2019 66
13.3 Tailings Characterisation 67
13.4 Trial Mining Programme 2016 68
13.5 Bulk Sampling Programme 2018 69
13.5.1 Introduction 69
13.5.2 Sample Mass Optimisation 69
13.5.3 Sample Collection 69
13.5.4 Process Flowsheet 73
13.5.5 PhotonAssay Gold Assay Technique 75
13.5.6 QAQC 75
13.5.7 Key Reporting Matters 78
13.5.8 Programme results 82
13.5.9 Data Verification 85
13.5.10 Conclusions 86

14. MINERAL RESOURCE ESTIMATES 87
14.1 Disclosure 87
14.2 Assumptions, Methods and Parameters 87
14.3 Data Provided 87
14.4 Data Used in 2019 Mineral Resource Estimate 87
14.5 Data Validation 89
14.6 Geological Interpretation and Modelling 89
14.7 Statistical Analysis 93
14.8 Compositing of Assay Intervals 95
14.9 Consideration of Extreme Grades and Estimation Methodology 96
14.10 Variogram Analysis 97
14.11 Kriging Neighbourhood Analysis 100
14.12 Establishment of Block Models 101
14.13 Grade Interpolation Parameters 103
14.14 Density Analysis and Assignment 106
14.15 Model Validation 107
14.16 Resource Classification 110
14.17 Resource Pit Shell Optimization and Underground Resources 111
14.18 Resource Reporting 112
14.19 Bulk Sample Program and Reconciliation with Estimate 113
14.20 Comparison with Previous Mineral Resource Estimate 115
14.21 Mineral Resource Risk Factors 115
14.22 Peer Review of the Mineral Resource Estimate 117

15. MINERAL RESERVE ESTIMATES 118

16. MINING METHODS 119
17. RECOVERY METHODS 120
18. PROJECT INFRASTRUCTURE 121
19. MARKET STUDIES AND CONTRACTS 122
20. ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT 123
21. CAPITAL AND OPERATING COSTS 124
22. ECONOMIC ANALYSIS 125
23. ADJACENT PROPERTIES 126
24. OTHER RELEVANT DATA AND INFORMATION 127
25. INTERPRETATION AND CONCLUSIONS 128
26. RECOMMENDATIONS 129
27. REFERENCES 130
28. DATE AND SIGNATURE PAGE 133

LIST OF TABLES

Table 1-1. Total Mineral Resources (oxide and fresh mineralization; open pit and underground). 1
Table 1-2. Total Mineral Resources (oxide and fresh mineralization; open pit and underground). 4
Table 4-1. List of Tenements comprising the Beatons Creek gold project area (Mining Leases shaded in light grey) 14
Table 6-1. Chronological summary of past exploration relevant at Beatons Creek. 23
Table 7-1. Mine stratigraphy as defined by 2018 diamond drilling. 35
Table 11-1. Quality control insertion. 56
Table 11-2. Selected standard reference material performance. 56
Table 12-1. Drill collar location checks. .... **Error! Bookmark not defined.**
Table 13-1. Summary of bulk sampling programme QA/QC. 76
Table 13-2. Summary of bulk sampling programme QA/QC outcomes. 77
Table 13-3. Extract from NI 43-101 Item 11 pertaining to sampling and assaying. 78
Table 13-4. Extract from NI 43-101 Item 13 pertaining to metallurgical testwork. 78
Table 13-5. NI43-101 Item 11: Sampling and Assaying. 79
Table 13-6. NI43-101 Item 13: Metallurgical Testwork. 81
Table 13-7. Global bulk sample results. 82
Table 13-8. Compilation of all Beatons Creek bulk sample results (N = 58). 83
Table 13-9. Bulk sample results by resource area (above 0.5 g/t Au). 84
Table 13-10. Bulk sample results by dominant reef (above 0.5 g/t Au). 84
Table 13-11. Beatons Creek duplicate bulk sample results. 85
Table 13-12. Risk review for the Beatons Creek bulk sampling programme. 86
Table 14-1. Summary of data excluded from the current estimate. 88
Table 14-2. Estimation domains. 92
Table 14-3. Coding for oxide/fresh boundary and topography. 93
Table 14-4. Lag type coding. 93

Table 14-5. Raw sample and composite sample statistics for each mineralization domain. 96
Table 14-6. Top-cuts applied to estimation domains. 96
Table 14-7. Gold grade variogram model parameters. 99
Table 14-8. Block model extents. 102
Table 14-9. Summary of block model fields. 103
Table 14-10. Search parameters for each estimation domain. 105
Table 14-11. Summary of SG data. 106
Table 14-12. Domain by domain comparison between the declustered composites and the output block model grades for the 27 domains. 107
Table 14-13. Tabulation of Beatons Creek Mineral Resources by open pit vs. underground, resource classification, and fresh vs. oxide. 112
Table 14-14. Bulk sample results by oxide resource area. 114
Table 14-15. Comparison of mean grades across different sample supports in the oxide mineralization Indicated Mineral Resource. 114
Table 14-16. Risk matrix for the Beatons Creek Mineral Resource estimate. 116
Table 26-1. Approximate costs of recommended work programmes. 129

LIST OF FIGURES

Figure 1-1. Location Map 2
Figure 1-2. Extents of geological wireframes. 5
Figure 1-3. Plan view showing estimated block gold grades in the M1 reef. 6
Figure 4-1. Location Map. 12
Figure 4-2. Beatons Creek project tenements map. 16
Figure 4-3. Activities for permission under August 2018 DMIRS mining proposal approvals. 18
Figure 5-1. Project infrastructure and accessibility. 20
Figure 6-1. Historical drill collars by drill type (pre-2011) 24
Figure 6-2. Historical mine working No. 198. 25
Figure 7-1. Geological map of the Hammersley Basin Showing the burial metamorphism zones of Smith et al (1982). Zone 1 – prehnite-pumpellyite zone, Zone 2 – prehnite-pumpellyite-epidote zone, Zone 3 – prehnite-pumpellyite-epidote-actinolite zone; Zone 4 – actinolite zone. 27
Figure 7-2. Comparison between Hamersley Basin and Witwatersrand Basin tectono-stratigraphy (after Nelson et al., 1992, 1999; Martin et al., 1998; Thorne and Trendall, 2001). 28
Figure 7-3. Summary map showing the age and distribution of the granites, greenstone successions and sedimentary basins in the north Pilbara Craton (From Huston et al., 2002a). 29
Figure 7-4. Geology map for the Beatons Creek project area. 31
Figure 7-5. Lithological descriptions and stratigraphic succession about preceding geological map (Figure 7 4). 33
Figure 7-6. Interpretive cross-sections by T.S. Blake (ca. 1984) near the eastern margin of the Nullagine sub basin. Subdivision P3 in yellow, and P4 (including

auriferous zone) in white and red. Based on correlation of sequences in DDH BD-1, BD-2, BD-3 and ZD-1 34
Figure 7-7. Gold particles shown within blue circles amongst buckshot pyrite (black dots) from an ferruginous channel conglomerate (South Hill). 36
Figure 7-8. Gold in drill core. Left: BCDD18-002, 60.8-61.3m, 7.3 g/t Au. Right, BCDD18-001, 6.12-6.6 m, 4.3 g/t Au. 37
Figure 7-9. Fluvial type conglomerate exposed in 2018 bulk sampling program (thickness c. 1.8 m). 38
Figure 7-10. Channel trough cross-bedding in a sequence of fluvial type conglomerates on the southern margin of Golden Crown. 38
Figure 7-11. Tightly packed armored lag type ferruginous conglomerate with quartz boulders (M1 - Edwards Lease). 39
Figure 7-12. Armored lag type conglomerate comprising elongated quartz boulders (M1 – Golden Crown). 40
Figure 7-13. Detrital pyrite and dromedary boulder (bottom right) in 2018 PQ drill fresh mineralized core (85 mm diameter). 41
Figure 8-1. Sequence of two regressive and transgressive tracks from top to bottom. . 42
Figure 9-1. Measuring trench bulk sample. 44
Figure 9-2. Map of sample locations for trench samples taken since 2014 45
Figure 10-1. Fresh mineralized core intersection from DH13-007 with massive pyrite. . 46
Figure 10-2. Drill location map by drill type and period. 47
Figure 10-3. Plugged and marked drill collar at Beatons Creek. 48
Figure 10-4. Box and whisker plot showing the statistics for the RC drilling program by year 51
Figure 10-5. QQ plots comparing grades of the 2013 vs. 2014 and 2017 vs. 2014 RC drilling programmes 52
Figure 11-1. CRM G316-5 (0.5 g/t Au) run for the 2018 diamond drilling programme... 57
Figure 11-2. Blank control analysis. 58
Figure 11-3. Field duplicate variability; upper RC duplicates (N = 427) and lower channel duplicates (N = 108). Data filtered at 0.1 g/t Au. All assays by LeachWELL. . 59
Figure 11-4. LeachWELL pulp duplicates (N = 1,050). 60
Figure 11-5. Box and whisker plot comparing gold grade by sample type. 62
Figure 12-1. QQ plot for LeachWELL vs. SFA. .... **Error! Bookmark not defined.**
Figure 12-2. QQ plot for LeachWELL vs. FA. .... **Error! Bookmark not defined.**
Figure 13-1. Marked out sample. 70
Figure 13-2. Wooden crates and metal hopper with grizzly. 70
Figure 13-3. Bulk sample location map. 72
Figure 13-4. Beatons Creek bulk sample processing flow-sheet. 74
Figure 13-5. Illustration of PhotonAssay process. 75
Figure 14-1. Distribution of samples/drill holes that inform this estimate. Note: [COST] = trench channel samples. 88
Figure 14-2. 3D (Micromine) view of updated grade shells cut to the topography 90
Figure 14-3. Cross section showing mine stratigraphy, marker tuff and M1 and M2 continuity 91
Figure 14-4. Spatial extent of the mineralization wireframes used in the estimate (Datamine image). 92

Figure 14-5. Contact analysis plot for lagtype 10 (all marine lags) above and below the oxide/fresh boundary........ 94
Figure 14-6. Histogram of sample length........ 95
Figure 14-7. Variogram for the M2 reef (estimation domain 12). 98
Figure 14-8. KNA plot for block size optimisation. 100
Figure 14-9. KNA plot for optimising number of informing samples. 101
Figure 14-10. Extents of the 40 m by 40 m and 20 m by 20 m estimation block sizes used in the resource estimate. 102
Figure 14-11. Validation trend plot for M1 (ESTDOM 11). 108
Figure 14-12. Grade comparison for M1 (ESTDOM 11). Black outline is optimized pit shell. 109
Figure 14-13. Grade comparison Golden Crown M2 (ESTDOM 922). Black outline is optimized pit shell. 110
Figure 14-14. Model coloured on resource classification. 111

1. SUMMARY

This amended and restated technical report (the "Technical Report") has been prepared by Novo Resources Corp. ("Novo") for the Beatons Creek conglomerate gold project held by Beatons Creek Gold Pty Ltd and Grant's Hill Gold Pty Ltd, two wholly-owned Australian subsidiaries of Novo.

The content of this Technical Report is based on exploration and drilling data collected by Novo and the results of a Mineral Resources estimate utilizing data collected at the Beatons Creek gold project. An updated Mineral Resource estimate for the Beatons Creek gold project has resulted in an Indicated Mineral Resource of 457,000 oz Au and an Inferred Mineral Resource of 446,000 oz Au (**Table 1-1**).

Table 1-1. Total Mineral Resources (oxide and fresh mineralization; open pit and underground).

Classification	Cut-off Grade (g/t Au)	Tonnes (t)	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	6,645,000	2.1	457,000
Inferred	0.5, 3.5	4,295,000	3.2	446,000

This Technical Report is an update based on a previous work by Tetra Tech (2015 and 2018); it includes parts of text and descriptions that have not changed.

1.1 Location, Property Description and Ownership

The Beatons Creek gold project is in the East Pilbara Shire, between the major regional centers of Newman and Port Hedland, in the northwestern part of Western Australia, **Figure 1-1**. The project area is situated west of the town of Nullagine (population c. 200, at 1,364 km north-northeast of Perth). By road, Nullagine is 296 km southeast of Port Hedland and nearly 170 km north of Newman.

The Beatons Creek project consists of auriferous conglomerate reefs hosted by the Hamersley Basin of late Archaean-Paleoproterozoic age within the East Pilbara granite-greenstone terrain of the Early to Late Archaean Pilbara Craton on the northwestern part of Western Australia. The auriferous conglomerates of the Beatons Creek Gold Project are hosted by the Lower Fortescue Group sedimentary sequence. The auriferous conglomerates of the Beatons Creek Gold Project occur at different stratigraphic levels in the Fortescue Group within the Nullagine sub-basin, occurring in the mid-to-upper parts of the Hardey Formation.

The project area is held by 20 granted and predominantly contiguous tenements totaling 166.3 km^2; the tenements include Exploration and Prospecting Licenses held by Creasy Group (12); by Grant's Hill Gold Pty (5), and Beatons Creek Gold Pty Ltd (3 Mining Leases) for durations of 5, 8 and 21 renewal years. One of the Prospecting License in the north-western corner of the project is currently pending approval for transition to Mining Lease. The property is located near a privately-owned railroad used to transport iron ore from Newman to Port Hedland.

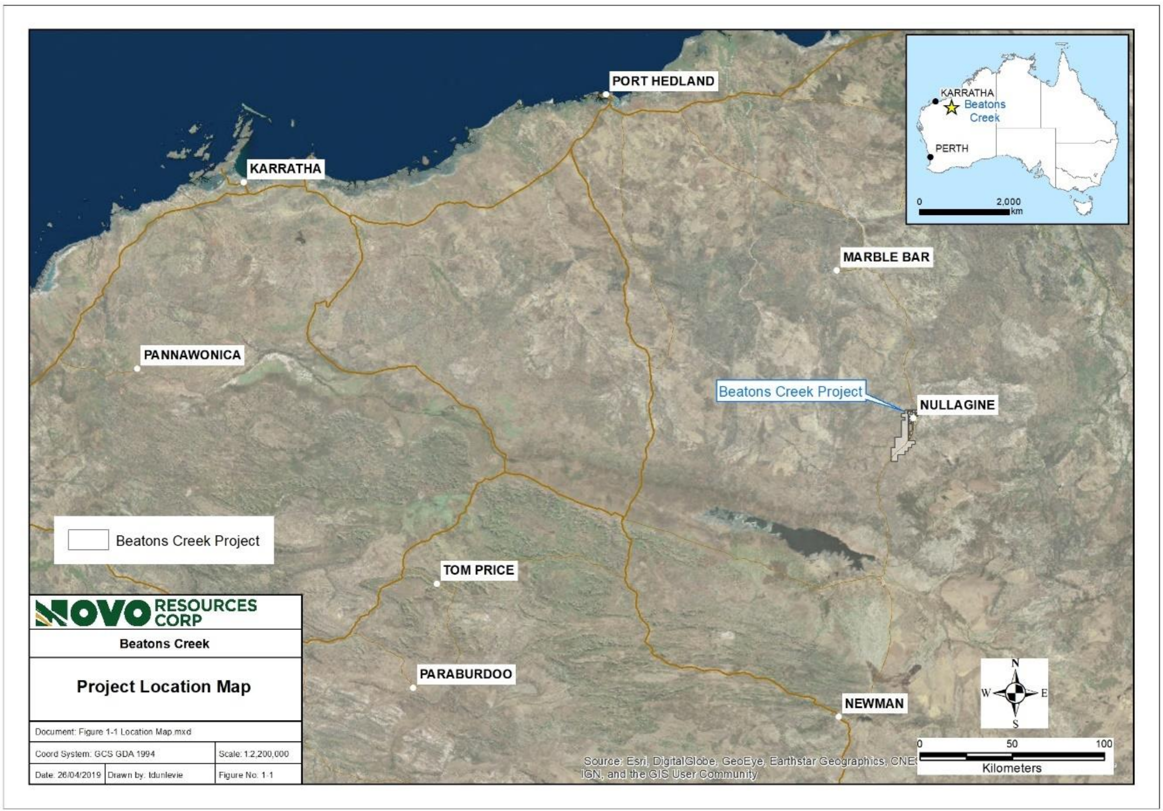


Figure 1-1. Location Map

1.2 Geology and Mineralization

Gold mineralization occurs within the Beatons Creek conglomerate member of the Hardey Sandstone formation, which constitutes part of the Fortescue Group (MacLeod and others, 1963). Gold is present as fine (<100 µm) to coarse (<100 µm) particles within the matrix of multiple, narrow stacked and un-classified ferruginous-conglomeritic reef horizons, which are interbedded with un-mineralized conglomerate, sandstones and grits with minor intercalations of shale, mudstone, siltstone and tuffs. The mineralization lateral extent has been identified as ranging up to 2 km.

Gold occurs as free particles up to several millimeters across within the ferruginous matrix of mineralized conglomerates and is closely associated with detrital pyrite and authigenic nodules (2–65 mm in diameter), which are locally referred to as “buckshot” pyrite.

A number of gold-bearing conglomerates have been identified at several stratigraphic levels, from surface to approximately 70 m in depth within the Fortescue Group in the Nullagine sub-basin. Auriferous conglomerates at the Beatons Creek gold project occur in the mid-to-upper part of the Hardey Formation.

1.3 Exploration, Drilling, Sampling and QA/QC

Exploration by Novo Resources consists of surface geologic mapping, trench (or costean) chip-channel sampling of outcrops and shallow depths, diamond core drilling and extensive reverse circulation (RC) drilling conducted from 2011 to 2018. Historical exploration activities include geochemical and geophysical surveys, geologic mapping, and drilling by various operators between 1968 and 2007. It also includes a bulk sampling programme undertaken in 2018.

Mineral Resources were estimated from 3,909 samples, sourced from 2,422 samples from reverse circulation holes, 302 samples from diamond core holes, and 1,185 trench 'channel' samples. The majority of assays used for the estimate were determined using the LeachWELL (cyanide leaching) technique, with the 2018 diamond drilling and trench programs also analysing the LeachWELL residues by fire assay.

RC drilling from the 2013 and 2017 programs were not included in the resource estimate as these displayed highly variable recoveries. During 2013 there was no dust suppressor in use, and in 2017 the excessive use of high pressure compressed air may have resulted in excessive dust loss.

The sample preparation, analyses and security procedures implemented by SGS, MinAnalytical and Intertek in Western Australia meet standard practices and are monitored using control samples. The data collected is acceptable and of adequate quality and reliability to support the estimation of mineral resources.

1.4 Mineral Processing and Metallurgical Testing

There has been limited comminution testwork conducted on oxide mineralization samples from Beatons Creek with results for six samples giving an average crushing work index value of 7.4 kWh/t, average Bond rod mill work index is 12.4 kWh/t and an average Bond ball mill work index is 14.2 kWh/t. Oxide A*b values range from 75.9 to 104.8 with an average of 86.7 and the average Bond abrasion Index is 0.26. A significant quantity of gold recovery testwork exists on Beatons Creek oxide material, but it is difficult to collate the data into a single congruent dataset with comparable recovery results due to the various different test methods. A typical overall recovery would be 94.6% with a gravity recovery of about 67.3% for the pre-2018 bulk sample results.

Six HQ diamond drill holes were drilled in 2018 to provide fresh mineralization samples for metallurgical testwork at Grants Hill and South Hill. At the date of this Technical Report, the Grants Hill testwork was complete, with South Hill testwork in progress. Comminution testwork shows fresh material is competent with an average Bond ball mill work index for Grants Hill of 18.8 kWh/t. SMC test data indicates that the fresh mineralisation is moderately competent with an average A*b of 47.8 and a range of 38.0 (hard) to 56.6 (soft). Testwork also shows that the fresh mineralisation is abrasive with an average of 0.26. Overall three-stage gravity recoverable gold ("GRG") test recovery was high at 94.6% and 89.0% for the M1 and M2 composites respectively. The recovery by size and stage data indicates that both the Grants Hill composites have a high percentage of coarse gold with 79.4% of the gold recovered in the plus 150 µm fractions for M1 and 67.9% of the gold recovered in the plus 150 µm fractions for M2. The test data suggests that the Grants Hill fresh mineralisation is amenable to gravity recovery and that high-plant gravity gold recovery (50% to 80% of the GRG) can be expected from a well-designed and operated process plant. The kinetic leach results for the Grants Hill composites indicates relatively fast leach kinetics with a minor impact of grind size on leach extraction. The average 24 hour leach extraction for all six tests (regardless of grind size) was 93.3%. The results indicate a slight reduction in the gold concentration in solution over the leach profile and therefore the potential for pre-robbing cannot be ruled out.

1.5 Mineral Resource Estimation

Oxide and Fresh and open pit versus underground Mineral Resources have been estimated by multi-pass ordinary kriging of top-cut drillholes and channel samples. The Indicated and Inferred Mineral Resources are given in **Table 1-2**.

Table 1-2. Total Mineral Resources (oxide and fresh mineralization; open pit and underground).

Open Pit Mineral Resources (oxide and fresh mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	6,645,000	2.1	457,000
Inferred	0.5	3,410,000	2.7	294,000

Open Pit Mineral Resources (oxide mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	4,500,000	1.9	272,000
Inferred	0.5	765,000	1.8	44,000

Open Pit Mineral Resources (fresh mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	2,145,000	2.7	185,000
Inferred	0.5	2,645,000	2.9	250,000

Underground Mineral Resources (fresh mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Inferred	3.5	885,000	5.3	152,000

Total Mineral Resources (oxide and fresh mineralization; open pit and underground)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	6,645,000	2.1	457,000
Inferred	0.5, 3.5	4,295,000	3.2	446,000

Notes:

1. Open pit Mineral Resources contain oxide and fresh mineralization within an optimized shell and constrained within a mineralized wireframe. A cut-off grade of 0.5 g/t Au was applied.
2. An optimized Whittle pit shell was estimated with the following indicative parameters:
   (a) USD $1,311 (AUD $1,850) / troy ounce;
   (b) Metallurgical recoveries of 95% oxide and 90% fresh;
   (c) SGs applied: Oxide 2.40 t/m^3 and fresh 2.85 t/m^3 based on measurements taken on drill core;
   (d) USD $2.40 / tonne mining cost for oxide and USD $3.68 / tonne for fresh;
   (e) USD $17.00 / tonne oxide and USD $19.00 / tonne fresh processing cost; and
   (f) USD $3.00 / tonne general and administrative costs.
3. Underground Mineral Resources contain fresh mineralization outside the optimized shell. Underground resources are constrained to discrete areas of contiguous mineralization. NB: cut-off grade for underground resource has been increased from 2 g/t Au to 3.5 g/t Au for the 2019 resource estimate.
4. Columns may not total due to rounding.

Mineral Resources were estimated from 3,909 samples, sourced from 2,422 samples from reverse circulation holes, 302 samples from diamond core holes, and 1,185 trench 'channel' samples. Top-cuts were defined for each reef using histograms and probability plots to determine where high-grade distribution tails became erratic and deviated from lognormal. Sampled intervals from all data sources were composited to 1 m. Reef wireframes were constructed in Micromine by Novo staff; a summary of their extents are shown in **Figure 1-2**.

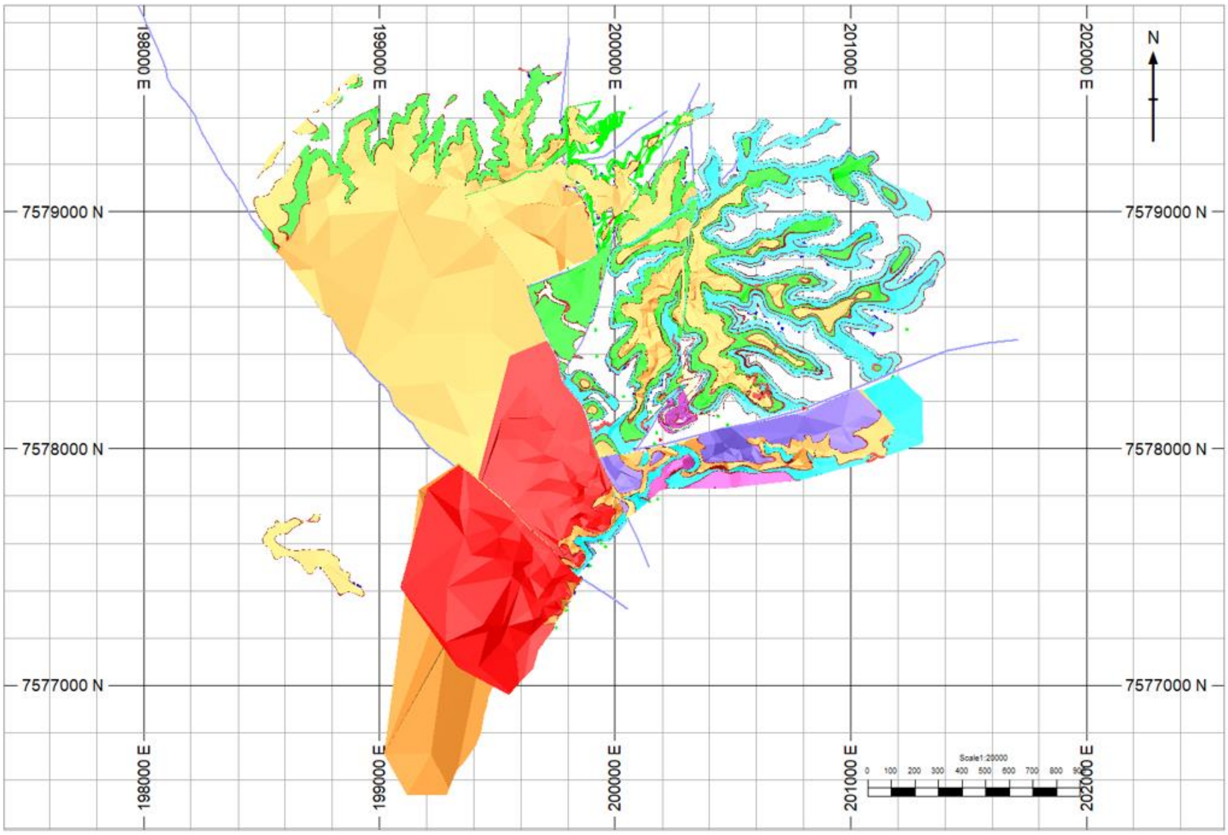


Figure 1-2. Extents of geological wireframes.

Composites from oxide and fresh domains for each reef were used for estimation. Resulting block grades are shown in **Figure 1-3**.

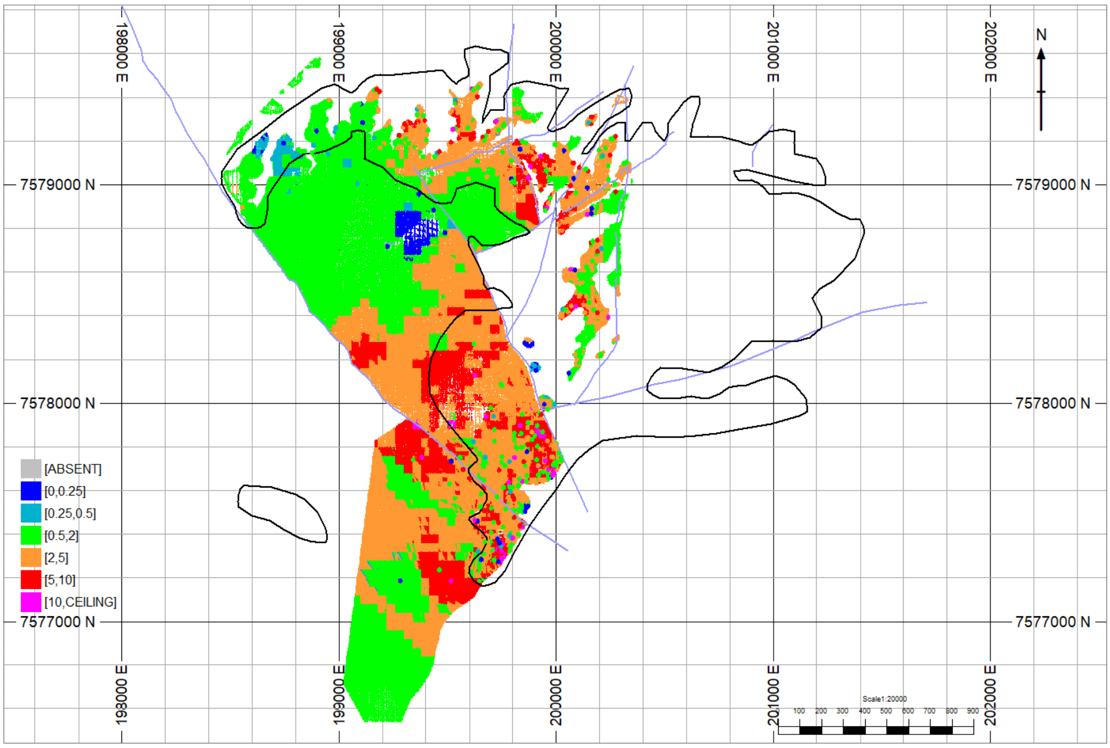


Figure 1-3. Plan view showing estimated block gold grades in the M1 reef.

Resource classification was assessed by estimation pass, and included consideration of data type, quality and distribution, and SG measurement availability. Reasonable prospects for eventual economic extraction have been evaluated within a potentially exploitable pit shape and outside of that pit shape. Blocks that fall within the shape defined by Whittle optimization (Indicated and Inferred Mineral Resources) and were subjected to a 0.5 g/t Au cut-off. Underground Mineral Resources outside of the optimized shell and constrained to discrete areas of contiguous mineralization, and reported at a 3.5 g/t Au cut-off. Estimates have been verified by visual review, swath plots, volume-to-tonnage comparisons and sensitivity analysis.

The terms “Mineral Resource”, “Inferred Mineral Resource” and “Indicated Mineral Resource” have the meanings given in the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by the Canadian Institute of Mining, Metallurgy and Petroleum Council (CIM, 2014). Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability; it is uncertain if applying economic modifying factors will convert Measured and Indicated Mineral Resources to Mineral Reserves. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues, however, no issues are known at this time. The quantity and grade of reported Inferred Mineral Resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as an Indicated or Measured Mineral Resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured Mineral Resource category.

1.6 Interpretations and Conclusions

Drill hole and trench samples have been collected and analyzed using industry accepted methods and practices, and are of sufficient quality to characterize grade and thickness and to support resource estimation.

Given the geological reinterpretation and new estimate presented in this Technical Report, it is recommended the project be advanced to a preliminary economic assessment ("PEA").

1.7 Recommendations

Based on the status of the Beatons Creek project, the following recommendations are presented:

- Advance the project to a PEA;
- Undertake additional diamond core drilling to increase the Inferred Mineral Resource base;
- Undertake additional diamond core drilling to uprate Inferred to Indicated Mineral Resources; and
- Perform additional metallurgical testwork and waste characterization.

A breakdown of estimated costs for these activities is provided in Section 26.

2. INTRODUCTION

2.1 Novo Resources Corp.

This Technical Report has been prepared for Novo Resources Corp. (TSX.V: NVO) to update a resource estimate on the Beatons Creek gold project held by Beatons Creek Gold Pty Ltd and Grant's Hill Gold Pty Ltd, two wholly-owned Australian subsidiaries of Novo.

The Company was incorporated on October 28, 2009 under the laws of British Columbia pursuant to the Business Corporations Act (British Columbia) under the name Galliard Resources Corporation. The Company changed its name to Novo Resources Corporation on June 27, 2011.

The head office of the Company is located at 880 - 580 Hornby Street, Vancouver, BC V6C 3B6. The Company's registered office is located at 595 Burrard Street, Suite 2900, Vancouver, BC V7X 1J5. The Company's operational office is located at Level 1, 680 Murray Street, West Perth, Western Australia 6005.

The Company is a mineral exploration company focused primarily on the exploration and development of conglomerate gold projects in the Pilbara region of Western Australia.

2.2 Introduction

This Technical Report presents a material update of Mineral Resources at the Beatons Creek project. The Technical Report, titled "*Amended and Restated NI 43-101 Technical Report: Mineral Resource Update, Beatons Creek Conglomerate Gold Project, Pilbara Region, Western Australia*", was prepared by Qualified Persons ("QPs") following the guidelines of the NI 43-101 and in conformity with the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves.

2.3 Qualified Persons and Site Visits

The principal author of this Technical Report and the main Qualified Person is Dr Simon Dominy FAusIMM (CPGeo) FAIG (RPGeo). Dr Dominy meets the requirements and definition of a Qualified Person as a member of an Accepted Foreign Association, as defined in Appendix A of the Instrument, as a Fellow of both the Australian Institute of Mining and Metallurgy (FAusIMM #205232) and Australasian Institute of Geoscientists (FAIG #1576). The Certificate of Qualified Person for Dr Dominy is located in Section 28. Dr Dominy is independent of Novo.

The second Qualified Person is Dr Quinton Hennigh PGeo. Dr Hennigh meets the requirements and definition of a Qualified Person as a member of an Accepted Foreign Association, as defined in Appendix A of the Instrument, as a member of the Mining and Metallurgical Society of America (MMSA 01340QP). The Certificate of Qualified Person for Dr. Hennigh is located in Section 28. Dr Hennigh is not independent of Novo.

The QPs were assisted by Novo personnel including Kas De Luca (General Manager – Exploration), Alwin Van Roij (Senior Geologist) and Chris Goti (General Manager – Environment) in the writing and compilation of this Technical Report.

The effective date of this Technical Report is 28th February 2019.

The Beatons Creek gold project site was inspected 8-9th February 2018 (Dr Dominy) and more recently in September and October 2018 (Dr Hennigh).

Inspections entailed observations of drill core, collar locations and orientations, drill samples, trench locations, and observation of surface outcrops and mineralized conglomerates.

2.4 Data Sources

The content of this Technical Report is based on exploration and drilling data collected by Novo and the results of estimation performed by Novo utilizing data as of 28th February 2019. Information pertaining to title, environment, permitting and access has also been supplied by Novo staff.

2.5 Units of Measure

For this Technical Report, common measurements are given in metric units. All tonnages shown are in metric tonnes (e.g., 1,000 kg), precious metal grade values are given in grammes per tonne gold (g/t Au), and precious metal quantity values are given in troy ounces (oz) (31.10348 g). All references to dollars in this Technical Report are to Australian dollars (A$) unless otherwise noted.

2.6 Abbreviations

The following is a list of abbreviations used in this Technical Report.

Abbreviation	Unit or Term
Au	gold
A$	Australian dollars
°C	degrees Celsius
cm	centimeter
cm^3	cubic centimeters
Trench samples	Chip-channel samples collected from mineralization exposed in trenches
DIA	Department of Indigenous Affairs
DWER	Department of Water and Environmental Regulation
DGPS	Differential GPS
DMIRS	Western Australian Government Department of Mines, Industry Regulation and Safety
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
FA	Fire assay
g	gram
Ga	Billions of years
g/t Au	grams per tonne gold
g/cm^3	grams per cubic centimeter
ha	hectare
kg	kilogram
km	kilometer
km^2	square kilometers
km/hr	kilometers per hour

Abbreviation	Unit or Term
LW	LeachWELL assay
m	meter
M	million
MCP	Mine Closure Plan
mm	millimeter
mm/yr	millimeters per year
MOU	Memorandum of understanding
MP	Mining Proposal
NI 43-101	Canadian Securities Administrators' National Instrument 43-101
Novo	Novo Resources Corp.
NSR	Net Smelting Return
NVCP	Native Vegetation Clearing Permit
OEPA	Office of the Environmental Authority
PEA	Preliminary Economic Assessment
PER	Public Environmental Report
PMLU	Post-Mining Land Use
APP	Accident Prevention Plan
ppm	parts per million (1 ppm = 1 g/t Au)
Project	Beatons Creek
QA/QC	quality assurance/quality control
RC	Reverse Circulation
RAB	Rotary Air Blast
ROM	Run of Mine mineralization
SFA	Screen fire assay
t	metric tonne
oz	Troy ounces
t/d	Tonnes per day
US$	United States dollars

3. RELIANCE ON OTHER EXPERTS

The authors are relying on statements and the actions of others concerning matters included in Section 4 of this Technical Report.

The authors are relying on statements and documents provided by Christopher Goti MSc: Environmental Manager (Novo employee).

With regard to section 4, direct written input and opinion into sub-sections 4.2, 4.3, 4.4 and 4.5 were provided by Mr. Goti as follows:

- Limitations of environmental liabilities associated with past operations;
- Water quality characterization;
- Compliance requirements to continue exploration activities;
- Permitting requirements to initiate future mining;
- Tenements location, legal standing and surface access agreements; and
- Leasing, royalty and purchase agreements relating to the concessions.

The resource estimate presented in this Technical Report was undertaken by Ms Janice Graham MAusIMM using Datamine Studio RM and Snowden Supervisor software under the direct supervision of QP, Dr. Simon Dominy.

4. PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Beatons Creek gold project is situated in the East Pilbara Shire, which is one of the four local government areas in the Pilbara region of Western Australia. The East Pilbara Shire has an area close to 380,000 km^2 and is the third largest municipality in the world.

The Beatons Creek is located between the major regional centers of Newman and Port Hedland, in the northwestern part of Western Australia, **Figure 4-1**. The project area is west of the town of Nullagine, with a population of about 200 inhabitants, and is located at 1,364 km north-northeast of Perth. By road, Nullagine is 296 km southeast of Port Hedland and 170 km north of Newman.

The project area consists of 20 granted and predominantly contiguous tenements totaling 166.3 km^2, these tenements include Exploration Licenses, Prospecting Licenses and Mining Leases. One of the Prospecting License in the north-western corner of the project is currently pending approval for transition to Mining Lease. The property is located near a privately-owned railroad used to transport iron ore from Newman to Port Hedland.

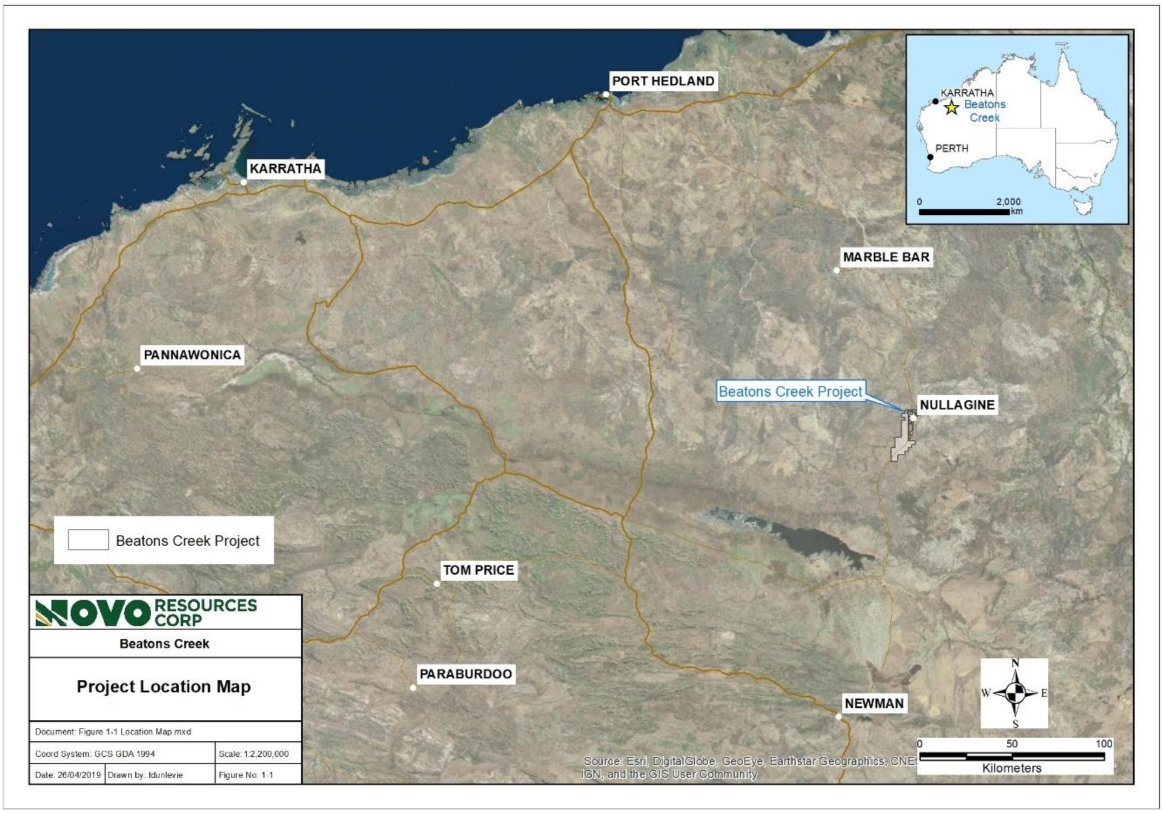


Figure 4-1. Location Map.

4.2 Tenements and Ownership Status

The Beatons Creek project is covered by a group of tenements registered under two of Novo's wholly-owned Australian subsidiaries. These tenements are held by Creasy Group (WITX Pty Ltd) and Novo (Beatons Creek Gold Pty Ltd and Grant's Hill Gold Pty Ltd) as listed in **Table 4-1** and depicted in **Figure 4-2**. The status of the tenements are listed in **Table 4-1**.

The Beatons Creek gold project holds a total land coverage of 166.3 km^2, which require an annual expenditure commitment of A$312,900, in addition to rental payments of A$43,894 for 2018.

Prospecting tenements are held for 8 years, exploration leases are held for 5 years, and mining leases are held for 21 years, all with the potential for extension.

Table 4-1. List of Tenements comprising the Beatons Creek gold project area (Mining Leases shaded in light grey)

Tenement Number	Tenement Status	Tenement Type	Area km²	Expenditure Commitment	Rent (A$)	Grant Date	Expiry Data	Term	Registered Holder	DIA Registered Sites
E46/797	Granted	Exploration Lease	133.6076202	$126,000	$22,470.00	4/22/2010	4/21/2020	5 Years (Renewal)	WITX Pty Ltd - 100%	Yes
M46/9	Granted	Mining Lease	2.4841919	$24,800	$4,365.00	3/6/1985	3/5/2027	21 Years (Renewal)	Beatons Creek Gold Pty Ltd - 100%	Yes
M46/10	Granted	Mining Lease	1.2126091	$12,200	$2,147.40	12/12/1984	12/11/2026	21 Years (Renewal)	Beatons Creek Gold Pty Ltd - 100%	No
M46/11	Granted	Mining Lease	4.6576209	$46,500	$8,184.00	1/17/1985	1/16/2027	21 Years (Renewal)	Beatons Creek Gold Pty Ltd - 100%	No
P46/1577	Granted	Prospecting Lease	1.5770365	$7,760	$504.00	2/10/2012	2/9/2020	8 Years	Mark Gareth Creasy - 100%	No
P46/1643	Granted	Prospecting Lease	1.766197	$7,080	$460.00	10/7/2011	10/6/2019	8 Years	WITX Pty Ltd - 100%	No
P46/1743	Granted	Prospecting Lease	1.4358202	$8,000	$520.00	2/6/2013	2/5/2021	8 Years	WITX Pty Ltd - 100%	No
P46/1744	Granted	Prospecting Lease	2.0053551	$8,000	$520.00	2/6/2013	2/5/2021	8 Years	WITX Pty Ltd - 100%	Yes
P46/1748	Granted	Prospecting Lease	1.3314408	$5,360	$348.00	6/11/2012	6/10/2020	8 Years	Grant's Hill Gold Pty Ltd - 100%	No
P46/1749	Granted	Prospecting Lease	1.8912263	$7,600	$494.00	6/11/2012	6/10/2020	8 Years	Grant's Hill Gold Pty Ltd - 100%	No
P46/1789	Granted	Prospecting Lease	1.7116953	$6,880	$447.00	3/15/2013	3/14/2021	8 Years	WITX Pty Ltd - 100%	Yes
P46/1790	Granted	Prospecting Lease	1.6559389	$7,320	$476.00	2/22/2013	2/21/2021	8 Years	WITX Pty Ltd - 100%	No
P46/1791	Granted	Prospecting Lease	1.7321455	$6,960	$478.00	7/19/2013	7/18/2021	8 Years	WITX Pty Ltd - 100%	No
P46/1792	Granted	Prospecting Lease	0.6298162	$2,250	$173.00	7/19/2013	7/18/2021	8 Years	WITX Pty Ltd - 100%	No
P46/1806	Granted	Prospecting Lease	1.3461819	$5,400	$351.00	2/22/2013	2/21/2021	8 Years	Grant's Hill Gold Pty Ltd (100%)	No
P46/1808	Granted	Prospecting Lease	1.9868613	$7,960	$517.00	12/15/2016	12/14/2020	4 Years	WITX Pty Ltd – 100%	Yes
P46/1809	Granted	Prospecting Lease	1.9779198	$7.920	$515.00	12/15/2016	12/14/2020	4 Years	WITX Pty Ltd – 100%	Yes

Tenement Number	Tenement Status	Tenement Type	Area km²	Expenditure Commitment	Rent (A$)	Grant Date	Expiry Data	Term	Registered Holder	DIA Registered Sites
P46/1810	Granted	Prospecting Lease	0.3943453	$2,000	$104.00	05/05/2016	05/04/2020	4 Years	WITX Pty Ltd – 100%	Yes
P46/1821	Granted	Prospecting Lease	1.5896225	$6,360	$413.00	3/3/2015	3/2/2019	4 Years	Grant's Hill Gold Pty Ltd - 100%	Yes
P46/1822	Granted	Prospecting Lease	1.5621303	$6,280	$408.00	3/4/2015	3/3/2019	4 Years	Grant's Hill Gold Pty Ltd - 100%	Yes
M46/532	*Pending – Replaces P46/1806*	*Application*	*1.3461819*	*$0.00*	*$0.00*	*11/13/2017*	-	-	*Grant's Hill Gold Pty Ltd – 100%*	
TOTAL			**167.9019569**	**$312,900**	**$43,894**					

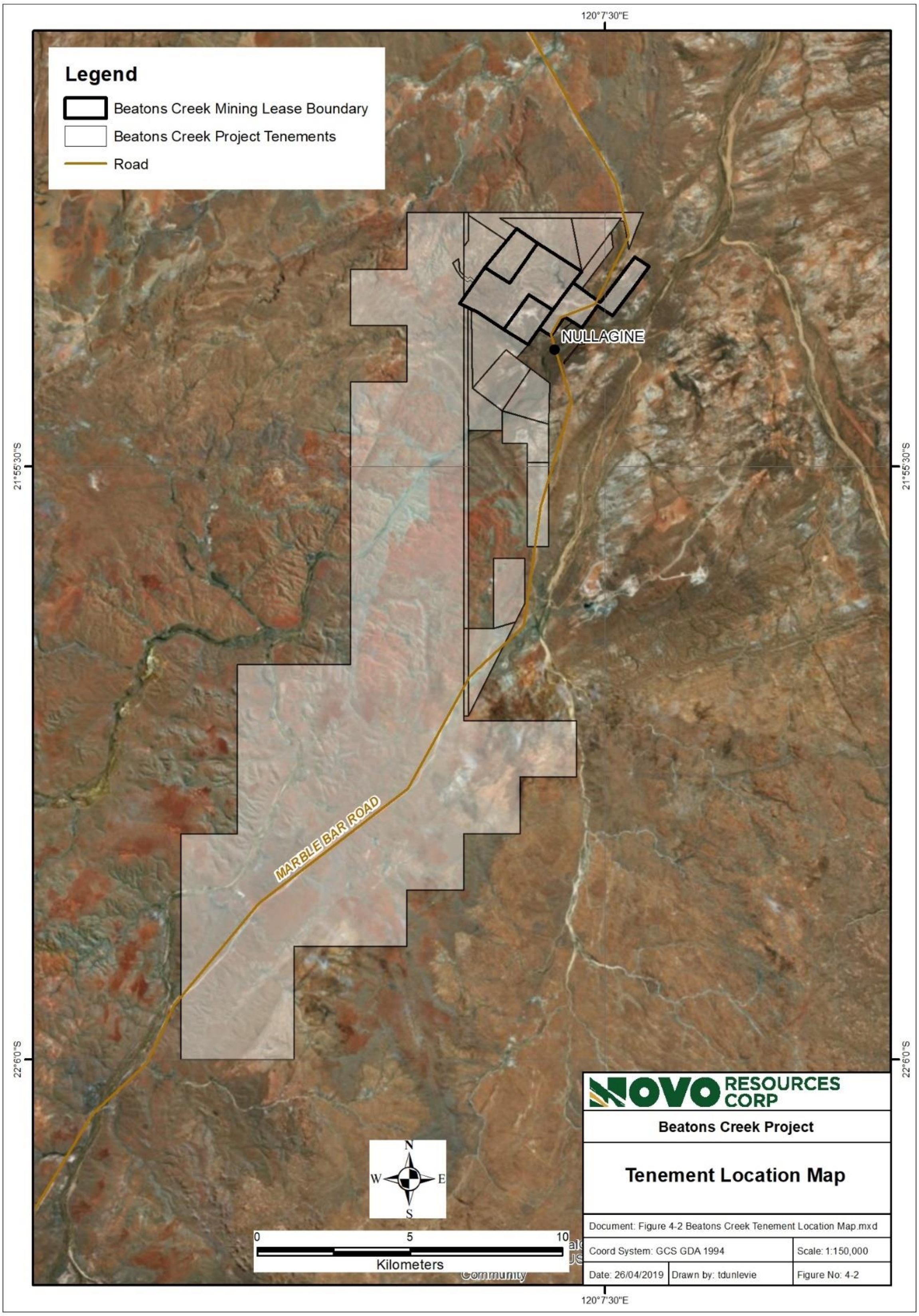


Figure 4-2. Beatons Creek project tenements map.

4.3 Exploration and Mining Permitting

Guidelines for marking out and applying for minerals tenements in Western Australia are given in the pamphlets "Marking Out and Applying for Mining Tenements" and "Exploration Licences Graticular Boundary System", available from the Government of Western Australia Department of Mines, Industry Regulation and Safety website. Exploration Licences do not need to be marked out on the ground. Mining and Prospecting Leases, not on prescribed land, are marked out as follows:

- A post projecting at least 1 m above the ground is fixed firmly in the ground as close as practical to each corner or angle of the land.
- Two clearly identifiable trenches or rows of stones at least 1 m long must extend from each post in the general direction of the boundary lines.
- The notice of marking out in the Form No. 20 in the First Schedule is fixed firmly to one of the posts, selected as the datum post.

Where the land adjoins other land in respect of which the same person or company is seeking or holds a mining tenement, common posts and trenches or rows of stones may be used for marking out each parcel of land. Applications for mining tenements must be made in the Form No. 21 "Application for Mining Tenement" and lodged at the office of the Mining Registrar of the mineral field in which the land is situated within 10 days of marking out. Application fees together with the first year's rent are payable on lodgement of a mining tenement application. Additionally, a security in the sum of A$5,000, filed in the Form No. 32 must be lodged with the mining registrar within 28 days of filing the application. Additionally, applications for Exploration Leases must be accompanied by a statement specifying:

- The proposed method of exploration;
- Details of the proposed work programme;
- Estimate of proposed expenditure on the license; and
- The applicant's technical and financial resources.

Applications for Mining Leases must be accompanied by either:

- A mining proposal, or
- A mineralization report containing the details in Section 74(7) and be accompanied by a supporting statement to include details in Section 74(1a).

Additional requirements of the applicant are described in the DMIRS pamphlets mentioned previously.

4.4 Environmental and Permitting

As of August 2018, Novo submitted a Mining Proposal and a Mine Closure Plan for approval to mine and subsequently rehabilitate the 2015 resource model (oxide with some fresh mineralization included) with DMIRS. Approvals for the Mining Proposal and Mine Closure Plan are expected during June 2019. Following that, approvals for haulage and processing will be sought from DMIRS and DWER.

All other environmental approvals have already been obtained, including:

- EP Act Part V Native Vegetation Clearing Permit (NVCP), and
- Rights in Water and Irrigation Act 1914 (RIWI Act) (Regulating Authority – DWER) permitting groundwater abstraction.

The map in **Figure 4-3** shows the activities sought for permission under the August 2018 DMIRS Mining Proposal Approvals.

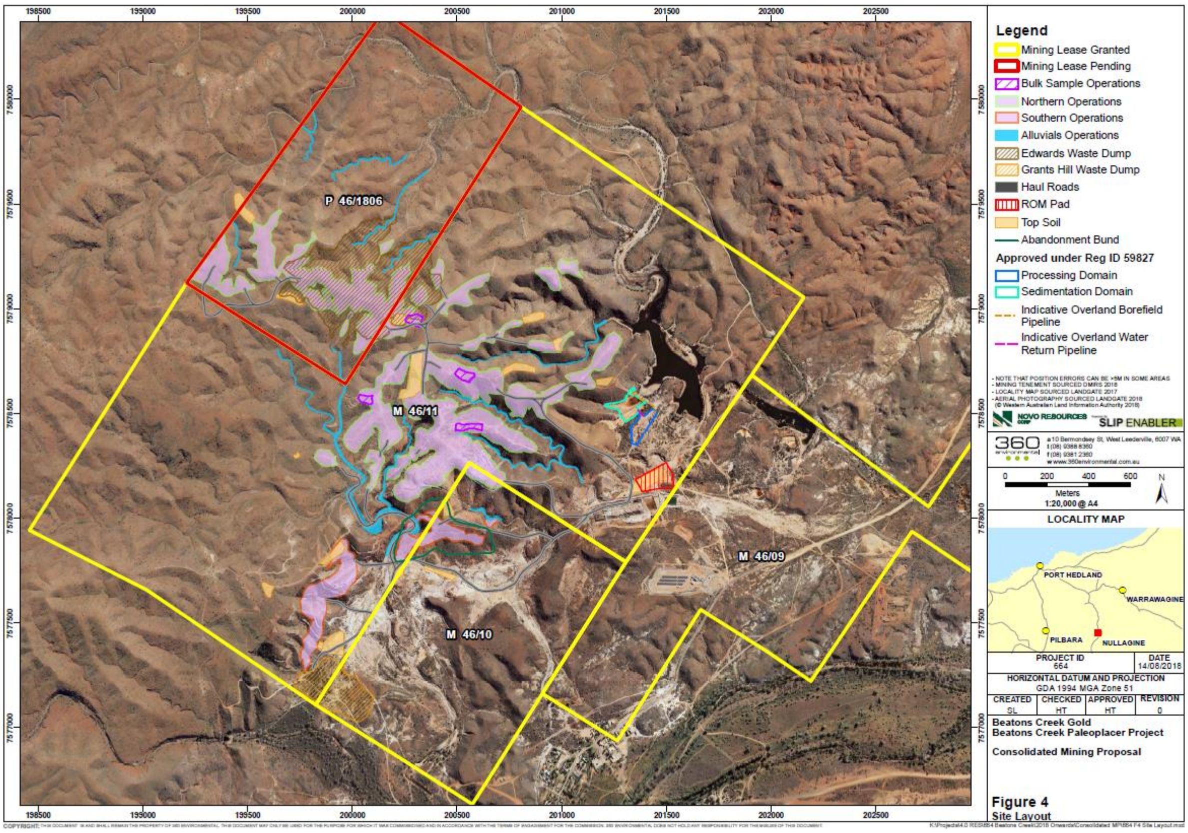


Figure 4-3. Activities for permission under August 2018 DMIRS mining proposal approvals.

Extensive baseline environmental assessments for all relevant parameters for this project to receive regulatory approvals (including ground and surface water monitoring, geochemical characterization of all rock types and their interaction with ground and surface water, noise, dust and social impact modelling) have been completed as of mid-2018. On-going groundwater quality monitoring will take place on a monthly basis and be reported annually, or whenever water quality thresholds are exceeded, to demonstrate to regulators that the operations of the Beatons Creek gold project are not negatively impacting groundwater, which lies within a Priority One Public Drinking Water Source Area.

Novo engages its key stakeholders, including native title parties, the Nullagine Township and its residents, and government regulators on the status of the Beatons Creek gold project and plans for its development. The support of key stakeholders and protection of groundwater quality in the area are the most sensitive matters that will affect any plan to mine at Beatons Creek. Novo has dedicated considerable resources towards ensuring these matters are managed adequately.

Novo is obligated to contribute an annual 1% levy of the total estimated rehabilitation costs at Beatons Creek.

4.5 Risk Factors

The authors are not aware of any significant risk factors that may affect access, title, rights, environmental issues or ability to perform and develop work on the property.

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

Nullagine is the only town in the area and it lies on the Marble Bar Road, which from Newman to Port Hedland is mainly graded gravel. Frequent air services connect the town with Port Hedland and Marble Bar. Access to the project area is by road from either Port Hedland (population approx. 14,000) or the iron ore mining camps of Newman (population approx. 4,200) and Roy Hill in the northwestern part of Western Australia (**Figure 4-1**). The Beatons Creek area is adjacent to and west of the town of Nullagine (population approx. 200), which is located 1,364 km north-northeast of Perth. By road, Nullagine is 296 km southeast of Port Hedland and 170 km north of Newman.

The project area is near and to the west of the privately-owned Newman to Port Hedland railroad used to transport iron ore. Access within the area is mainly by poor-quality pastoral and mining tracks. The Great Sandy Desert, in the eastern part of the area, is crossed only by one company road. Four-wheel-drive vehicles are essential for most tracks.

5.2 Physiography

Juston (1950) describes a Tertiary surface of pene-planation extending over most of Western Australia. Earth movements during Pliocene uplifted the peneplain to form the Great Plateau of Western Australia. In the Pilbara, this surface is referred to as the Hamersley Surface (Campana et al., 1964). In the Nullagine area it is generally represented by laterite or pisolitic ironstone deposits and is separated from eroded parts of the plateau by breakaways or cliffs (**Figure 5-1**).

Most of the area lies between 200 m to 500 m above sea level in the Beatons Creek Gold Project region. Two large rivers, the Nullagine and the Oakover, flow northwards across the area and eventually join to form the De Grey River. The Oakover River flows along the axis of a major Proterozoic syncline but the Nullagine River’s course bears little relation to currently exposed geology, suggesting that it is superimposed (as are several other major rivers to the west). The area can be divided into seven physiographic provinces: plateau, dissected plateau, range, low granite hills, plain, valley, and desert.

Average annual evaporation of the Pilbara region is about 3,600 mm, which is ten times the total annual rainfall. Away from the few major rivers with permanent surface pools or shallow groundwater, vegetation is relatively sparse. The project area is lightly vegetated, with a ubiquitous ground cover of Spinifex grass and scattered shrubs of Hakea, Acacia and Grevillia. Larger trees, including Eucalyptus and Melaleuca species, are confined to the immediate vicinity of drainage lines.

5.3 Climate

The East Pilbara region has an arid continental climate characterized by very high summer temperatures and large daytime temperature variations (>13.2°C) throughout the year. December and January are the hottest months with average maximum temperatures above 40°C and record highs over 48°C. From October to February the average monthly maximum temperature exceeds 36°C. Maximum temperatures above normal body temperature occurs for 6 months of the year. The lowest temperatures occur in the winter months between June and August when average maximum temperatures are below 30°C and average minimum temperatures are 12-13°C.

The East Pilbara region is influenced by both northern (tropical cyclone) and southern (temperate) rainfall systems, which bring rains in the summer and winter months, respectively. However, rainfall in the region is generally light and infrequent. Nullagine has an average annual rainfall of 357 mm, mostly falling between January and March. Little rain usually falls between July and November, with September and October the driest months. Except for a few isolated pools, creeks are generally dry throughout most of the year, but can rise rapidly and flood large areas after heavy rains (predominantly during the summer months). Because a high proportion of the rainfall can be from a small number of large storms, flooding near major river and creek systems is not unusual. The Nullagine River is subject to flooding, and the town of Nullagine is located in a Floodplain Management Area.

Considering the remote nature of the project area, field work is generally conducted between late autumn and early spring (April–September), when temperatures and the likelihood of heavy rains are both lowest.

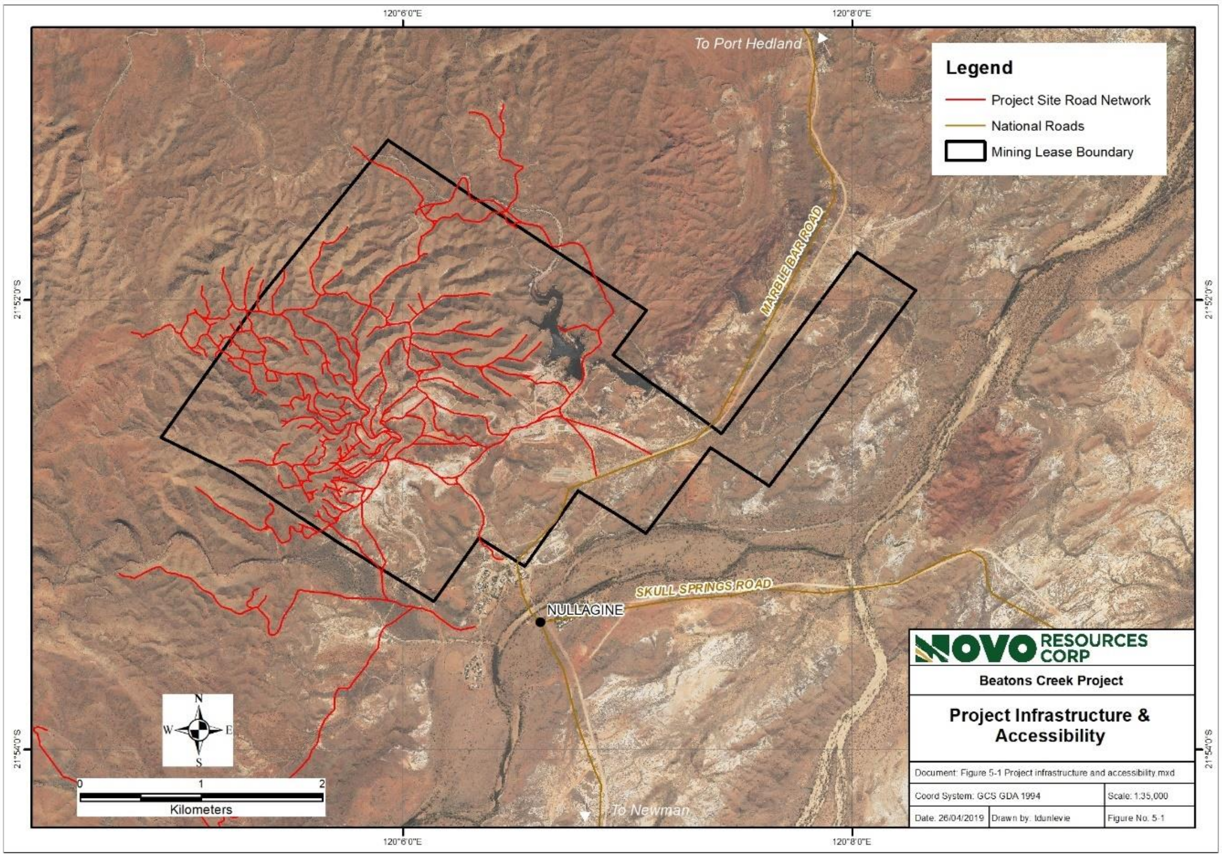


Figure 5-1. Project infrastructure and accessibility.

5.4 Local Resources and Infrastructure

Existing infrastructure in Nullagine (e.g., airstrips, medical centers, shops and accommodation) is sufficient to support an early-stage exploration program.

NBN Internet access is available onsite. Telephonic communications are currently restricted to the Telstra 3G Mobile network or a satellite phone. Nullagine's three-megawatt diesel-solar power plant is conveniently situated on M46/9. This plant currently has excess capacity as well as potential to expand by adding a one-megawatt diesel generator.

The Beatons Creek gold project has appropriate sites to accommodate mining, waste rock disposal and accommodation infrastructure. Processing could be undertaken on a toll basis at the Millennium Minerals Golden Eagle plant, which is located at about 13 km by road from Beatons Creek. At the date of this Technical Report, no plans or agreements are in place.

A component of workforce requirements could be filled from either Newman or Port Hedland and other nearby towns, and supplemented by fly-in/fly-out arrangements from Perth via Newman or Port Hedland.

6. HISTORY

Gold was first discovered in the East Pilbara in 1888 and the township of Nullagine was established in the following year. In common with the rest of the Pilbara, gold mining within the area flourished in the early part of the century, but subsequently declined in importance. Over the last 20 years, much of Australia's manganese production has come from mining centers in the eastern part of the area.

6.1 Ownership History

Various operators have conducted work on the Beatons Creek gold project since (**Table 6-1**), but limited information pertaining to tenement and land acquisition deal structures are available for this period. Novo activities for development of Beatons Creek from 2011 to 2015 have been described in previous technical reports (TetraTech, 2015; 2018) .

Currently, Novo controls mineral rights held by 20 Tenements which cover 166.3 km^2, including three Mining Lease Licenses, one Exploration license and 16 Prospecting Licenses, with one Prospecting License currently pending conversion to a Mining Lease. Novo has commitments for annual expenditures of A$312,900 in addition to rental obligations for A$43,894 to hold the Licenses in good standing. **Table 4-1** shows Novo's valid tenements.

6.2 Exploration History

Alluvial gold was first discovered in Nullagine in 1888, and by 1893 Nullagine had become the principal alluvial gold field in the region. A hard-rock source for alluvial deposits at Nullagine was identified in 1888, while the township was formerly declared in 1889.

The mineral potential of the Pilbara Craton has in recent history been generally downplayed by the minerals industry and, as a result, the region has been much less extensively explored than many other Archaean cratons throughout the world, including South Africa, Canada, Brazil and the Yilgarn Craton to the south.

Since 1983, exploration activities have largely concentrated on the Nullagine sub-basin, principally in the immediate area of the Beatons Creek goldfield near Nullagine. Several deeper diamond holes were drilled in adjacent parts of the Nullagine sub-basin during the mid-1980s.

6.2.1 Previous Exploration in the Beatons Creek Project Area

Although the major focus of Fortescue Group was uranium exploration between 1968 and 1982, with sporadic gold and diamond exploration subsequently, the Nullagine sub-basin also remains under-explored. A chronological summary of significant past exploration activities at Beatons Creek is presented in **Table 6-1**. **Figure 6-1** shows historical drill collars by drill type (RC, DD and RAB), drilled prior to Novo's evaluation of the project.

Table 6-1. Chronological summary of past exploration relevant at Beatons Creek.

Year	Activity	Company / Leader
1968–1982	Various U (± Au) exploration programs in Fortescue Group, Nullagine sub-basin.	Cominco Exploration, Esso Australia, Essex Minerals, Otter Exploration–Marathon Petroleum
1968–1974	U exploration in Hardey Formation (Fmn), central Nullagine Sub-basin. Programme included airborne and ground radiometrics, and follow-up drilling (14 DDH for 1851 m)	Cominco Exploration Pty Ltd (Simpson, 1969)
1974	U exploration in Hardey Fmn, central Nullagine Sub-basin. Programme included airborne and ground radiometrics, and follow-up shallow percussion drilling (11 holes (depths <120 m) for 1291 m)	Esso Australia Ltd (Harrison, 1974)
1978–1981	U exploration in Hardey Fmn, central Nullagine Sub-basin. Programme included 23 core and percussion holes for 1887 m)	Essex Minerals Co (Wilson, 1979); Otter Exploration NL / Marathon Petroleum Australia
1983 – 1985	Strip mining and treatment of colluvial and alluvial deposits adjacent to hard-rock conglomerate-hosted gold deposits at Beatons Creek. Exploration of Beatons Creek conglomerate involved geological mapping, sampling, diamond and RC drilling.	Metana Minerals NL
1983	Beatons Creek drilling - WW series (DDH): 2 holes, 150 & 1066 m on M46/11	Metana Minerals NL
1984 – 1985	Beatons Creek drilling: CDH-series (DDH): 9 holes totaling 350 m on M46/11	Metana Minerals NL
1984	Beatons Creek: B-series (RC): 77 holes, 17-38 m, total 1982 m on M46/11	Metana Minerals NL
1984	District-scale geological mapping (T.S. Blake) and 2 diamond drill holes (total 1019 m) in Hardey Formation W and SW of Nullagine	AMB-JV (Australis Mining/Bass Strait Oil & Gas)
1984	Two DDH (total 592 m) test subsurface continuity of auriferous package beneath upper Hardey Fmn cover, 1 km SW of Beatons Creek historic workings.	Ivanhoe Gold
1984	Surface & down-hole (DDH IN2) IP	Scintrex (for Ivanhoe Gold)
1984	Single 549 m DDH, 7 km SW of Nullagine	BC-JV (South Eastern Petroleum NL /Zanex Ltd / Western Resource Projects NL)
1985–1990	Geological mapping and data compilation, trenches, shallow RAB drilling at Beatons Creek	Sons of Gwalia
1986	Two DDH (total 1200 m) as follow-up earlier Ivanhoe drill holes	Minsaco (JV with Ivanhoe Gold)
1987–1988	Short-lived continuation of alluvial gold mining operations at Beatons Creek	Black Horse Mining
1992–1993	Single 161.5 m inclined RC/DDH in lower Kylena Basalt, upper Hardey Formation	Alkane
1993	Diamond (±Au) exploration western limb of Nullagine syncline	Ocean Resources
2001 – 2010	Creasy Group tenements comprising Nullagine Project area staked	Mark Creasy (MC)
2001	Wedgetail acquire significant package of tenements in Nullagine area previously held under option	Wedgetail Exploration
2001	Beatons Creek workings, COM-series RAB holes: 21 x 20 m RAB holes on M46/9.	Wedgetail

Year	Activity	Company / Leader
2002	Geological compilation, soil sampling on M46/10-11.	Wedgetail Exploration/Mining
2006	Prospecting / rock sampling at Beatons Creek	Quinton Hennigh (QH) Newmont
2006	Beatons Creek (M46/10, 11) soil sampling	Wedgetail Exploration/Mining
2006–2007	Beatons Creek (M46/11) RC check drilling, 20 hole BCRB0001 – BCRC0020	Wedgetail Exploration/Mining
2007	Beatons Creek (M46/11) RAB scout drilling: 173 holes, depths 5–40 m, TD 5–10 m below base of oxidation	Wedgetail Exploration/Mining
2010	In-loop EM surveys on Creasy ground. Four lines (total 14.9 km) across eastern margin of sub-basin	QH, Galliard Resources
2010	Millennium Minerals (formerly Wedgetail Mining) announce 25% increase in reserve for Nullagine Gold Project (Late Archaean Mosquito Creek Belt, immediately east of Nullagine Project area)	Millennium Minerals
2011	MOU for Galliard 70% interest in Creasy Group tenements comprising the Nullagine Project area	QH,MC
2011	Novo Resources (formerly Galliard Resources) / Millennium Minerals announce binding letter agreement providing Galliard with exclusive right to earn 70% interest (as to gold and minerals associated with gold) in Beatons Creek Mining Leases 46/9, 46/10 and 46/11	QH, Brian Rear (Millennium)
2015	Novo Resources announces purchase of 100% interest in the Beatons Creek Mining leases 46/9, 46/10 and 46/11 from Millennium Minerals.	Novo Resources (QH) / Millennium (Glenn Dovaston)

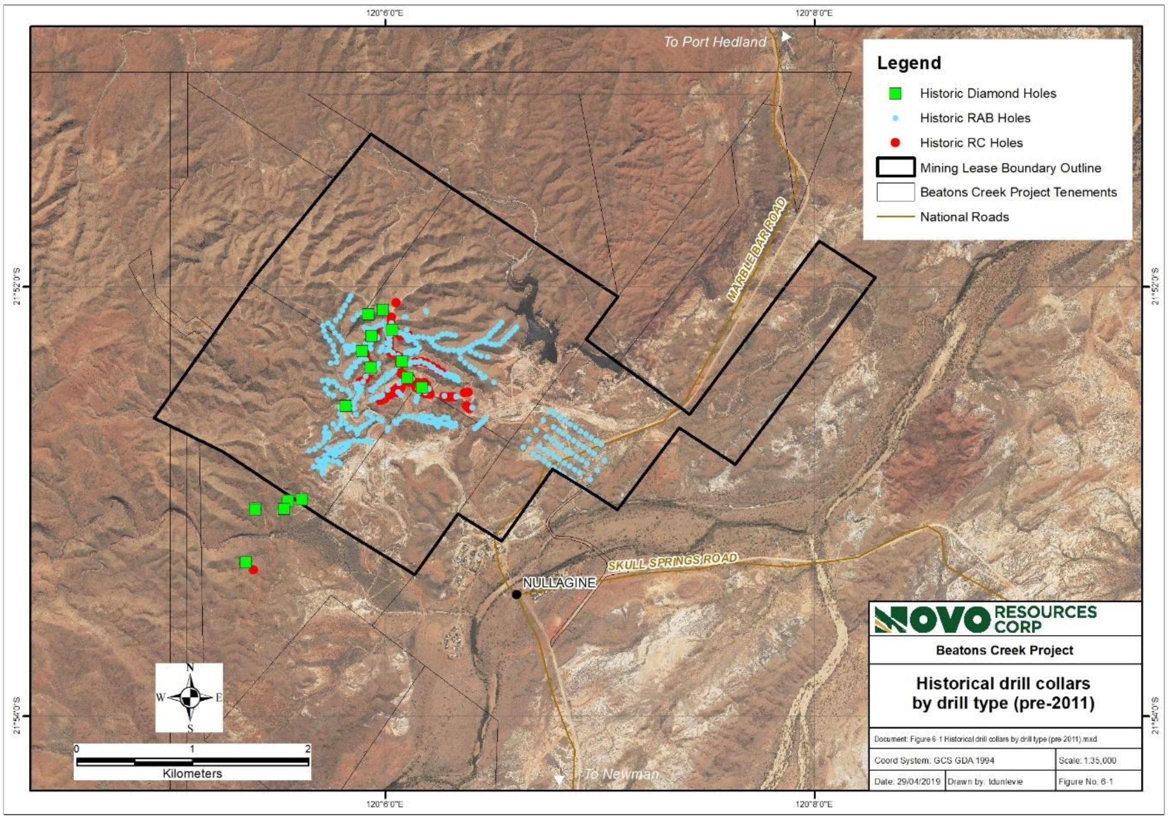


Figure 6-1. Historical drill collars by drill type (pre-2011)

6.2.2 Historical Production for the Beatons Creek Area

There are no official records of gold production at Beatons Creek prior to the establishment of the Western Australian Mines Department in 1897 (Maitland, 1919), and individual accounts of official production post-1897 also vary. Most estimates suggest total production was <10,000 t of material for <4,000 oz Au at average grades of 15 g/t Au to 20 g/t Au (Maitland, 1919).

Post-1897 production records indicate abrupt decreases in grade within the first few years of operation at most of the mines. Although local rich pockets of mineralization were mined between 1907 and 1912, organized mining at Beatons Creek had largely ceased by 1904 (Maitland, 1919). Most of the historic adits at the Beatons Creek project area are only about 1 m high.

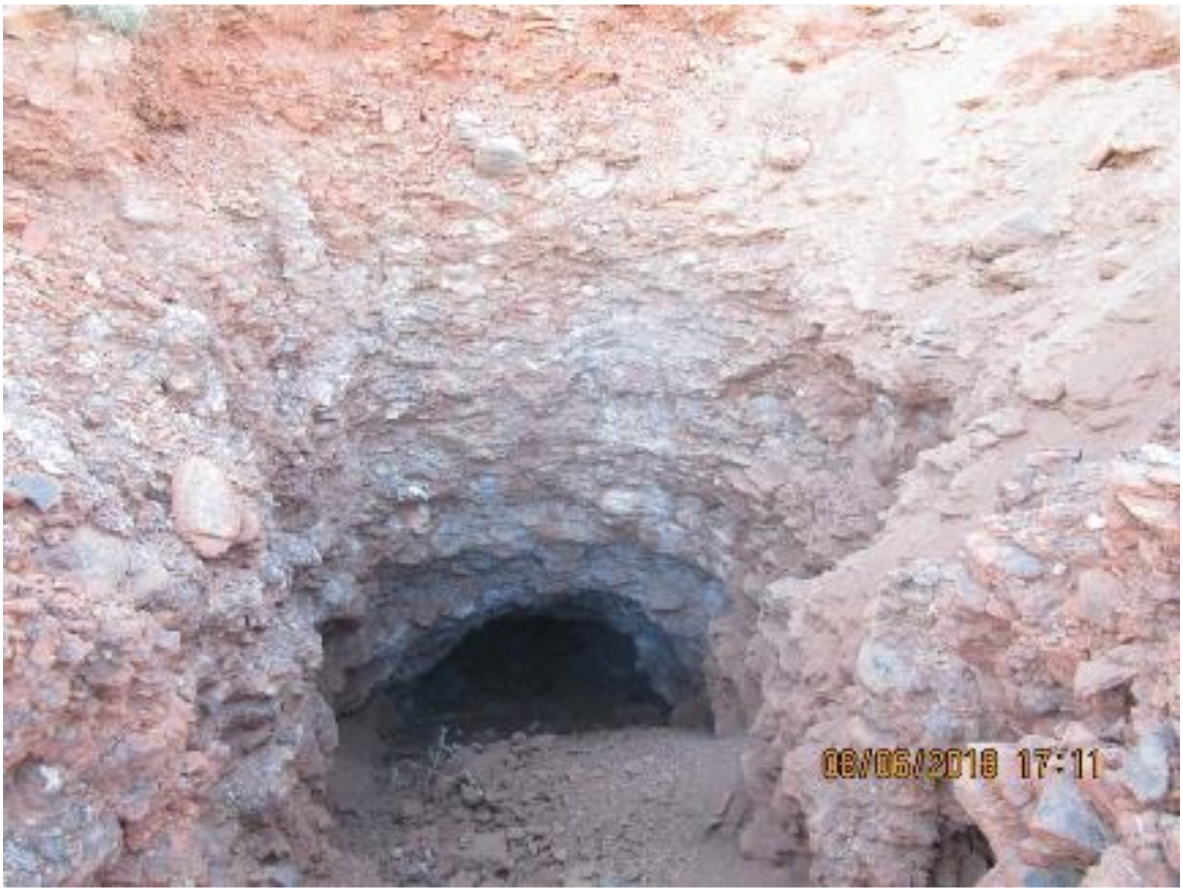


Figure 6-2. Historical mine working No. 198.

7. GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Beatons Creek project is located in the Pilbara region in north-west Western Australia. The region is comprised of three major tectonic units: an assemblage of pre-2.80 Ga granite-greenstone terrane, and an unconformably overlying succession of volcanic and sedimentary rocks that were deposited in the 2.77–2.40 Ga Hamersley Basin.

From oldest to youngest these sequences are:

- George Creek Group (3.24–3.05 Ga);
- Cleaverville Formation (3.02 Ga);
- De Grey Group (2.99–2.94 Ga); and
- Hamersley Basin succession (Mt Bruce Supergroup) (2.78–2.3 Ga).

The basement lithostratigraphy of the East Pilbara granite-greenstone terrane is formed of moderately to strongly deformed mafic volcanic and intercalated felsic volcanic and sedimentary rocks. These rocks occupy a series of arcuate synclinoria belts between less-deformed complexes of granitoids. The surrounding granite batholiths range in size between 25–110 km in diameter and were largely emplaced prior to 2.92 Ga. Some were subsequently intruded by small, highly reduced, post-tectonic, tin-bearing granites between 2.88 and 2.84 Ga.

A number of gold mineralizing events have emplaced numerous deposits in various settings in the basement granite-greenstone terrain. These gold sources have long been considered a likely source for auriferous placer deposits hosted in the Fortescue Group near Nullagine (Maitland, 1919; Finucane, 1935; Noldart and Wyatt, 1962; Hickman, 1983; Thorne and Trendall, 2001).

Fortescue Group and overlying Hamersley groups (**Figure 7-1**, **Figure 7-2** and **Figure 7-3**) form the Mt Bruce Supergroup; a sequence of mafic and felsic volcanics and sedimentary rocks up to 6.5 km thick (Thorne and Trendall, 2001; Blake, 1993, 2001) and exposed over a wide area in the Pilbara Craton.

Thorne and Trendall (2001) divide the Fortescue Group into four major depositional sequences. The entire succession is interpreted to reflect increasing amounts of subsidence in an overall extensional setting. These four units are summarised as follows:

- Unit 1 (basal) – Consists primarily of the ≤2.5 km thick Mount Roe Basalt which consists of sub-aerial and sub-aqueous (<2%) basaltic lavas and locally intercalated sub-aqueous volcaniclastics (<5%). Sub-aqueous units in the Mount Roe Basalt are interpreted to have been deposited in a lacustrine, rather than marine, setting (Thorne and Trendall, 2001). Widespread NNE-trending medium- to coarse-grained, dolerite and gabbro mafic dykes of the Black Range Suite in the East Pilbara terrane, are interpreted feeders to the Mount Roe Basalt (Williams, 1998; Thorne and Trendall, 2001).
- Unit 2 – Primarily the Hardey Formation, which unconformably overlies Unit 1 and is up to 3 km thick, and consists of a diverse association of sedimentary, mafic and felsic volcanic rocks (and high-level intrusions), which were deposited in continental to shallow-marine settings. This unit hosts the Gold mineralization at Nullagine and Marble Bar.

- Unit 3 consists of the basal Kylena (sub-aerial basalt), Tumbiana (marginal to shallow marine sedimentary rocks), and uppermost Maddina (sub-aerial basalt) formations. Although deposited in a largely sub-aerial environment, Unit 3 marks a widespread coalescence of individual sub-basins across the Pilbara craton (Thorne and Trendall, 2001). Where the Fortescue Group directly overlies granitic basement, the Kylena (Basalt) Formation, which is typically the lowermost unit (**Figure 7-1**; Hickman, 1983; Thorne and Trendall, 2001).

- Unit 4 – The Jeerinah Formation marked the onset of a major marine transgression across the Hamersley Basin (which continued into deposition of the overlying Hamersley Group). In the north Pilbara Craton, the Jeerinah Formation predominantly consists of argillaceous rocks; however, basaltic lavas and volcaniclastic rocks dominate in the south. The Fortescue Group is disconformable overlain by marine sedimentary sequences (shale, banded iron formation and carbonate) of the 2.6–2.3 Ga Hamersley Group (**Figure 7-1** and **Figure 7-2**).

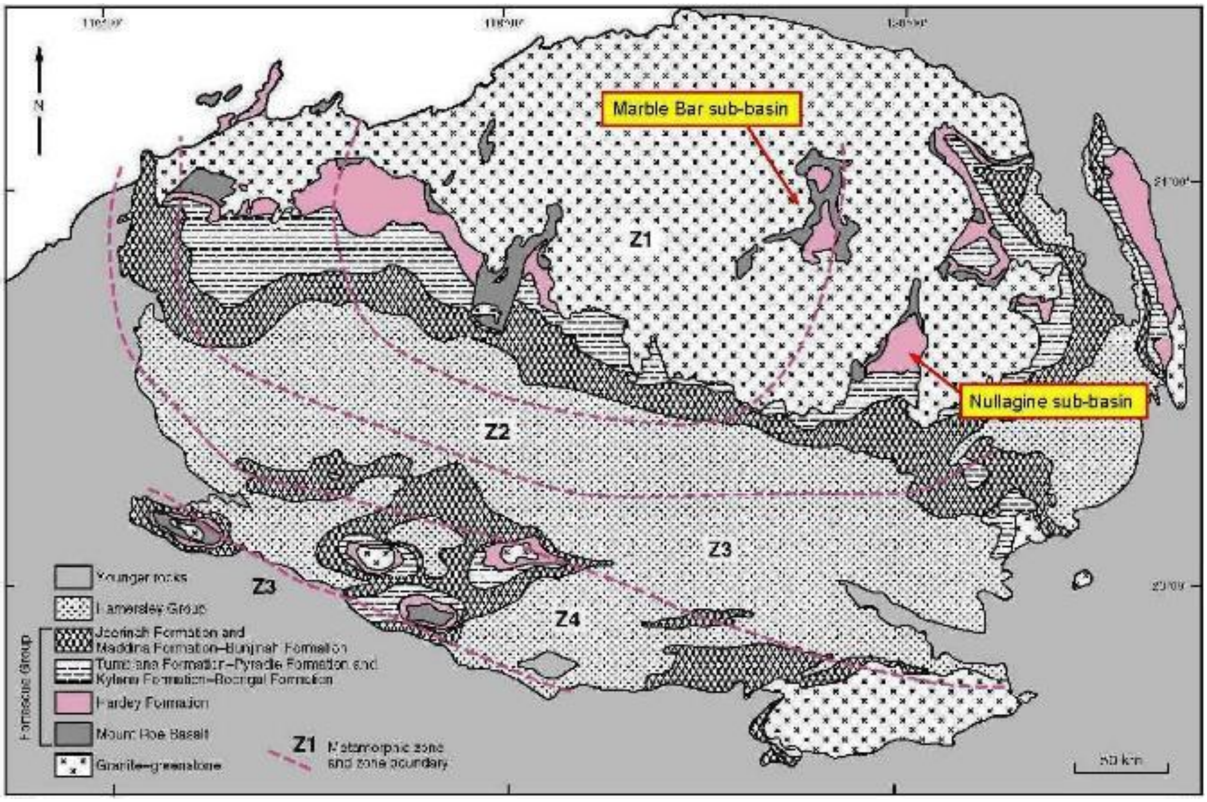


Figure 7-1. Geological map of the Hammersley Basin Showing the burial metamorphism zones of Smith et al (1982). Zone 1 – prehnite-pumpellyite zone, Zone 2 – prehnite-pumpellyite-epidote zone, Zone 3 – prehnite-pumpellyite-epidote-actinolite zone; Zone 4 – actinolite zone.

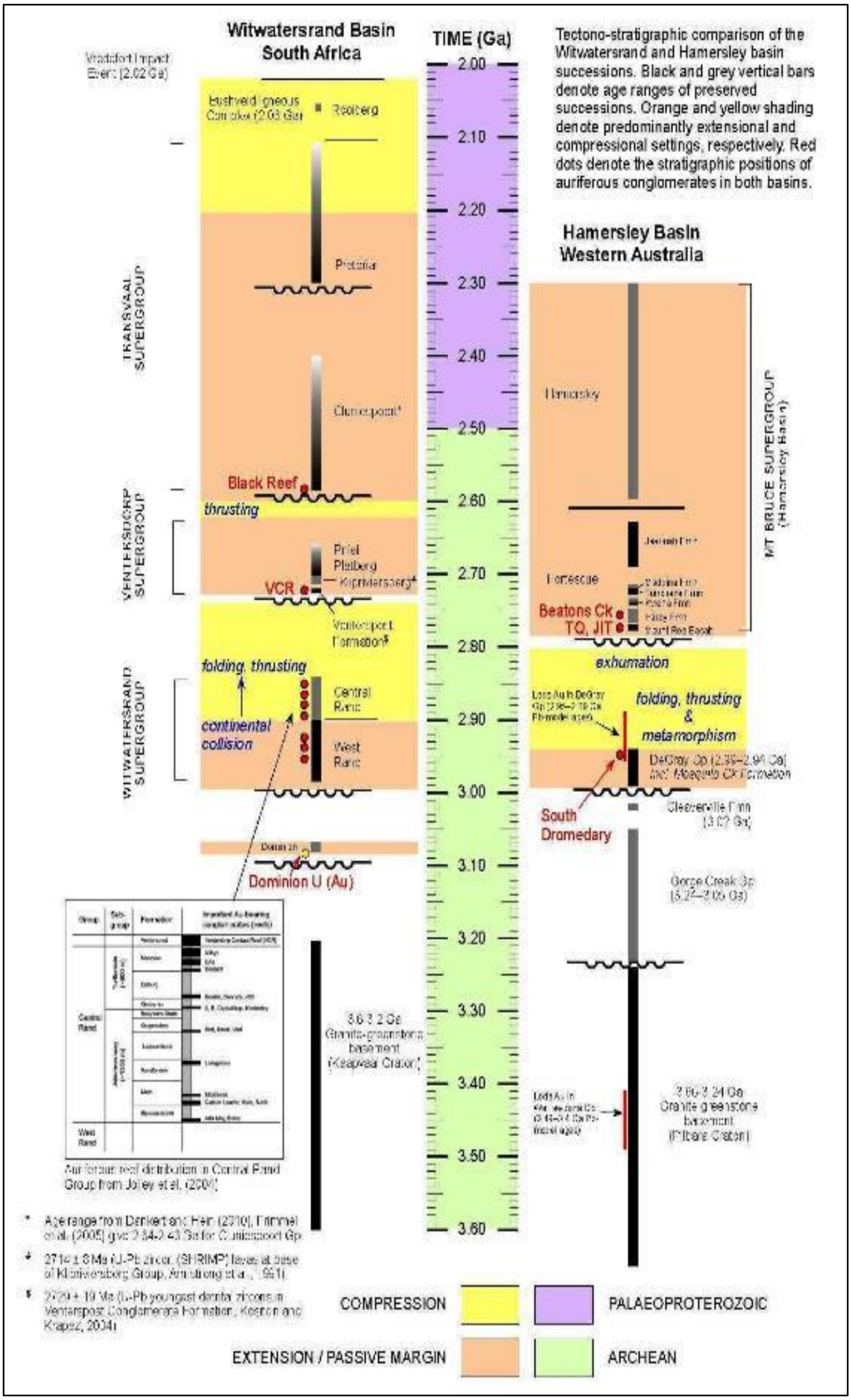


Figure 7-2. Comparison between Hamersley Basin and Witwatersrand Basin tectono-stratigraphy (after Nelson et al., 1992, 1999; Martin et al., 1998; Thorne and Trendall, 2001).

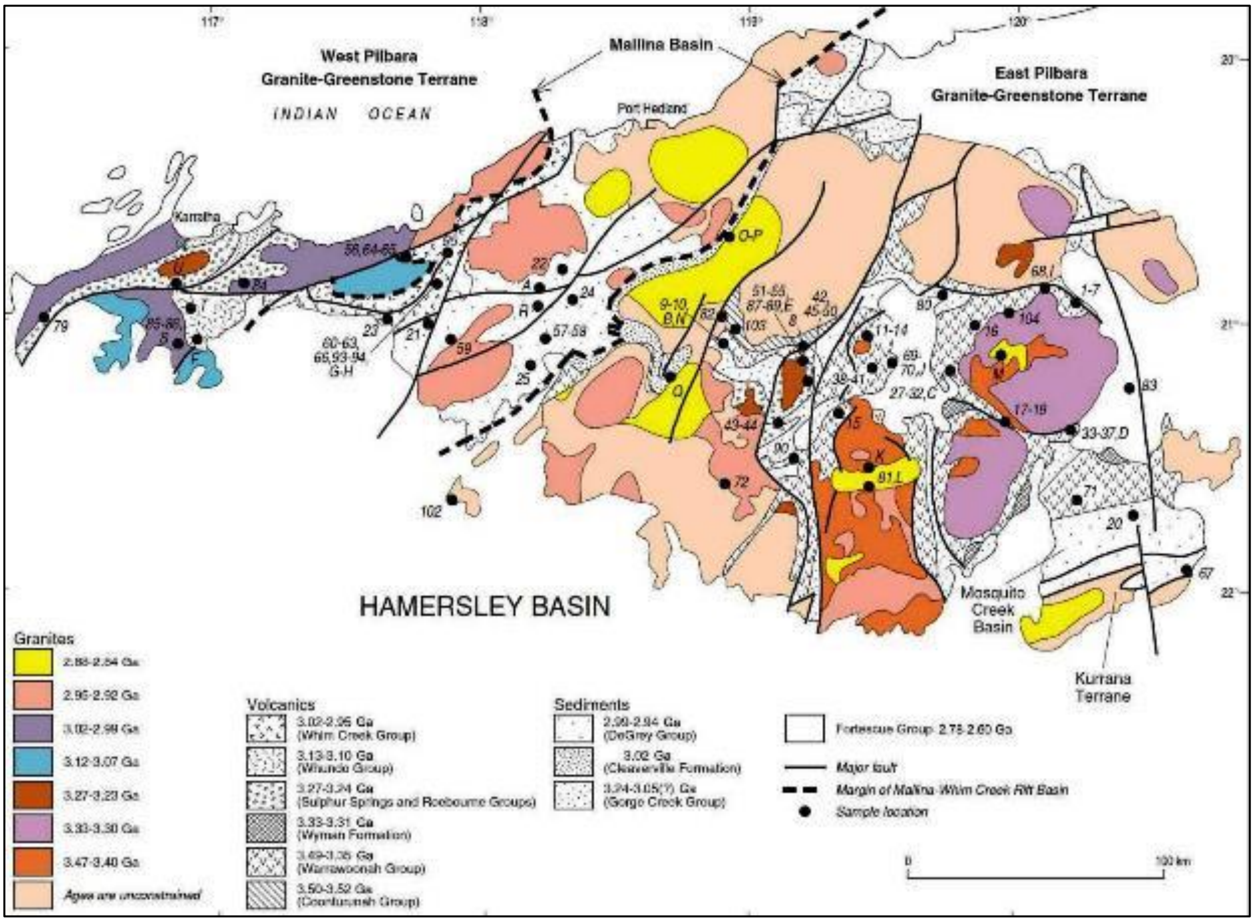


Figure 7-3. Summary map showing the age and distribution of the granites, greenstone successions and sedimentary basins in the north Pilbara Craton (From Huston et al., 2002a).

7.1.1 Regional Structure and Metamorphism

The basement rocks of the Pilbara Craton is one of the best preserved and least dismembered Archaean terrains in the world. Nonetheless, it had a complex structural evolution involving at least 13 deformation events between ±3.46 Ga and 2.75 Ga (Huston et al., 2001, 2002a). In the north Pilbara Craton, the Fortescue Group basin fill has only undergone minor deformation and low-grade metamorphism (**Figure 7-1**). In the Beatons Creek Project area, the Fortescue Group is gently folded by two generations of folds and cut by a complex array of mostly small displacement normal faults (Blake, 2001). Fortescue Group strata generally dip at <20°, although steeper dips (up to ~45°) occur locally along the eastern margin of the Nullagine sub-basin (Farrell and Blake, 1984). In the Nullagine sub-basin assemblages reach prehnite–pumpellyite–epidote facies (**Figure 7-1**). These assemblages indicate maximum temperatures <300°C (Smith et al., 1982; Thorne and Trendall, 2001).

7.2 Local Geology

The Nullagine sub-basin or Nullagine Synclinorium is a >60 km long, NNE trending half-graben formed in response to WNW–ESE directed extension during the initial stages of continental break-up (Blake, 1984a, b, 1993; Farrell and Blake, 1984; Carter and Gee, 1988; Blake, 2001, Blake et al., 2004). Widespread mafic dykes of the Black Range Suite (interpreted feeders to the Mount Roe Basalt) mostly trend NNE also implying WNW–ESE-directed extension during lower Fortescue Group deposition (Williams, 1998; Thorne and Trendall, 2001; Blake, 2001; Blake et al., 2004). The Nullagine sub-basin opens into the Hamersley Basin to the south and is partly bound by syn-depositional normal faults along its eastern margin (Farrell and Blake, 1984, Blake, 1993). Progressively younger Fortescue Group strata on-lap basement rocks towards the south (Farrell and Blake, 1984; Blake 1984a, 1993, 2001).

The Fortescue Group unconformably overlies a wide variety of older Archaean rocks around the perimeter to the Nullagine sub-basin (**Figure 7-3**). Along much of the northeast margin to the sub-basin the Fortescue Group unconformably overlies the Mosquito Creek Formation, which occupies a 30 km by 65 km ENE trending belt east of the town of Nullagine.

The Mosquito Creek Formation correlates with the De Grey group and is interpreted to extend for at least 20 km beneath the Fortescue Group cover. The Mosquito Creek Formation is host to numerous small to moderate sized disseminated, vein- and shear-hosted mesothermal Au deposits, interpreted to have formed at ca. 2.90 Ga (**Figure 7-3**, Pb/Pb model age, Huston et al., 2002a).

The basal unit of the Fortescue Group, the Mount Roe Basalt, is discontinuously exposed in the north, and along the north western margin of the Nullagine sub-basin, where it is up to 50 m thick (Hickman, 1979; Blake, 2001). Although the Mount Roe Basalt is not exposed at surface in the project area (**Figure 7-4**), it may occur locally at depth beneath the Hardey Formation cover.

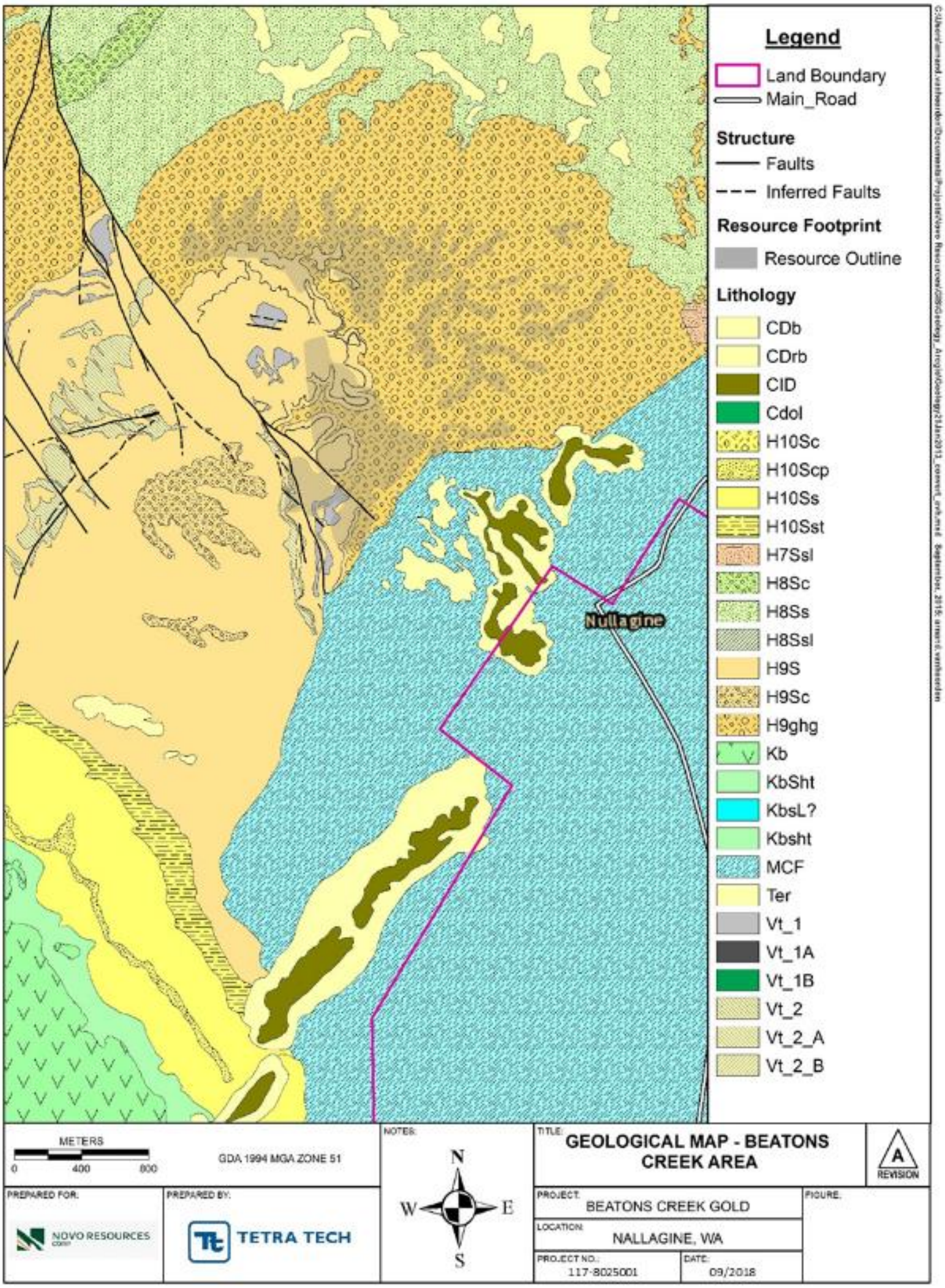


Figure 7-4. Geology map for the Beatons Creek project area.

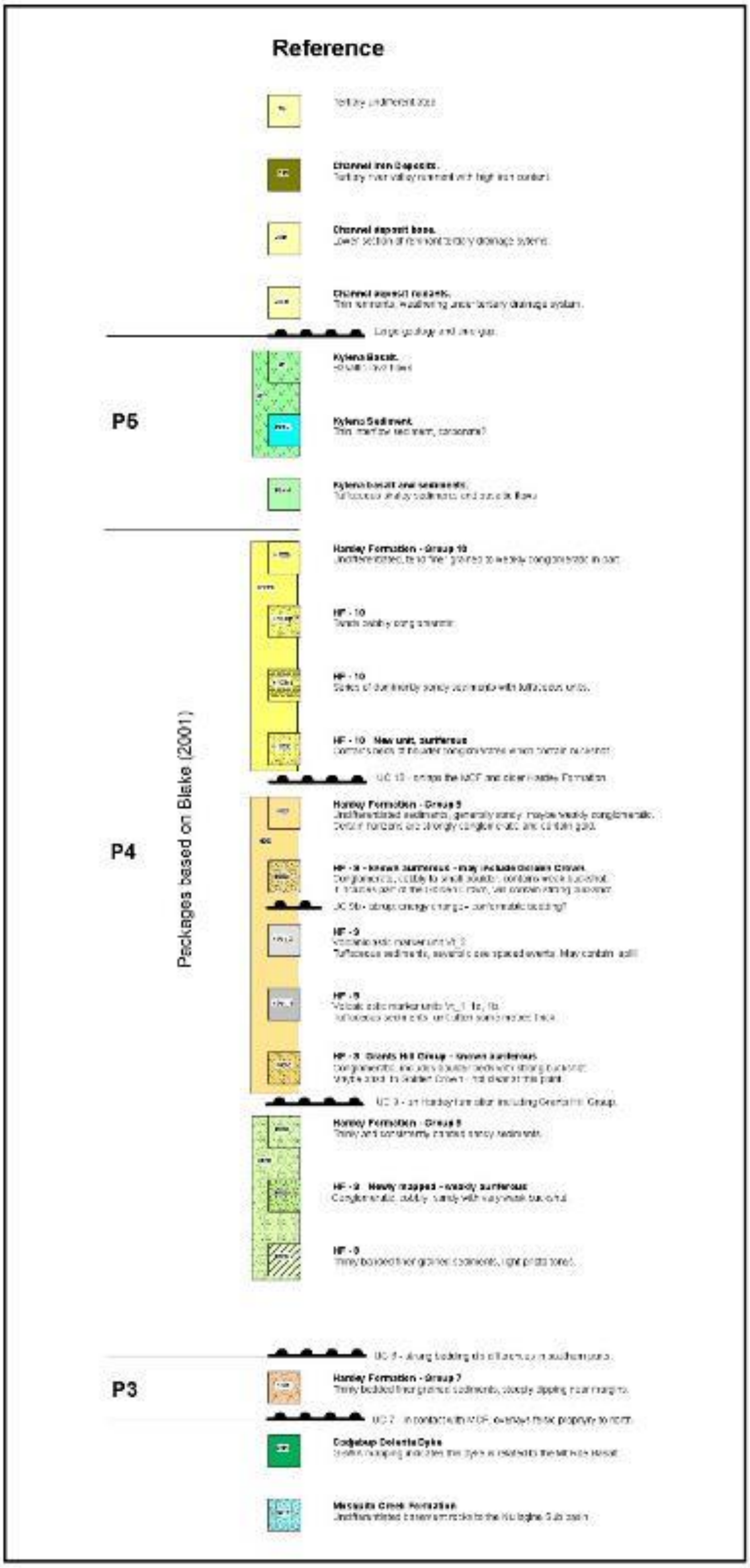


Figure 7-5. Cont…..

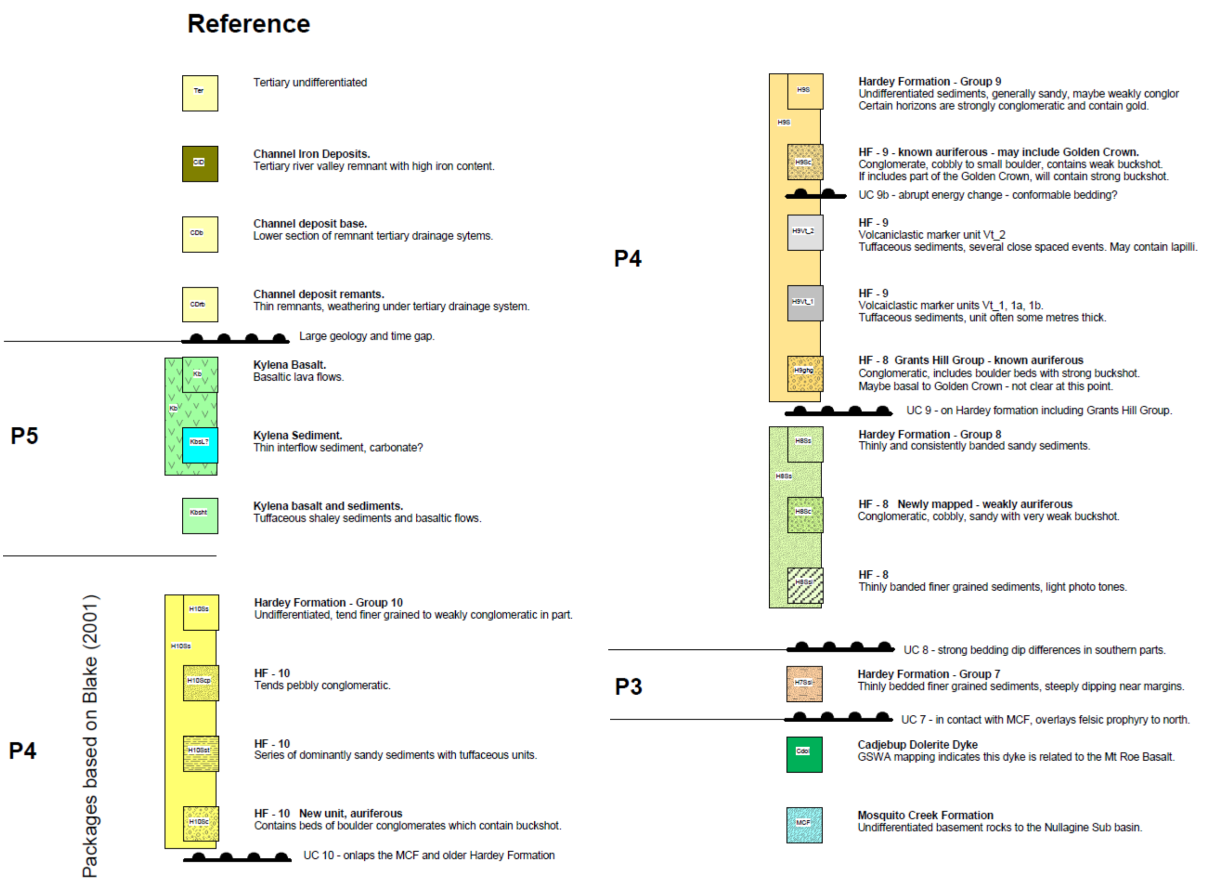


Figure 7-5. Lithological descriptions and stratigraphic succession about preceding geological map (Figure 7 4).

In the Nullagine sub-basin, the Hardey Formation either unconformably overlies the Mount Roe Basalt or older Archaean basement, and consists of up to 1,700 m of mostly terrigenous clastic sedimentary rocks deposited in braided fluvial, lacustrine and alluvial fan settings (Blake, 1993; Blake et al., 2004). In the north of the project area, the base of the Hardey Formation is intruded by the up to 1,500 m thick, 2,766 ±2 Ma dacitic Spinaway Porphyry (Blake et al., 2004). The upper contact of the Spinaway Porphyry is erosional; however, the Hardey Formation sandstones immediately above this contact are intruded by rhyolite of identical age to the Spinaway Porphyry indicating the time-break across the unconformity was small (Blake et al., 2004).

Blake (2001) subdivides the Hardey Formation above the Spinaway Porphyry in the Nullagine sub-basin into two unconformable packages, P3 and P4 (**Figure 7-6**). Auriferous conglomerates exposed in the Beatons Creek area near Nullagine occur in Package P4 of the Fortescue Group (Blake, 2001; Blake et al., 2004, i.e., Taylor Creek Sequence Unit 3b), not at the base of the Hardey Formation as stated in some earlier Mines Department and Geological Survey reports (e.g. Hickman, 1983). A felsic tuff near the base of a relatively well-stratified sequence immediately overlying the auriferous conglomerates (±300 m below the top of P4) is dated 2752 ±5 Ma (U-Pb zircon, Blake et al., 2004) and provides a minimum age constraint on their formation.

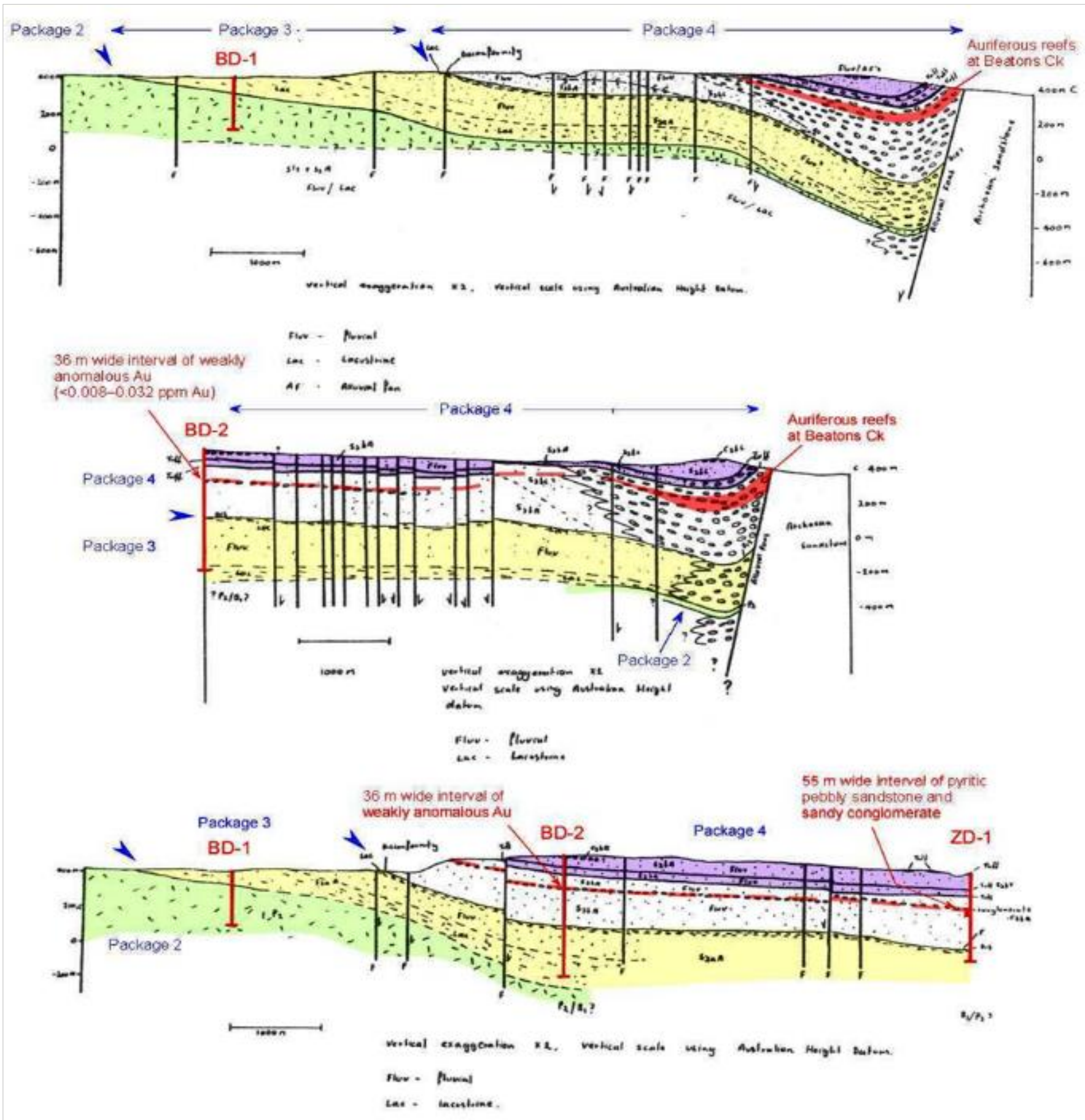


Figure 7-6. Interpretive cross-sections by T.S. Blake (ca. 1984) near the eastern margin of the Nullagine sub basin. Subdivision P3 in yellow, and P4 (including auriferous zone) in white and red. Based on correlation of sequences in DDH BD-1, BD-2, BD-3 and ZD-1

7.3 Property Geology

Diamond drilling during the 2018 field season have confirmed the Nullagine sub-basin subdivision of the Hardey Formation by Blake (2001). Mineralization is restricted to a ~200 m sequence of poorly-stratified, poorly-sorted, polymictic, pebble-to-boulder ferruginous conglomerate sequence (P4), which is restricted to an area within a few kilometers of Nullagine (**Figure 7-4**). The underlying sequence (P3) is of similar composition, but generally finer and including sandstone beds and minor tuffs. The overlying sequence was not separated by Blake, and resembles the lower sequence (P3). These beds are characterized by a more regular sediment input and range between sandstone to pebble-conglomerates with a number of extensive tuff horizons.

Detailed logging of drill core and downhole wireline data have further separated the stratigraphy into sub-units, with an updated mine sequence stratigraphy now recognizing the following packages (**Table 7-1**)

Table 7-1. Mine stratigraphy as defined by 2018 diamond drilling.

Code	Sub-unit	Unit Name	Description
BU		Beatons Upper	Sandstones and pebble to cobble conglomerate. Contains tuffs and minor granulestone beds
BX		Beatons Mineralised Unit	Cobble conglomerate with occasional Boulders. Hosts to mineralised or unmineralised lag horizons (marine reworking). Low level disseminated pyrite with occurrences of 'buckshot pyrite' concentrations
	XM	Mineralised Lag	Transgressive horizon. Generally a concentration of larger and more resistive boulders and strong pyrite (honeycomb buckshot) mineralisation
	XU	Unmineralised Lag	Transgressive horizon. Generally a concentration of larger and more resistive boulders but lacking significant pyrite mineralisation
BM		Beatons Middle	Pebble to cobble conglomerate with occasional boulders. Low level disseminated pyrite with minor occurrences of (channelized) concentrations of pyrite
	BM01	Beatons Middle (coarse)	Cobble conglomerate with occasional Boulders.
	BM02	Beatons Middle (fine)	Large-pebble conglomerate. Minimal Dromedary clasts.
BL*		Beatons Lower	A local unit constrained to proximal to the Mosquito Creek contact. Cobble to boulder conglomerate of predominantly angular and poorly sorted granite clasts. Minor channelized concentrations of pyrite
BG*		Beatons Granulestone	Beatons Granulestone. Small-pebble conglomerate to granule sized sediments. Extensive and locally variable thickness

** BL and BG are at least locally recognizable units. The general distal deeper Beatons units are defined by limited deep historical drilling and comprise sandstones to cobble conglomerates generally of lower depositional energy than the units above. Minor intersections of low level pyrite and weak mineralisation suggest occasional inputs of mineralised material and potential reworking.*

The *Beatons Upper* unit represents a relatively lower depositional energy level and contains sandstones, granulestones and pebble conglomerates. Minor cobble conglomerates show an occasional increase in energy and likely represent more channelized basin fill. Individual beds are extensive. A number of tuff horizons (1 m to 5 m in thickness) are easily recognizable in outcrop, drill core, geochemistry, and downhole televiewer data and form marker beds.

The *Beatons Mineralised* unit and *Beatons Middle* unit share similar characteristics, and match with Blake's P4 unit. This forms the ~200 m thick package comprised of a monotonous sequence of pebble-to-boulder conglomerate with occasional thin interbeds of sandstone. Conglomerate clasts comprise sandstone, siltstone, quartz and dromedary boulders-conglomerates in their own right and resembling the Dromedary Hills Mosquito Creek conglomerate unit towards the east. Additional minor clasts of chert, possible stromatolites and 'mineralised clasts' are also evident.

Regular 0.5 m to 2 m thick horizons show cobble to boulder conglomerates with increased resistive clasts and increased pyrite and represent fluvial channels (proximal to the depositional fan) or zones of marine reworking. Gold-bearing ferruginous conglomerates are restricted to these channels or marine lags and generally constrained to the 40 m thick Mineralized Unit at the top of the sequence. Fluvial type conglomerates (**Section 7.4.1**) and marine lags (**Section 7.4.2**) generally have a clearly defined top and base and represent a higher energy environment conducive to concentrating gold, as well as detrital pyrite and resistive clasts.

The *Beatons Lower* and *Beatons Granulestone* units are locally extensive, but both form a marked change from the Beatons Middle unit. The Lower unit is characterized by angular and poorly sorted felsic clasts and are likely a local feature derived from a local source. The Mosquito Creek Formation has a number of intrusive felsic units, which is likely what caused a local influx of this material. The Beatons Granulestone is located around the South Hill and eastern margin of the Grants Hill areas and is over 100 m in thickness. Both units have a clear contact with the overlying Middle unit.

More distal historical diamond holes show a general lower energy package of sandstones and conglomerates below the Middle unit. Due to the depth to reach this unit and the limited potential for mineralization, further detail of the deeper sequences is not known.

7.4 Property Mineralization

Gold mineralization within the Beatons Creek conglomerates occurs as fine grains, larger flakes, and rounded particles up to several millimeters across, but rarely exceeding 2 mm. Coarse and fine gold is spatially related to higher concentrations of pyrite, and there seems a correlation with gold and the 'buckshot pyrite' clast size. Coarse gold particles are regularly visible (circled by blue marker in **Figure 7-7** and in core in **Figure 7-8**), and fine gold can readily be panned from crushed matrix material with large pyrite concentrations.

Figure 7-7. Gold particles shown within blue circles amongst buckshot pyrite (black dots) from an ferruginous channel conglomerate (South Hill).

Figure 7-8. Gold in drill core. Left: BCDD18-002, 60.8-61.3m, 7.3 g/t Au. Right, BCDD18-001, 6.12-6.6 m, 4.3 g/t Au.

Mineralization is restricted to fluvial type channel conglomerates or marine lag reworked conglomerates and readily recognizable from outcrop and drill core. The wider Beatons Mineralized unit and Beatons Middle unit contain minor disseminated pyrite, but the background mineralization is generally no more than 0.1 g/t Au.

7.4.1 Channel Mineralization

Fluvial type channel conglomerates are typically clast-supported, heterolithic, pebble-to-cobble conglomerate with occasional boulders (**Figure 7-9**). Imbrication of clasts is commonly evident indicating a general north to northwest flow direction in the project area, and trough cross bedding and channels are commonly evident, suggesting a braided river environment (**Figure 7-10**).

Individual channels are often ~50 m across and can be traced over hundreds of meters. Thickness varies between 0.5 m to several meters. Clasts are dominantly sandstone, conglomerate, siltstone and shale likely locally derived from the nearby Mosquito Creek formation (+70%), and clasts of several types of metamorphic rocks and granite derived from the basement are less common (<10%), but ubiquitous. White and grey vein clasts are also ubiquitous making up around 10% to 20% of the clast population; sand and silt dominate the matrix and spotty clusters of detrital pyrite (up to 1 cm diameter); as well as fine (<1 mm) rounded and box-work pyrite are common in matrix material, up to 10% of the rock.

Figure 7-9. Fluvial type conglomerate exposed in 2018 bulk sampling program (thickness c. 1.8 m).

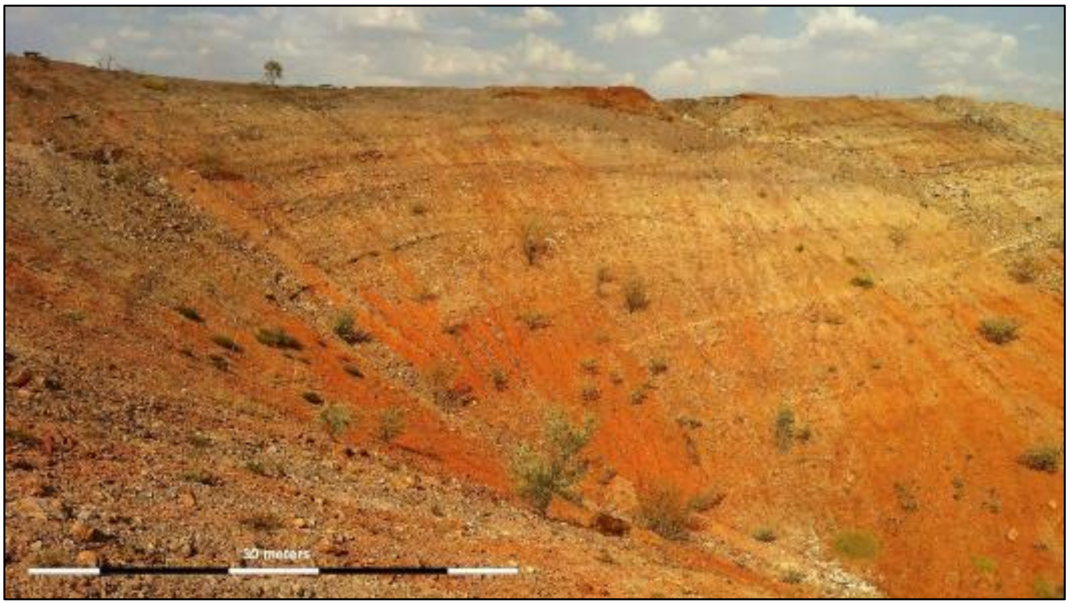


Figure 7-10. Channel trough cross-bedding in a sequence of fluvial type conglomerates on the southern margin of Golden Crown.

7.4.2 Marine Lag Mineralization

Marine Lag (sometimes referred to as 'armored lags') are typically tightly packed, clast supported cobble-to-boulder conglomerate (**Figure 7-11** and **Figure 7-12**). Individual boulders can exceed 1 m diameter and comprise a heterolytic composition, but are dominated by hard, resistant, siliceous dromedary boulders, vein quartz and chert. Sandstone and locally derived shale clasts are less common in marine lags and commonly tucked between or under larger siliceous boulders. Imbrication is rare and individual beds are 0.3 m to 1.5 m thick and sheet-like, being continuous over hundreds of meters with the main two marine lags continuous over 2.5 km. Sand and silt flakes of yellow shale comprise the matrix, with ubiquitous and abundant detrital pyrite (up to 3 cm diameter) is common in matrix material, and can comprise up to 20% of the rock (**Figure 7-13**).

Figure 7-11. Tightly packed armored lag type ferruginous conglomerate with quartz boulders (M1 - Edwards Lease).

Figure 7-12. Armored lag type conglomerate comprising elongated quartz boulders (M1 – Golden Crown).

Figure 7-13. Detrital pyrite and dromedary boulder (bottom right) in 2018 PQ drill fresh mineralized core (85 mm diameter).

8. DEPOSIT TYPES

Both fluvial and marine lag-type conglomerates are interstratified, indicating the depositional facies in which they formed were laterally proximal. The depositional environment for these conglomerates is interpreted to have been a river fan delta along a coastline as shown in **Figure 8-1**. During periods of low-stand, a braided river delta prograde seaward, depositing channelized fluvial type conglomerates.

As sea levels rose, wave action winnowed out fine, light sediment leaving behind a transgressive armored lag deposit of large siliceous boulders and heavy minerals including gold. It is in this environment that the economic conglomerates at Beatons Creek likely formed. This process repeated several times to create the interbedded conglomerates exposed currently (**Figure 8-1**).

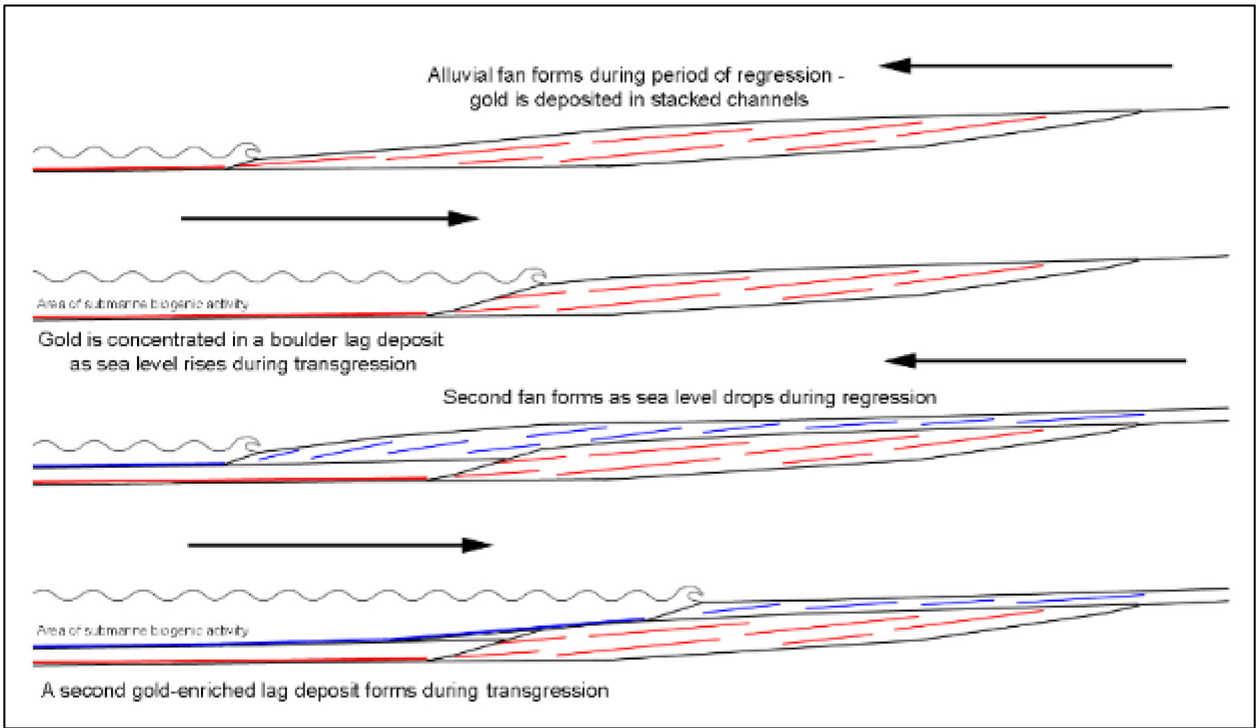


Figure 8-1. Sequence of two regressive and transgressive tracks from top to bottom.

The Paleoplacer deposition model employed by Novo for the Beatons Creek project is based predominantly on detrital gold sourced from the nearby Mosquito Creek Formation and deposited locally. Mineralization is further concentrated by reworking an already endowed sequence of conglomerates by marine processes as described above.

Similarities with other conglomerate hosted deposits of similar age lends credence to the mineralization model used. The presence of significant concentrations of rounded detrital pyrite was also a factor in reef and model identification, with the best exploration success primarily driven by understanding the sedimentary processes and their effect on concentrating gold. A clear correlation between high depositional energy (in channels) and amount of reworking (for marine lags) and gold content allows for a fairly straightforward depositional model to be successfully employed.

Some comparable conglomerate hosted deposits debate around potential hydrothermal mineralization either as the sole mineralizing event or as an overprint (Phillips and Meyers, 1989; Phillips and Law, 1994; Barnicoat et al., 1997). Despite local remobilization of pyrite (and potentially gold) within the matrix, possibly due to dewatering during burial or low level metamorphism, no evidence of hydrothermal overprinting has been documented at Beatons Creek or elsewhere in the Pilbara.

Other debate around organic or microbially-mediated syn-sedimentary gold precipitation (or entrapment) (Hallbauer, 1975a,b; Mossman et al., 2008) is likely of less relevance at Beatons Creek due to the limited amount of organic carbon (kerogen or stromatolites) in the system, but may play an important part with other conglomerate hosted gold targets in the wider Pilbara region (e.g., Virgin Creek).

Exploration by Novo has been successful in delineating the extent of marine lag mineralization in areas beyond 100 m below surface. High density costean sampling across the full mineralized sequence has subsequently better defined the domains where channel mineralization is common, with most dominant channels now well defined by sampling and drilling.

9. EXPLORATION

Exploration activities conducted by Novo consists of surface geological mapping, trench chip-channel sampling of surface outcrops, diamond core drilling and RC drilling conducted between 2011 and 2018. Drilling activities are discussed in Section 10 of this Technical Report. A bulk sampling programme was undertaken during 2018.

Historical exploration activities include geochemical and geophysical surveys, geologic mapping and drilling by various operators between 1968 and 2007, which are discussed in more detail in Section 6 of this Technical Report.

Due to the presence of extensive surface exposures of gold-bearing conglomerates, Novo recognized an opportunity to do an extensive trench sampling programme to compliment RC drilling to provide data to support resource estimation. Sampling was undertaken between late September and mid-November 2014, through July 2015 and during 2018 (**Figure 9-2**).

Figure 9-1. Measuring trench bulk sample.

Where outcropping conglomerate horizons are present and it was possible to access a full profile of the conglomerate horizon from top to bottom, samples were collected at approximately 20 m to 70 m spacing along strike from small trenches dug with an excavator. The sampling process involved using an electric Kanga jackhammer to loosen material and catch it on a tarp. Rather than taking narrow channel samples, material was collected over a broad face approximately 0.5 m to 1 m wide to get a reasonable representation of material including boulders and matrix. Each sample weighed 40 kg to 65 kg and was placed in two polyweave bags. The sample interval size did not exceed 1 m vertical thickness. If a conglomerate horizon was less than 1 m thick, one sample was collected from the top to the bottom of the layer. If its thickness exceeded 1 m, then two or more samples were collected.

Several challenges were experienced during this programme. Due to uncertainties about which conglomerate horizons contained gold, many samples were collected from horizons that were later recognized to be subordinate or barren. Additionally, copious amounts of dust generated by the excavator in some cases coated outcrops, thus making it difficult to see contacts. It was also recognized that some trenches did not fully expose targeted conglomerate horizons, thus limiting the ability to adequately sample them. Where possible, these trenches were resampled prior to resource estimation. The 2018 program differed in that an excavator was used on all trenches to ensure the hanging-wall and foot-wall contacts were exposed and cleaned using an air compressor prior to sampling across the full profile.

Trench samples were individually placed in polyweave sacks (bulka bags), and bundled and stacked on pallets for transport. Sample shipments were made from the Nullagine freight yard to Intertek Laboratory Services in Perth on a weekly basis.

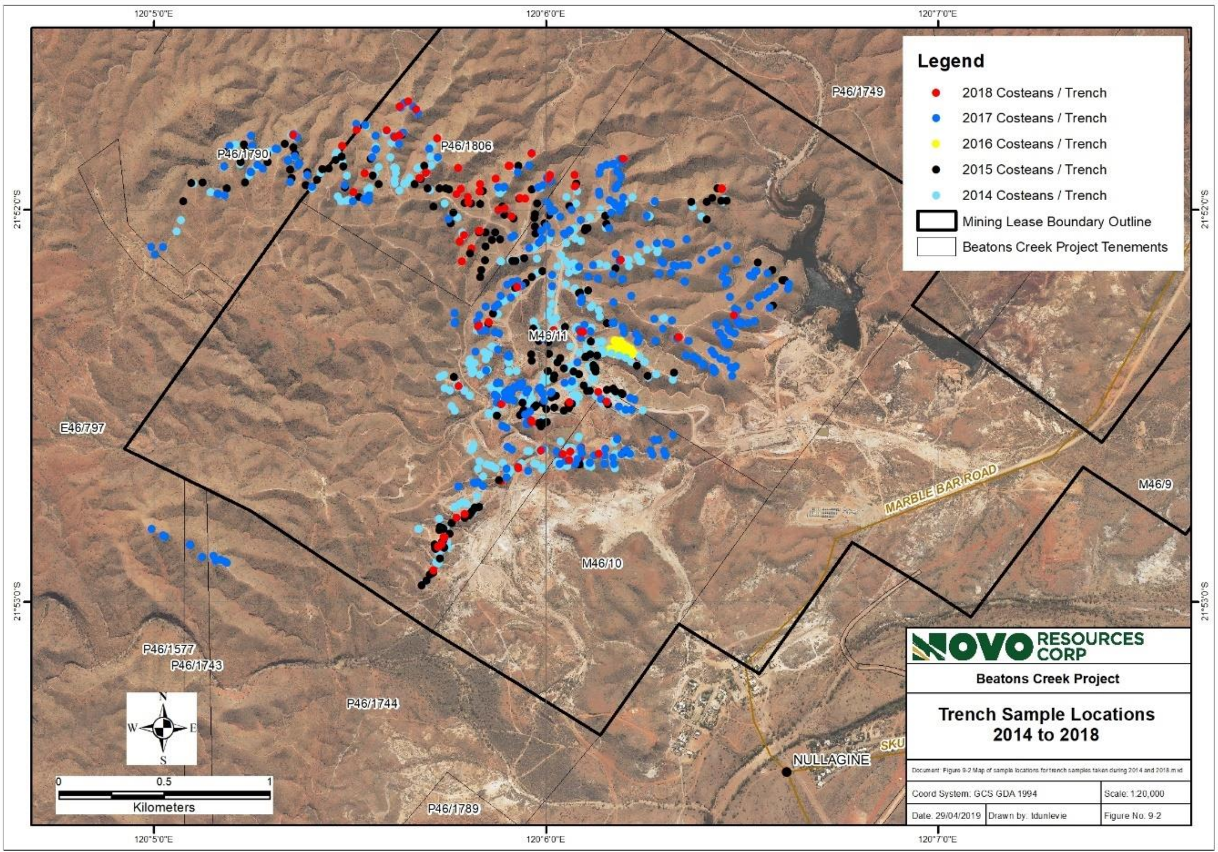


Figure 9-2. Map of sample locations for trench samples taken since 2014

Trial mining took place in July 2016 and excavated a 29,560 t lot from a single site on a Golden Crown marine lag. Processing of the lot proved to be problematic, due to impact crusher breakdowns and inefficiencies that led to the need for unplanned modifications. As a result, only 9,680 t of material was processed.

During 2018, Novo undertook diamond core drilling, trench sampling, and bulk sampling.

10. DRILLING

Novo commenced exploration in late 2011. Since then, a total of 724 RC drill holes were drilled for a total of 36,130 m. The purpose of the RC drilling was to improve resource definition of the narrow auriferous reefs in the Beatons Creek formation, particularly near Grant's Hill, Golden Crown, and Edwards Lease target areas. Drill holes were spaced at approximately 20 m to 50 m along ridges and spurs across the oxide target area.

Various drill contractors were employed by Novo over the course of this drilling effort, including Orbit Drilling (Hydco 350 DR14 rig) in 2011; McKay Drilling (Schramm T685W rig) in 2012; Castle Drilling (Atlas Copco L8-64 rig) for 2013 and 2014, and Three Rivers Drilling (Schramm T450 rig) in 2017. RC holes were collared using a 5.5 inch (137.5 mm) bit in the regolith zone, followed by a 5.25 inch (131.2 mm) diameter for the remainder of the holes. Samples were taken at 1 m intervals down the hole, although during 2011 and early 2012, 4 m composites were initially taken with a spear to determine where more definition was required.

The Castle Drilling utilizing an Atlas Copco ROC L8-64 track-mounted drill with vacuum dust suppression that minimizes the loss of fines. This drill is used widely across the region due to its ability to achieve better recoveries of cuttings and fines. Upon review of data, drill recoveries of 2013 and 2017 programs appeared to be compromised (see Section 10.5).

In 2013 and 2018, Novo completed 35 diamond drill holes for a total of 4,960 m for the purposes of grade-geological, metallurgical, geotechnical and density testwork. Core recoveries were good, and density data retrieved from this drilling has been used in this Technical Report.

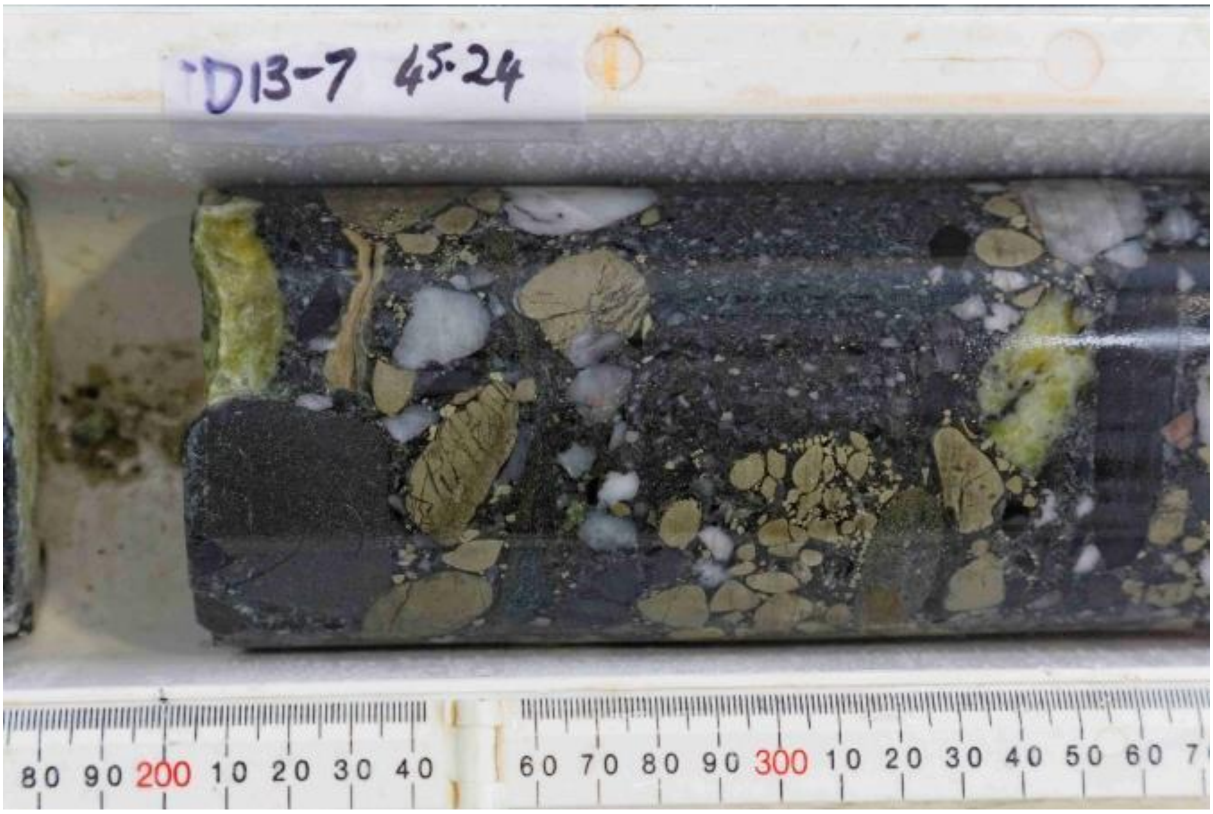


Figure 10-1. Fresh mineralized core intersection from DH13-007 with massive pyrite.

The 2011 to 2018 drilling is shown in **Figure 10-2**.

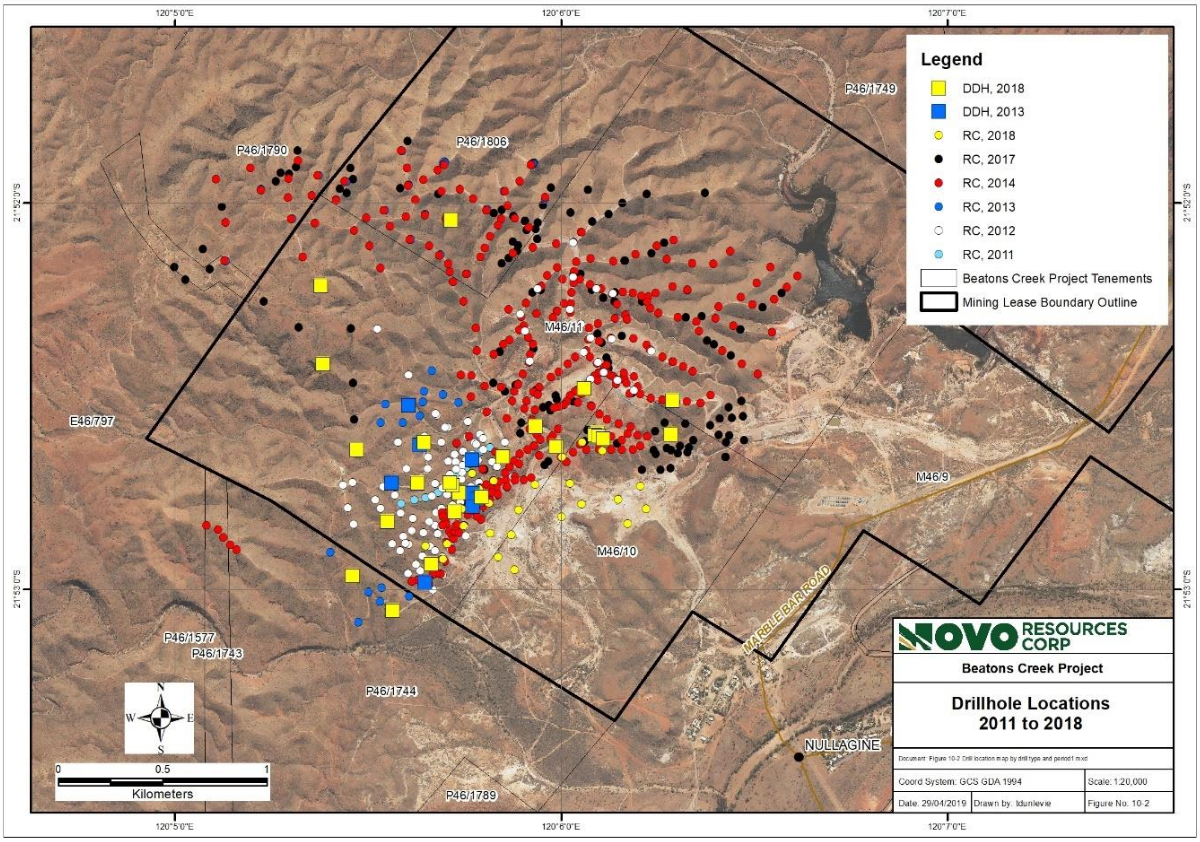


Figure 10-2. Drill location map by drill type and period.

10.1 Drill Collars

The protocol employed by Novo for staking and surveying drill collars has been consistent throughout all drilling campaigns. Collar coordinates are with reference to the GDA 1994 MGA Zone 51 Grid Datum. Planned holes are set out using a hand-held GPS device by the Novo field staff. The azimuths are usually set out using a compass and flagging tape/pickets for the rig to line up with fore-sights and back-sights. The vertical inclination is then set by the driller using a clinometer, which is confirmed by the geologist or field staff onsite prior to commencement of drilling, to ensure quality control is maintained.

Following the completion of drilling, drill collar casings are left in the ground with a plug in each, stating hole ID, coordinates and orientation. There is often a wooden stake with the above information next to each collar point for ease of identification. Collars are also plugged to prevent local fauna from falling down the holes (**Figure 10-3**).

Figure 10-3. Plugged and marked drill collar at Beatons Creek.

Drilled and plugged collars are ultimately re-surveyed with high-precision equipment to provide final confirmation of individual drill collar locations.

Final collar surveys for drilling conducted between 2011 and 2013 were undertaken by Survey Group using a differential GPS (DGPS) device. Survey Group established a survey control point approximately 100 m north of Grant's Hill.

In 2014, Novo purchased their own Real Time Kinematic (RTK) system, consisting of an EPOCH 50 Single Receiver Kit, a Trimble Geo 7 Series handheld GPS, and an XDL Rover 2 radio. This system provides sub-centimeter accuracy both vertically and horizontally. In 2014, Novo established additional survey control points (referencing the 2012 control point) across the project area to create a reliable standardized survey grouping. All 2014-2018 drill collars, bulk samples and trench samples were surveyed using the RTK system by Novo personnel.

10.2 Downhole Surveys

Considering the vertical nature of the drill holes, as well as the relative shallow average depth of drilling, down-hole surveys were not collected for any of the RC holes drilled between 2011 and 2017. The average hole depth was about 50 m, and the deepest hole was 235 m. Down-hole surveys are standard practice and it is recommended that downhole surveys be considered for all future drilling, particularly for holes >100 m in length.

All 2018 diamond holes were surveyed using an Eastman single shot camera at 30 m intervals.

10.3 Geological Logging

Geological logging was undertaken on-site by a qualified geologist(s) familiar with the project who closely monitored the drilling and sampling procedures.

The logging process is described as follows:

- Logging of RC chips is done using wet sieving techniques and samples of each interval are retained in chipping trays which are stored on site. The chips are logged in the field next to the collar site.

- Logging of drill core takes place on a core yard facility built on site, with core orientated, metre marked and washed for logging.
- The geologic logs record regolith, lithology, structure, texture, grain-size, alteration, oxidation, mineralization, quartz percentage and sulfide types and percentages by sample interval.
- Information recorded during the infields logging activities are captured directly onto paper logging sheets. This information is then transcribed into digital format by the Novo staff. Diamond logging is completed directly into the digital Geobank Mobile logging system.

10.4 Sampling Methodology

Sampling protocols employed by Novo during all RC drilling campaigns are summarized below.

RC drilling utilizes a 5.25 or 5.5 inch hammer bit to pulverize material at the drill face. RC chips are collected at regular 1 m intervals via a cyclone and fixed splitter attached to the side of the rig or trailer mounted. This arrangement is air-cleaned on a regular basis by the drill crew to limit cross sample contamination. This is closely monitored by the supervising geologist.

During earlier drilling programs (a component of 2006, all of 2011, and up to and including BCRC12-028 in 2012), 4 m composites were generated by spear-sampling for preliminary assay testwork. Composite results over a reported threshold value were subsequently resubmitted per individual meter. All speared composite data is excluded from the resource, and no composite data remains within the resource area.

For the programs prior to 2014, a standard calico split generated a nominal 3 kg sample for Fire Assay, with the remainder of the sample retained on site in a green bag. For the 2014 and 2017 RC program a modified Jones splitter was used to collect and split material from the cyclone into a 50/50 split, generating a 15 kg to 20 kg sample. The half split to be analyzed at the lab was collected in woven cloth bags, and the other half split was placed in a green plastic bag and left at the drill site. The weight of the rejected split was compared to the selected split for every tenth hole to check that samples were adequately being split at the drill site, which also allowed for a basic estimation of overall drill recovery.

Diamond drilling was conducted to generate PQ drill core. Core is orientated, marked up and validated against driller core blocks prior to measuring core recoveries. An Almonte core cutter was used to cut core into equally sized halves, consistently sampling on one side of the orientation line.

Samples were typically 1 m in length, although varied based on geological contacts. A minimum sample length of 0.5 m ensures sufficient sample for further analysis. A maximum sample length was set as 1.1 m.

QA/QC samples were inserted at regular intervals (see Section 11), with samples then transported by road to the Intertek Laboratory in Perth for sample preparation and analysis.

10.5 2013 and 2017 RC Drilling Programs

The 2017 RC drilling was conducted by Three Rivers Drilling (Schramm T450 rig), with 129 holes drilled for a total of 5,139 m. Recoveries were as low as 6%, ranging up to 80%, particularly in the oxide zone. Similarly, review of recoveries for 2013 RC drilling showed that excess material loss was encountered. Investigation of drill equipment used, showed that the rig operated without dust suppression with a high potential for fines loss.

All 2014 RC drilling was carried out using an Atlas Copco ROC L8-64 track-mounted drill with vacuum dust suppression to minimize fines loss. The 2014 program was well managed, with good spatial coverage of the project area. This program has been used to compare the 2013 and 2017 RC drill programs.

Figure 10-4 shows a statistical comparison between all RC programs, where the 2013 and 2017 display the lowest overall grades.

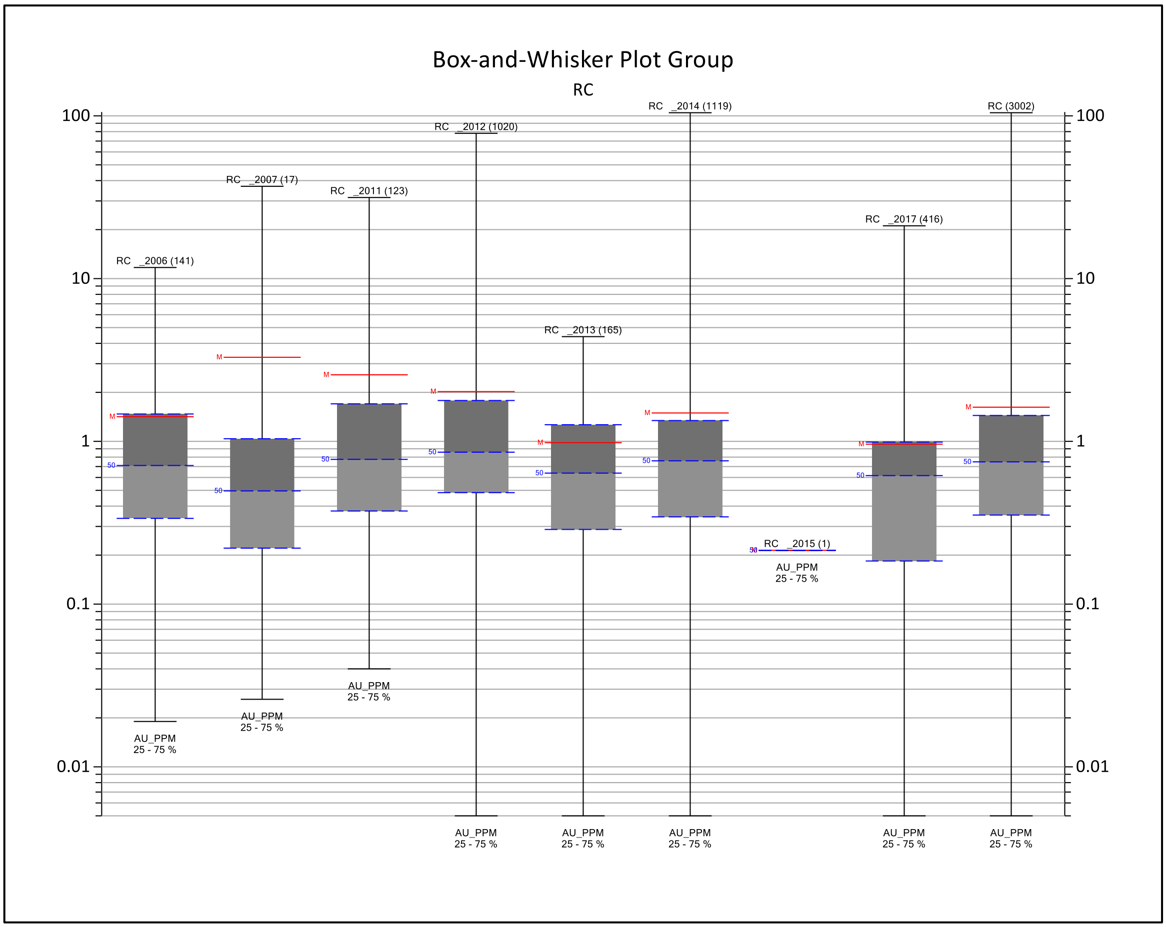


Figure 10-4. Box and whisker plot showing the statistics for the RC drilling program by year.

Figure 10-5 shows QQ plots comparing the 2014 RC data (N = 1,119) with the 2013 (n = 165) and 2017 (N = 416) data. The plots show poor compatibility compared to the 2014 programme, where the 2013 and 2017 data are lower grade.

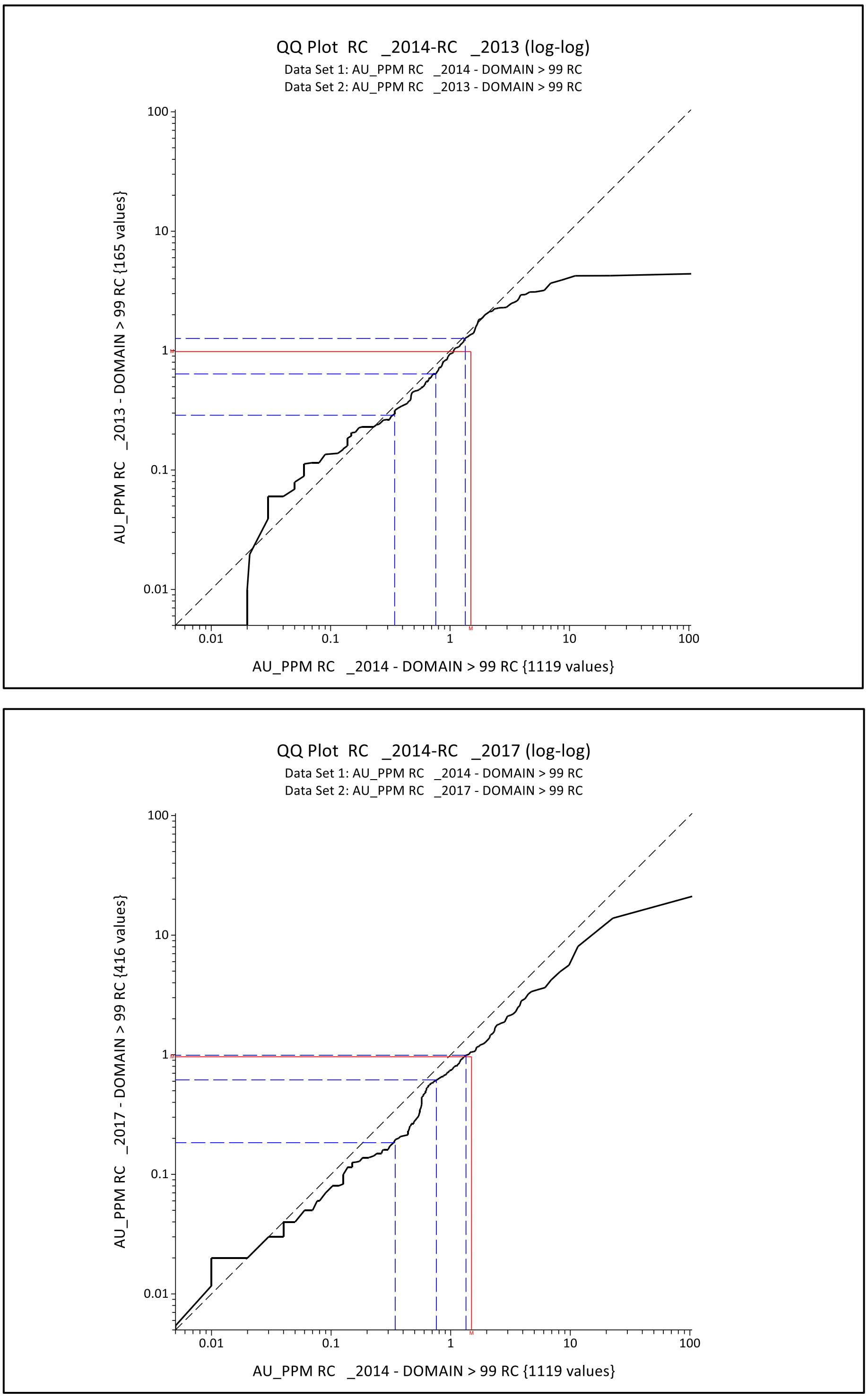


Figure 10-5. QQ plots comparing grades of the 2013 vs. 2014 and 2017 vs. 2014 RC drilling programs.

Based on the above analysis, and knowledge of poor and highly variable recoveries, the 2013 and 2017 RC holes have been excluded from this estimate. Previous estimates also excluded these data. Where mineralization has been encountered in the 2013 and 2017 RC holes, their location was used to inform the reef wireframe, but excluded from the estimate.

11. SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Trench Channel Sampling Methodology

Where outcropping conglomerate horizons are present, channel samples were collected from trenches at 20 m to 70 m spacing along strike. Sample interval size did not exceed one vertical meter. If a conglomerate horizon was <1 m thick, a sample was collected from the top to the bottom of the layer. If horizon thickness exceeded 1 m, two or more samples were collected.

Samples were collected from outcrops where it was possible to access a full profile of the conglomerate horizon from top to bottom, or exposed in small trenches using an excavator or dozer. Samples were collected using a Kanga drill to loosen material, and a tarpaulin to catch the material from the drill. Samples were collected over a broad face approximately 0.5 m to 1 m wide to provide a better representation of material including boulders and matrix. From 2018, a line was marked perpendicular to the profile, and a channel sampled mimicking a diamond drill hole to reduce sample extraction bias. A 40 kg to 65 kg sample was collected and split between two polyweave bags.

Field duplicates were collected at a rate of approximately 1 in 15 samples and were processed and analyzed along with the original samples. Blank samples (3 kg of lab certified barren quartz sand) were inserted at an approximate rate of 1 in 15 trench samples.

Trench samples were individually placed in polyweave sacks (bulk bags), and bundled and stacked on pallets for transport. Sample shipments were made from the Nullagine freight yard to Intertek Laboratory in Perth on a weekly basis.

11.2 Sample Preparation

Sample preparation, analyses and security measures followed by Novo meet reasonable practice for sample collection for both drilling and trench channel sampling. The results obtained from the sampling collection campaigns since 2011 are appropriate to support resource estimation.

Primary laboratory preparation and analysis was completed at Intertek-Genalysis Laboratory (Perth). Intertek is independent of Novo and an accredited facility that conforms to the following standards:

- The ISO/IEC 17025 accreditation ensures international standards are maintained in the laboratories' procedures, methodology, validation, QA/QC, reporting and record keeping;
- National Association of Testing Authorities Australia (NATA) has accredited Intertek Laboratory Services Pty Ltd, following demonstration of its technical competence, to operate in accordance with ISO/IEC 17025, which includes the management requirements of ISO9001:2000;
- This facility is accredited in the field of Chemical Testing for the tests, calibrations and measurements shown in the Scope of Accreditation issued by NATA (Accreditation No. 3244); and
- Intertek also participates in several regular international, national and internal proficiency round robins and client specific proficiency programs.

11.3 RC Drilling Sample Preparation and Analysis

At the lab, samples were sorted, dried and weighed. The lab screened every 20th bag to ensure +95% <10 mm. Samples were further prepared and analyzed using the following protocols:

- Crushing to 2 mm with a Boyd crusher;
- Rotary splitting out 9 kg, if applicable;
- Pulverizing all 9 kg (85% <75 micron) – this had to be done in three 3 kg units due to the limited size of the pulverizer;
- Re-homogenizing the three pulverized splits back to 9 kg of pulp;
- Re-splitting the 9 kg of pulp into three 3 kg bags; and
- Subjecting one 3 kg pulp to a 6 hour LeachWELL followed by Inductively Coupled Plasma Mass Spectrometry (ICP-MS) analysis. Note, a few samples were subjected to 24-hour leach time.

Due to the large size of RC sample splits and the estimated long processing time and high preparation costs, the 2014 RC samples underwent a “triage” approach to ascertain which samples contained Au and required full processing and analysis. The laboratory put each sample of raw drill cuttings through a riffle splitter to collect a 1 kg to 2 kg sub-sample. Without further processing, 1 kg of this split was subjected to a 6-hour LeachWELL and analysis. Samples reporting Au values of >0.15 g/t Au were selected for full processing and analysis.

Intertek performed pulp duplicate analyses on approximately 1 in 20 samples and inserted in-house standards at a rate of approximately 1 in 20. Both pulp duplicates and standards were introduced into the sample stream at random and were processed at the same time as the rest of the samples.

Over the course of the analytical programme, Intertek notified Novo that several samples were either damaged or otherwise compromised. Novo re-collected material from the rejected splits at site and resubmitted the samples.

11.4 Trench Channel Sample Preparation and Analysis

An extensive channel sampling of trenches was conducted to complement the RC drilling. Trench samples provide data of location and thickness. Trench top and bottom coordinates were surveyed using a differential GPS (DGPS) device to provide accurate top and bottom control on true mineralization thickness.

At the lab, samples were prepared and analyzed using the following protocols:

- Drying and weighing;
- Crushing entire sample to 2 mm with a jaw crusher followed by a Boyd crusher;
- Rotary splitting out 9 kg;
- Pulverizing all 9 kg (85% <75 micron). This had to be done in three 3 kg units due to the limited size of the pulverizer;
- Re-homogenizing the three pulverized splits back to 9 kg of pulp;
- Re-splitting the 9 kg of pulp into three - 3 kg bags; and
- Subjecting one 3 kg pulp to a 6-hour LeachWELL technique and ICP-MS analysis. Approximately one-third of trench samples were subjected to 24-hour leach time.

For the 2018 trench channel sampling programme, the entire 50 kg sample was pulverized and then split into one 3 kg lot for LeachWELL.

Intertek performed pulp duplicate analyses on approximately 1 in 20 samples and inserted in-house standards at a rate of approximately 1 in 20. Both pulp duplicates and standards were introduced into the sample stream at random and were processed at the same time as the rest of the samples.

11.5 Diamond Drill Core Sample Preparation and Analysis

Samples were sorted, dried and weighed at the Intertek laboratory. Samples were prepared and analyzed using the following protocol:

- Crushing to 2 mm with a Boyd crusher;
- Pulverizing all material to <75 micron with an 85% pass;
- RSD splitting the pulp to generate two 1 kg bags;
- Subjecting 1 kg pulp to a 24 hour LeachWELL followed by ICP-MS analysis. For any sample within the mineralized sequence two 1 kg pulps were assayed; and
- Any LeachWELL result over 0.2 g/t Au triggered an fire assay on the LeachWELL residue to quantify any gold not dissolved during leaching.

Intertek performed pulp duplicate analyses on approximately 1 in 20 samples and inserted in-house standards at a rate of approximately 1 in 20. Both pulp duplicates and standards were introduced into the sample stream at random and were processed at the same time as the rest of the samples.

11.6 Quality Assurance and Quality Control for Sample Analysis

Sample intervals from recent trench and drill hole sampling, 2011 to present, and subsequently used for resource estimation were primarily tested by Intertek using the LeachWELL technique. Because of this, quality assurance and quality control (QA/QC) is discussed only for 2011-to-present sampling, QA/QC for fire assay analysis is discussed in previous reports.

Quality assurance (QA) measures involve the use of standard procedures for sample collection for both drilling and trench sampling, which include oversight by experienced geological staff during collection.

QC was undertaken across all programs at Beatons Creek. Some early programs and the 2017 and 2018 trench-based channel samples a lack of standards or CRMs.

QC sample performance was monitored throughout the sampling campaigns by Novo, with no fatal matters being observed. In-stream testing of standards, blanks, and duplicates have demonstrated generally acceptable QC. QC performance is typical of a data collection programme of this size. Overall QC failures are infrequent, where some relate to labeling mismatches between QC sample types.

Quality control (QC) measures implemented by Novo include CRMs, blanks, and duplicate sampling (**Table 11-1**).

Table 11-1. Quality control insertion.

Stream		Global total samples	Standards	Blanks	Field duplicates	Pulp duplicates
2011, 2012, 2013 Drilling		19,859	871	308	837	0
2014 Trench		512	62	88	65	152
2014 Drilling		8,679	646	479	114	166
2015 Trench		222	15	17	9	152
2017 Trench		939	0	27	27	*939
2018 Trench		533	0	31	30	*533
2018 Drilling (diamond)		4,226	233	243	0	*679
	TOTAL	**34,970**	**1,827**	**1,193**	**1,082**	***2,621**
	Rate	-	5.2%	3.4%	3.1%	*7.5%
		-	1 in 20	1 in 29	1 in 32	*1 in 13

**For the 2015 and 2017 trench, and 2018 diamond drilling programs 2x or 3x 1 kg LeachWELL assays were undertaken on pulps giving effective pulp duplicate samples.*

Standards are submitted in the sample stream at approximately one for every twenty non-control samples. Intertek has developed certified material suitable for use as an instream LeachWELL standard and has inserted the standards at the request of Novo. An example standard control analysis plot is shown in **Figure 11-1**.

Table 11-2. Selected standard reference material performance.

Standard	Certified grade (g/t Au)	Certified one SD (g/t Au)	Count	Determined mean grade (g/t Au)	Number outside ±3SD	Percent outside ±3SD
LW1	1.00	0.06	177	0.97	27	15%
LW1-2	1.00	0.18	69	0.93	3	4%
LW1-3	1.00	0.15	15	0.98	0	0%
LW1-4	1.02	0.15	79	0.96	0	0%
LW1-5	0.97	0.20	85	0.96	0	0%
LW1-6	0.97	0.06	78	0.96	14	18%
LW1-7	1.01	0.12	18	0.96	2	11%
LW3	2.92	0.15	203	2.89	0	0%
LW3-1	2.99	0.15	47	3.04	0	0%
LW3-2	3.08	0.15	37	2.90	0	0%
LW3-3	2.76	0.14	67	2.71	1	1%
LW3-4	2.89	0.14	91	2.79	0	0%
LW3-5	2.86	0.05	77	2.83	9	12%
LW3-6	2.89	0.07	20	2.92	2	10%
LW3-7	2.84	0.14	4	2.81	0	0%
LW5	5.23	0.16	186	5.15	0	0%
LW5-1	5.29	0.16	22	5.35	0	0%
LW5-2	5.29	0.11	96	5.22	9	9%
LW5-3	4.73	0.14	40	4.65	1	3%
LW5-4	4.93	0.15	86	4.73	0	0%
LW5-5	4.75	0.13	87	4.75	0	0%
LW5-6	5.04	0.19	8	4.81	0	0%
ALL	**-**	**-**	**1,592**	**-**	**68**	**4%**

Stdev or SD: standard deviation (δ).

The standards listed in **Table 11-2**, display a global bias of -2%.

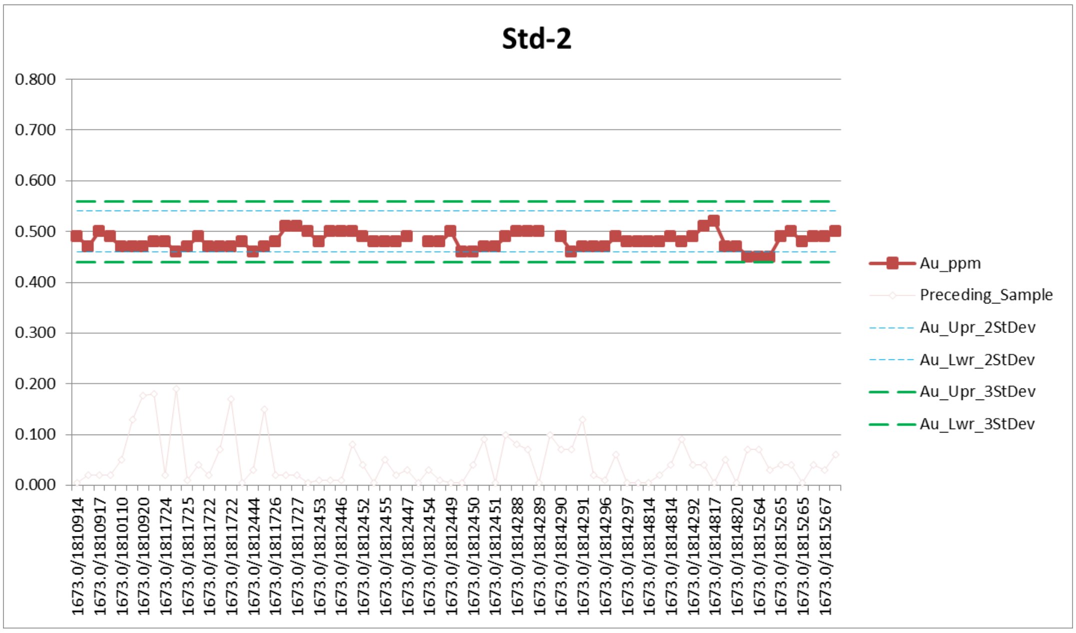


Figure 11-1. CRM G316-5 (0.5 g/t Au) run for the 2018 diamond drilling programme.

The CRM shown in **Figure 11-1** displays a global bias of -3.5%, where at total of 79 CRMs were submitted with six in the 2-3δ (δ: standard deviation) range and 73 <2δ.

Blank samples are submitted in the sample stream at approximately one for every thirty non-control samples. Washed sand was sourced from a supplier in Perth as blank material during 2011. It appears from the control chart shown below, **Figure 11-2**, that blanks from the 2011 drill campaign had background concentrations of gold and were replaced with the certified barren sand during the 2012 and 2013 programs. From 2014 onward, a mafic dyke near the town of Nullagine which was known to be barren of gold was used as blank material. Blank performance is acceptable and routinely returns values at the analysis detections limit.

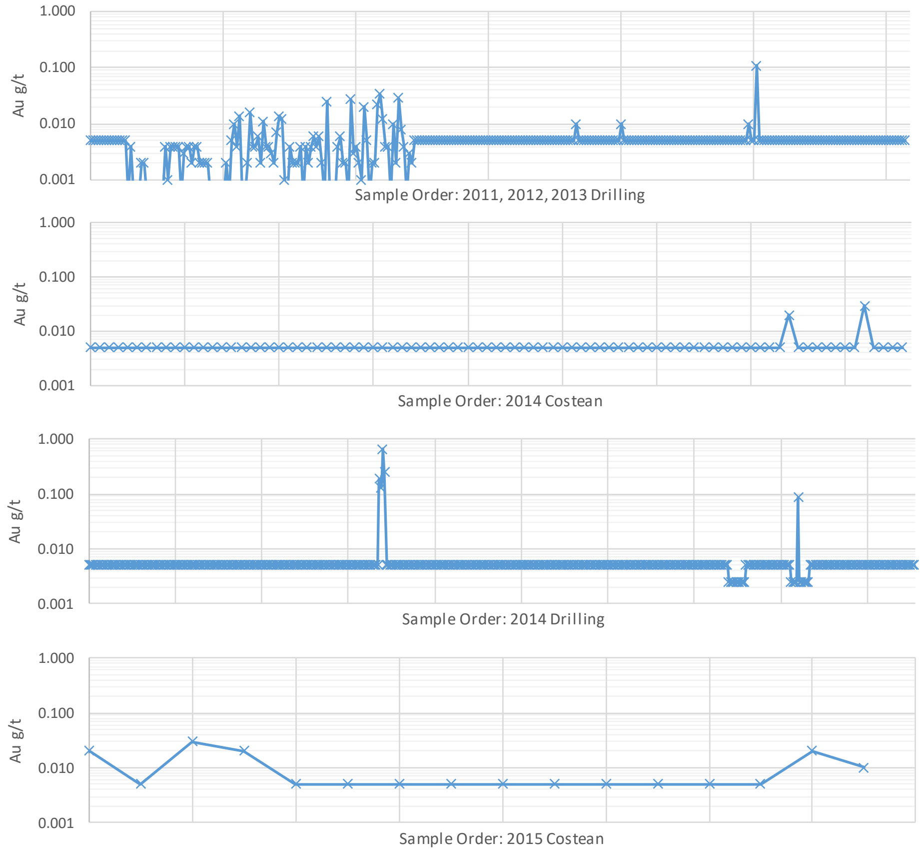
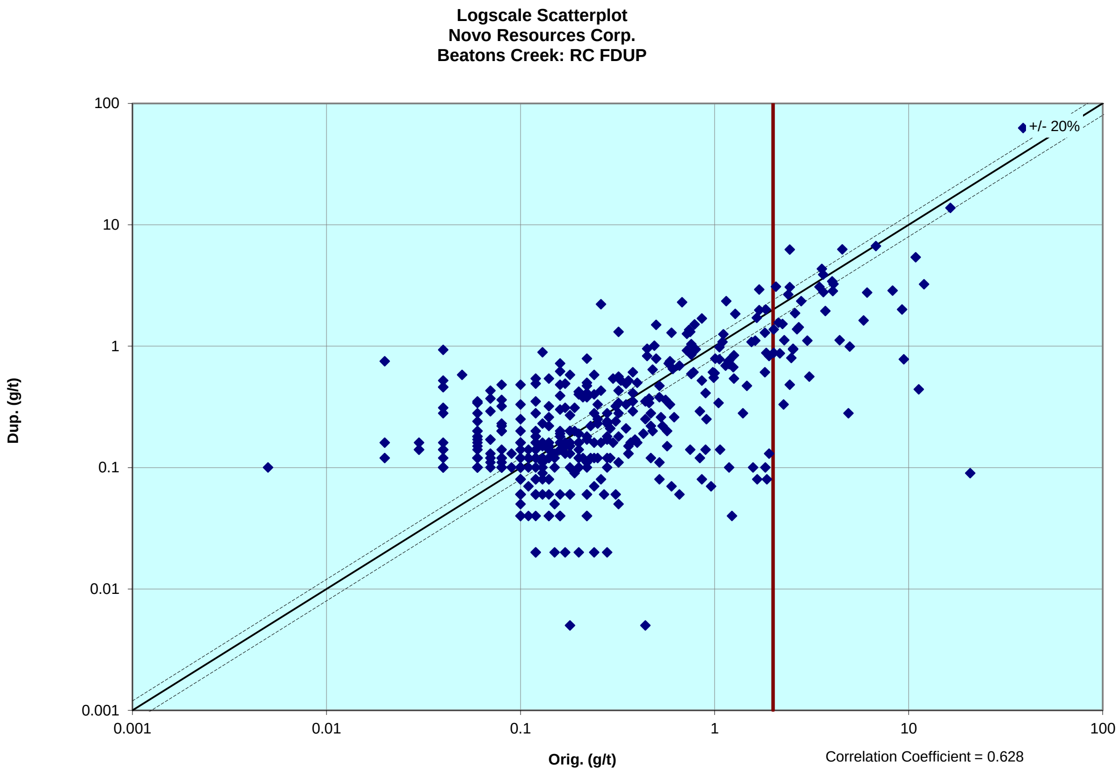


Figure 11-2. Blank control analysis.

Field duplicates, a split of a collected sample at the collection site, are submitted in the sample stream at approximately one for every 30 non-control samples. The scatter plots (**Figure 11-3)**, display the variance between duplicate pairs. Analysis of trench channel sample and RC rig field splits yields a pairwise (duplicate) coefficient of variation (COV) of 52% and 60% respectively. The pairwise COV for field duplicates comprises sample collection, preparation and analytical errors. A field duplicate performance of 50-60% is not untypical of coarse gold-dominated deposits, where values could be >100% (Dominy et al., 2018).

Pulps have been analyzed for non-control samples (**Table 11-1**). **Figure 11-4** shows reasonable reproducibility of pulp duplicate pairs. Analysis of pulp duplicates yields a pairwise (duplicate) COV of 23%. The pairwise COV for pulp duplicates comprises analytical errors (including splitting error). A pulp duplicate performance of 23% is not untypical of a deposit with coarse gold, and where coarse gold is remains in the pulp. A more typical low-coarse gold value would be 10-15% (Dominy et al., 2018).



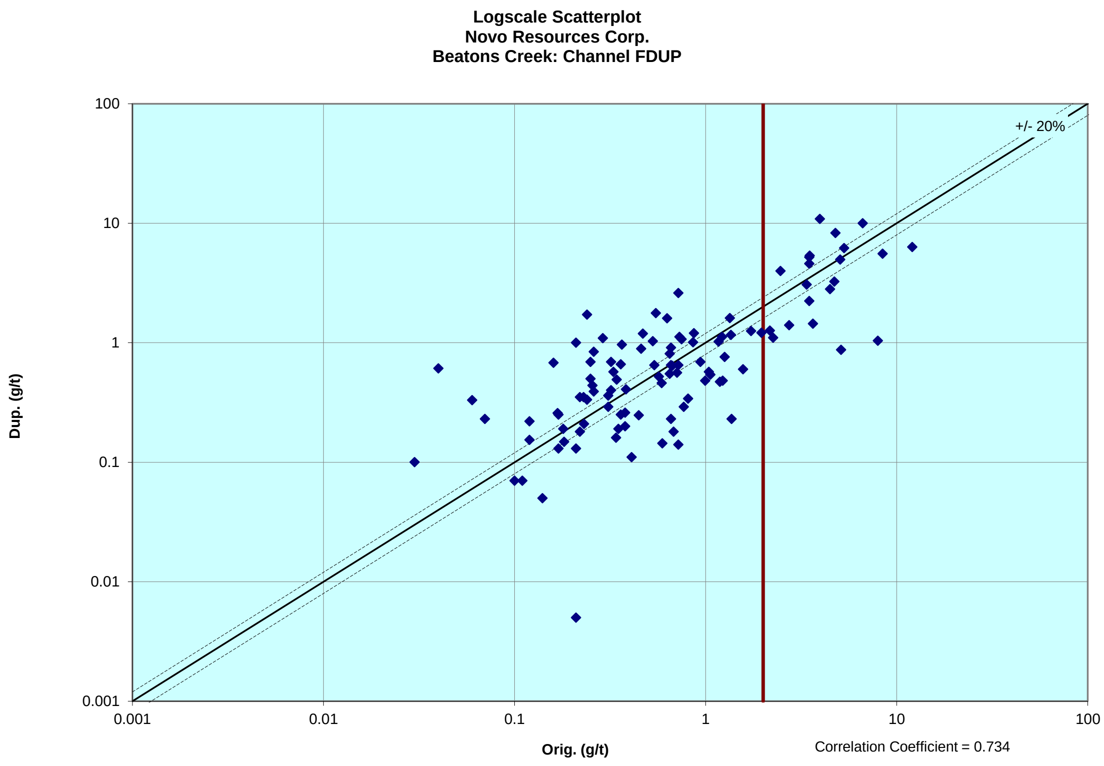


Figure 11-3. Field duplicate variability; upper RC duplicates (N = 427) and lower channel duplicates (N = 108). Data filtered at 0.1 g/t Au. All assays by LeachWELL.

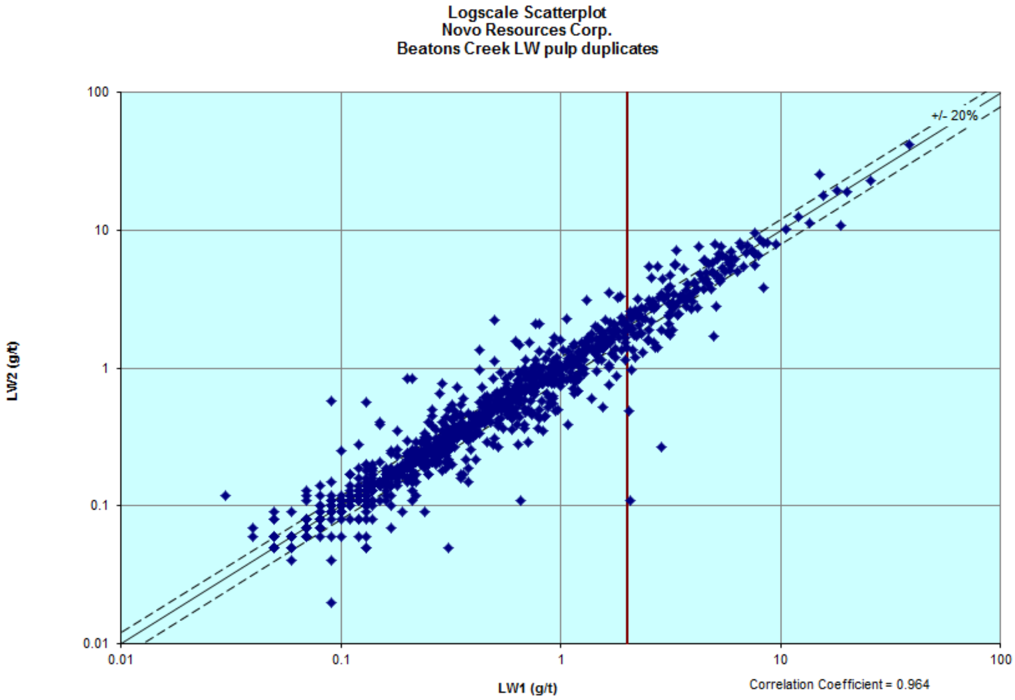


Figure 11-4. LeachWELL pulp duplicates (N = 1,050).

11.7 LeachWELL Assay Validation

For the drilling campaigns conducted between 2011 and 2012, 276 samples were analyzed by LeachWELL, screen fire assay and fire assay methods. The correlation coefficient for LeachWELL and screen fire assay data was 50%, while the LeachWELL and fire assay data had a correlation coefficient of about 39%. For the purposes of comparison, the correlation coefficient between screen fire and fire assay was also calculated at 15%. This low correlation between methods is to be expected, as there is a significant difference in sample volumes (e.g., 1 kg versus 50 g).

To compare the different methods, QQ (quantile-quantile) plots were generated for the LeachWELL data against the distributions of screen fire and fire assay data. **Figure 12-1** shows the 565 samples that were sent for LeachWELL and screen fire assay plotted against each other. This indicates that the assay methods are producing broadly comparable results.

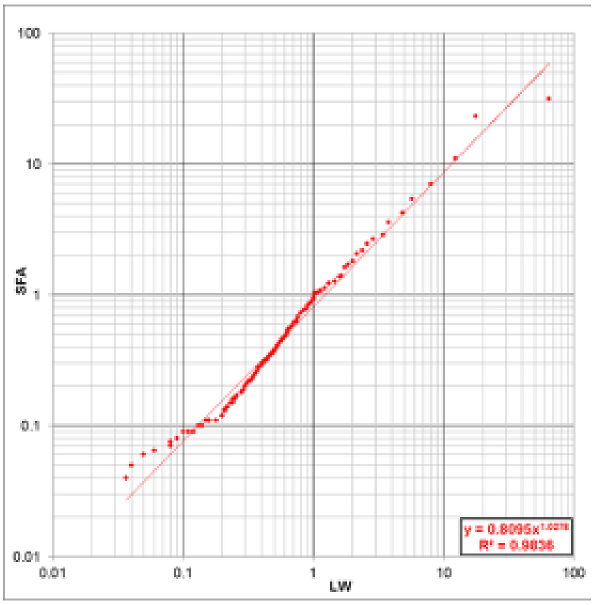


Figure 11-5. QQ plot for LeachWELL vs. SFA.

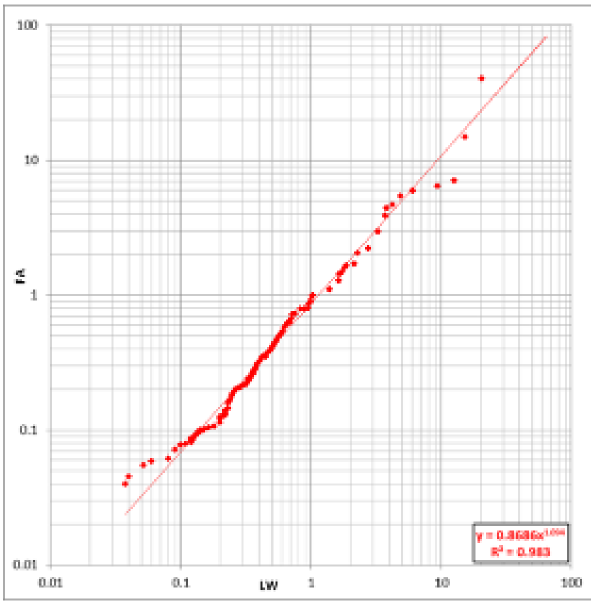


Figure 11-6. QQ plot for LeachWELL vs. FA.

Figure 12-2 shows the populations of 276 samples that were sent for LeachWELL and fire assay plotted against each other with a correlation of 98%. This indicates that the assay methods are producing broadly comparable results. The sample sizes for LeachWELL and screen fire assays are 1 kg, while the fire assays were conducted on a 50 g sample.

Considering the coarse free nature of the gold at Beatons Creek, Novo opted to continue using the LeachWELL analytical method, though with a sample mass of 1-3 kg (see Sections 11-3 through to 11-5).

11.8 Comparison by Sample Type

Figure 11-5 shows a box and whisker plot comparing the gold grade by drill type. Trench channel (COST) samples have a higher mean grade compared to diamond core (DDH) samples, with RC samples showing the lowest grade. This is expected, given that the trench channel samples will posses a variable bias relating to sample collection. This bias relates to extraction error, where it is easier to sample the conglomerate matrix than the siliceous boulders. Diamond drilling allows accurate sampling of the reefs to their contacts, whereas RC drilling is based on fixed 1 m samples, which dilute the grade as it is impossible to select the tops and bases of the reefs.

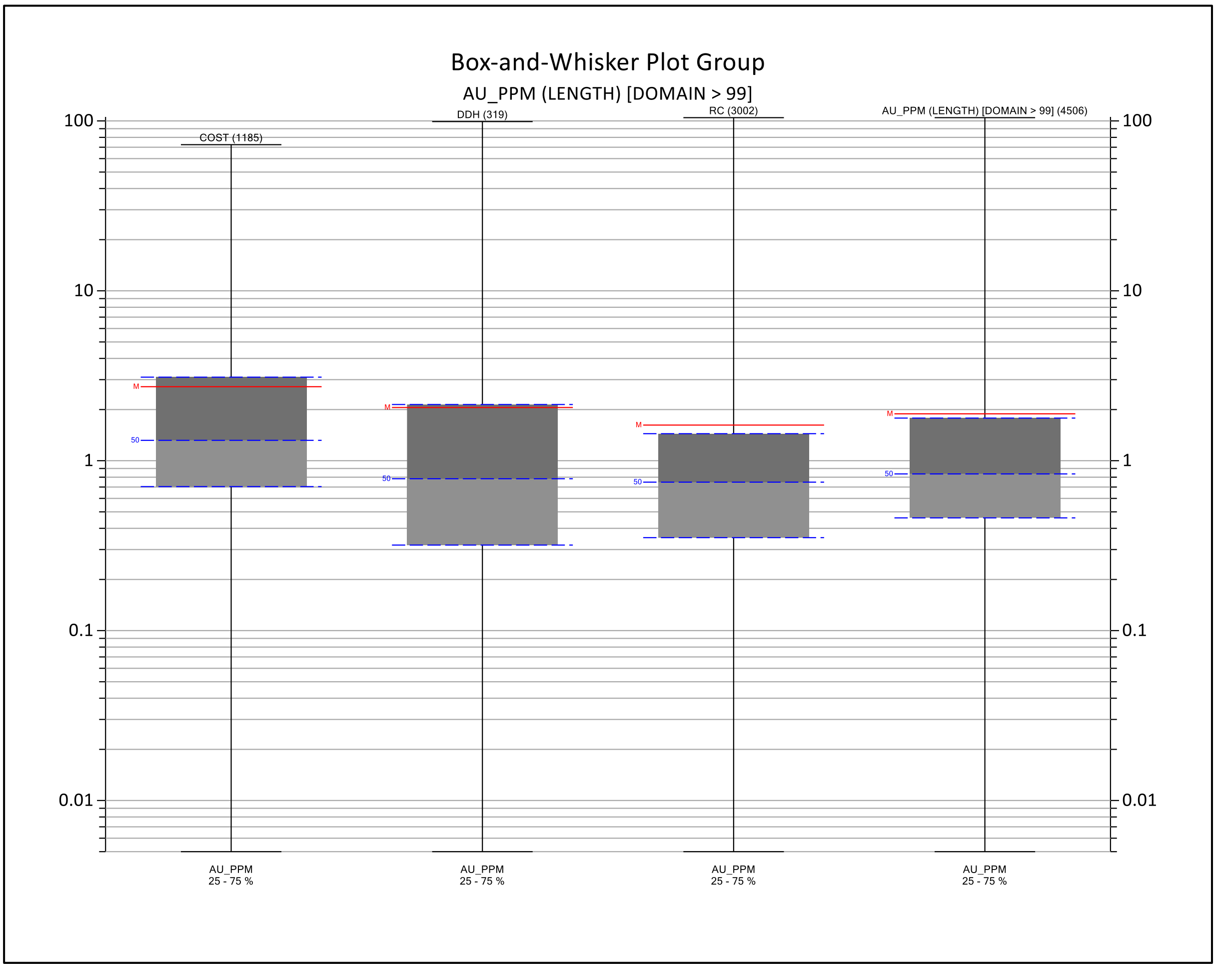


Figure 11-7. Box and whisker plot comparing gold grade by sample type.

12. DATA VERIFICATION

12.1 DATA VERIFICATION BY THE QUALIFIED PERSONS

A number of different sample types have been collected at Beatons Creek, including trench/channel (costean) samples, RC and diamond core drill samples, and bulk samples.

The QPs (Drs Simon Dominy and Quinton Hennigh) have taken steps to review the sample data to verify its veracity. Steps taken included:

- Audit visits to the relevant laboratories;
- Discussions with Novo geological and processing staff/contractors;
- Review of sample collection and preparation/assaying procedures;
- Review of photographic records of sample collection;
- Review of drill logs;
- Inspection of diamond drill core;
- Review of results files and certificates supplied by laboratories;
- Analysis of historical, Novo and laboratory QC;
- Audit of the bulk sample grade reconciliation calculations, including:
    - Audit of input data checked against relevant laboratory certificates;
    - Grade calculations

The QPs did not deem it necessary to collect and analyse additional check samples, given the 2018 bulk sampling programme for which they were intimately involved in its design, implementation and analysis.

Dr Dominy made a site visit in February 2018.

Dr Hennigh undertook a site visit in September and October 2018.

No issues were encountered during the verification process.

12.2 Opinion of the Qualified Person

It is the opinion of the QPs (Drs Simon Dominy and Quinton Hennigh) that the Beatons Creek sample data generally meets industry practice. With limitations described in Section 10.5, the final database is of a suitable quality for use in resource estimation.

13. MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Historical Metallurgical Testwork (Oxide and Fresh)

There has been limited comminution testwork conducted on oxide mineralization samples from Beatons Creek with results for six samples with variability in material competency not well understood (Arrowsmith, Parker and Dominy, 2019). The average crushing work index value is 7.4 kWh/t, the average Bond rod mill work index is 12.4 kWh/t and the average Bond ball mill work index is 14.2 kWh/t. Oxide A*b values range from 75.9 to 104.8 with an average of 86.7 and the average Bond abrasion index is 0.26.

A significant quantity of gold recovery testwork exists on Beatons Creek oxide material, but it is difficult to collate the data into a single congruent dataset with comparable recovery results due to the various different test methods (Arrowsmith, Parker and Dominy, 2019). A typical overall recovery would be 94.6% with a gravity recovery of about 67.3% for the pre 2018 bulk sample results.

The 2018 Beatons Creek oxide bulk sample testwork program did not have the complete set of results available at the time of writing. The initial 42 results are encouraging and support the historical test data. The weighted average overall gold recovered to the gravity concentrate and leached from the gravity tail was 97.3%, with 58.3% recovered to the gravity concentrate.

Whilst there are no specific historical metallurgical tests to determine recovery from fresh mineralisation, there is some characterisation work that indicates the potential gold recovery of the fresh mineralisation.

There is a small dataset of LeachWELL extractions that with the addition of a gold assay of LeachWELL residue, provides an indication of the potential gold recovery from fresh mineralisation and indicates a recovery in the range 85% to 88%. Whilst the results do not represent likely plant recoveries, they suggest that the Beatons Creek fresh mineralisation is amenable to gold extraction by cyanidation and provides some confidence that it is free milling.

Petrographic and mineralogical analyses completed on samples of fresh drill core provide insight into the gold size, mineral association and deportment (Arrowsmith, Parker and Dominy, 2019). Key findings of the mineralogical analyses that provide some confidence that high gold extractions can be achieved from the Beatons Creek fresh mineralisation are:

- Gold is present mainly as native gold from 1 µm to 1,000 µm in size.
- A significant proportion of the gold reports to the +150 µm fraction (high gravity recovery can be expected).
- The majority of the gold is liberated (free milling) and high leach recovery can be expected.

Mineralogical assessments of the Beatons Creek fresh mineralisation showed a strong association with gersdorffite, a nickel arsenic sulphide as well as gold associated with chalcopyrite and grains of carbon (potentially PREG robbing).

13.2 Fresh Mineralisation Testwork 2019

The six HQ diamond drill holes that have been used for metallurgical testwork are located at Grants Hill (M1 and M2 reefs) and South Hill (CH1 and CH2 reefs)(Arrowsmith, Parker and Dominy, 2019).

All intersections are in fresh (sulphide) mineralisation within the open pit shell. Samples were selected from drill core stored in trays by identifying the true reef width based on buck shot pyrite geological markers (gold is associated with detrital pyrite (2 mm to 65 mm in diameter) resulting in true reef widths of 0.57 m to 1.68 m. A minimum mining width of 1 m was applied and a minimum sample interval length of 1 m was selected for those samples with a true reef width <1 m. In addition, internal dilution from below the footwall and above the hangingwall was included in the selected interval length.

Each reef (M1, M2, CH1 and CH2) was represented by three intersections (12 intersections across the 4 reefs) ranging from 18.4 kg to 28.4 kg in mass.

A specific testwork protocol was designed to acquire maximum information for each primary intersection and ultimate composite. Each individual intersection provided a variability sample for:

- Gold grade;
- Multi-element geochemistry (Zn, Cu, As, Sb, etc.); and
- Comminution data (Bond ball work index, SMC test and Abrasion index).

Each set of three reef intersections were then blended to form four master composites (for each reef: M1, M2, CH1 and CH2) for recovery testwork ranging from 50.6 kg to 66.5 kg. The following testwork was undertaken:

- Head grade of master composite;
- Three-stage GRG testwork (on master composite);
- Kinetic leach testing (on tails); and
- Diagnostic testing (on tails).

Testwork was undertaken by Metallurgy Pty Ltd of Welshpool, WA. Metallurgy is independent of Novo. At the date of this Technical Report, only the Grants Hill M1 and M2 testwork was complete.

Comminution testwork shows that the Beatons Creek fresh material is competent with an average Bond ball mill work index for Grants Hill of 18.8 kWh/t. SMC test data indicates that the Beatons Creek fresh mineralisation is moderately competent with an average A*b of 47.8 and a range of 38.0 (hard) to 56.6 (soft). Testwork also shows that the Beatons Creek fresh mineralisation is abrasive with an average of 0.26 (similar to the oxide material).

The weighted average head grade for the M1 and M2 composites were 5.46 g/t Au and 4.35 g/t Au respectively, which compares well to the assayed head grade of 5.39 g/t Au for M1 and 4.85 g/t Au for M2.

Geochemical analysis on the Grants Hill composites indicates elevated levels (levels greater than three times the geochemical abundance index) of arsenic, mercury and antimony.

Size by assay results indicate that the majority of the gold is in the +150 µm fraction, with 87.3% and 87.9% of the gold in the M1 and M2 composites residing in the coarsest fraction.

Overall three-stage GRG test recovery was high at 94.6% and 89.0% for the M1 and M2 composites respectively. The recovery by size and stage data indicates that both the Grants Hill composites have a high percentage of coarse gold with 79.4% of the gold recovered in the plus 150 µm fractions for M1 and 67.9% of the gold recovered in the plus 150 µm fractions for M2. The test data suggests that the Grants Hill fresh mineralisation is amenable to gravity recovery and that high-plant gravity gold recovery (50% to 80% of the GRG) can be expected from a well-designed and operated process plant.

The kinetic leach results for the Grants Hill composites indicates relatively fast leach kinetics with a minor impact of grind size on leach extraction. The average 24 hour leach extraction for all six tests (regardless of grind size) was 93.3%. The results indicate a slight reduction in the gold concentration in solution over the leach profile and therefore the potential for pre-robbing cannot be ruled out.

The diagnostic leach data on the gravity tails for the two Grants Hill composites indicates that the majority of the gold is cyanide soluble with 80% and 87.2% extracted at a low cyanide concentration for M1 and M2 composites respectively. Additional gold was extracted under more intense cyanidation suggesting that overall recovery from cyanidation for these two composites could be as high as to 92% to 93%. The remainder of the gold sample was not readily cyanide recoverable due to it being occluded, locked in silicates, refractory or sulphide solid solution gold.

A comprehensive QAQC system was implemented for the testwork program (Arrowsmith, Parker and Dominy, 2019). Protocols were established to cover field collection, preparation, testwork and analysis. QC included barren flushing of equipment, blank sample processing, CRM, coarse duplicates, pulp duplicates, umpire sample submission and grind tests. The results of the QA/QC program were monitored during the testwork and were acceptable. Dr. Dominy (QP), Mr. Parker and Ms. Arrowsmith visited Metallurgy laboratory regularly to review testwork progress and quality.

13.3 Tailings Characterisation

Five tailings samples were generated from Beatons Creek samples: bulk samples (BSX001, 016 and 027) and RC samples (BCRC18-014/020 and 022/024). The bulk samples were collected from surface and the RC samples from 0-5 m and 10-17 m depths respectively. The samples were submitted for testing at independent laboratories for both physical and geochemical characterisation (SRK, 2019). This was to assess their likely suitability and performance during deposition and storage in a typical above ground paddock style tailings storage facility, as is commonly used in WA.

Physical testing results indicated that the Beatons Creek tailings are a fine, low plasticity material with poor settling characteristics. In accordance with AS 1726 (2017), the samples classified as soil like low plasticity, SILT (BSX001 only) and CLAY/SILT (CL-ML) material.

The stored dry density is estimated to be ~1.6 t/m^3 contingent on achieving air drying of the tailings beach by maintaining good pool control, depositing in thin layers with frequent spigot rotation and maintaining a rate of rise less than 1.5 m/yr. Poor settling performance has been observed in Beatons Creek tailings samples (slow water release), which may increase the evaporative exposure (beach evaporation) of liberated water on the tailings beach, leading to lower TSF water recovery (from decant) and greater plant make-up water demand.

The assessment makes the following recommendations:

- Thickener performance can be significantly influenced by poor settling materials (such as the Beatons Creek tailings) and as such the suitability of the Beatons Creek tailings for thickening should be evaluated through rheological testwork to identify required thickener sizes and flocculent dosing.

- Strength testing of the Beatons Creek tailings is recommended to provide confidence that minimum strength requirements can be achieved for upstream raising, and attaining slope stability factors of safety. The in-situ tailings beach strength would need to be validated during operations by field testwork prior to raising.

Geochemical testing results for the Beatons Creek tailings samples indicated that all classified as non-acid forming (NAF) with a maximum of 0.26% total sulphur content, the majority of which was present as sulphate. Multi-element determination highlighted that arsenic concentrations were considered as enriched in all samples. However, leach testing over a range of pH levels did not indicate elevated dissolved arsenic concentrations being released from the Beatons Creek samples, with all concentrations remaining lower than the Australia and New Zealand Environment and Conservation Council (ANZECC) livestock drinking water guideline for arsenic. Similarly, the '"enriched"' concentrations of antimony and selenium in selected Beatons Creek samples did not result in elevated concentrations in leach testing.

Several analytes were present in the tailings liquid fractions of Beatons Creek samples at higher concentrations than the ANZECC livestock drinking water guidelines (e.g., sulphate, cadmium, cobalt, copper, fluoride, mercury, molybdenum, nickel and selenium). It is likely that several of these were related to complexing with cyanide, and in a field- scale processing plant, dissolved concentrations may be lower, due to cyanide detox and recovery systems as well as cyanide degradation due to volatilisation and exposure to ultraviolet radiation.

Overall, geochemical testing results were not atypical for gold projects in WA and consideration of receptors would be recommended during site selection for a storage facility as there were analytes elevated in the tailings liquid fraction (SRK, 2019). Cyanide detoxification testing could also be carried out to investigate the potential influence of this on reducing concentrations in seepage from the tailings.

All testwork was managed by SRK Consulting Pty Ltd, who are independent of Novo. The physical testwork was undertaken by Paterson & Cooke Australia Pty Ltd (Perth) and geochemical analysis at Intertek-Genalysis Pty Ltd. The laboratories are independent of both Novo and SRK.

13.4 Trial Mining Programme 2016

Trial mining took place in July 2016 and excavated a 29,560 t lot from a single site on a Golden Crown marine lag (Domain 921; see **Table 14-2**). Processing of the lot proved to be problematic, due to impact crusher breakdowns and inefficiencies that lead to the need for unplanned modifications. As a result, only 9,680 t of material was processed.

A total of 237 oz Au was recovered from the processing plant for a recovered grade of 0.67 g/t Au. The average tails sample grade was 1.01 g/t Au for a calculated head grade of 1.88 g/t Au, against a block model grade of 1.65 g/t Au. The programme indicated the ability to mine without the need for drill and blasting.

A review related to this resource update identified a number of material issues with the programme including: (1) unaccounted gold loss in the unsampled coarse rejects (>1 cm); (2) plant performance instability leading to variable and likely low gold recovery; and (3) unrepresentative tails stream sampling in respect of both sample mass and frequency.

13.5 Bulk Sampling Programme 2018

13.5.1 Introduction

Novo undertook a bulk samping programme at Beatons Creek during 2018. The samples were part of the evaluation programme attempting to quantify the magnitude and distribution of gold grades within marine and channel lag conglomerate reefs. Novo collected 45 primary and 13 duplicate approx. 2 t bulk samples across 1 m increments of conglomerate. The bulk samples were collected to investigate: (a) local grade at a large sample support; and (b) metallurgical recovery (SGS, 2019).

Samples were shipped to SGS Australia Pty Ltd ("SGS") (Malaga), Perth for full sample processing. Some initial sample crushing, grinding and gravity concentration was undertaken at ALS Laboratories Pty Ltd ("ALS") and Metallurgy Pty Ltd ("METLAB"), Perth. Assaying of most gravity concentrates, dust and tails was undertaken at SGS (Perth Airport), with additional dust and tails assays undertaken at MinAnalytical (Canning Vale).

13.5.2 Sample Mass Optimization

A review of historical metallurgical testwork permitted a gold particle size-grade relationship to be defined across cut-off (0.5 g/t Au), run-of-mine (nominally 2 g/t Au) and high (5 g/t Au) grades (Arrowsmith, Parker and Dominy, 2019). These were used to apply Poisson statistics to define an optimal field sample mass to achieve a precision of ±15% at 68% reliability (Dominy, Platten and Xie, 2010; Dominy, 2018). The masses indicated were based on interpretation of historical testwork results, which may or may not be representative of the oxide mineralisation. In addition, gold particle dimensions from testwork will always be less than the true in-situ particle size given comminution-liberation during testwork.

Approx. 1 t samples were indicated to achieve ±15% precision for high grade mineralization (5 g/t Au), reducing to 0.35 t for run-of-mine mineralization, and 0.5 t for cut-off grade mineralization. Given a mean conglomerate thickness of 1 m, Novo opted to collect a 2 t bulk sample over 1 m thickness. Sample area (2 m^2) was kept constant, with reef thickness controlling the final sample mass.

Samples were collected from surface outcrops of the conglomerate across the oxide zone and have been designed to match the gold grade distribution defined from trench channel sample grades. The grade distribution represents the grade population across the P10 to P99.8 percentiles (0.4 g/t Au to 60 g/t Au). The actual grade distribution achieved by the bulk samples ranges from 0.2 g/t Au to 6.2 g/t Au, noting that the original distribution was defined by 50 kg trench channel samples.

13.5.3 Sample Collection

Sampling collection was undertaken by Novo staff, comprising a geologist(s) and field technicians. Once the surface had been cleared of vegetation, a trench was dug to expose a cross-section through the reef and ensure a sequence from the footwall through to the hangingwall was exposed.

The geologist guided removal of overburden to expose a 2 m by 2 m area to allow the excavation of a 1 m by 1 m area sample to minimise hangingwall contamination. The sample outline was marked out using spray paint and the surface of the sample was picked-up surveyed using a DGPS system (**Figure 13-1**).

Figure 13-1. Marked out sample.

The top and bottom (hanging and footwall) contacts of the reef; top and bottom surface of the bulk sample and collar of the sample (centre of the bulk sample) are picked-up using the DGPS. Wooden one-cubic metre sample crates were placed within the dump reach of an excavator (**Figure 13-2**). A poly-weave bulka bag was placed inside each crate. A metal hopper and grizzly were placed on top of the box and bag to protect the bag and act as a funnel for loading (**Figure 13-2**). Any oversize caught in the grizzly (>20 cm) was removed, broken up and returned to the box. On filling, the crate lids were screwed into position ready for road transport to Perth.

Figure 13-2. Wooden crates and metal hopper with grizzly.

Once the bulk sample interval had been excavated and cleaned, the sample floor was surveyed by DGPS. After collection, no sample processing was undertaken prior to dispatch to Perth.

The location of the bulk samples is given in **Figure 13-3**.

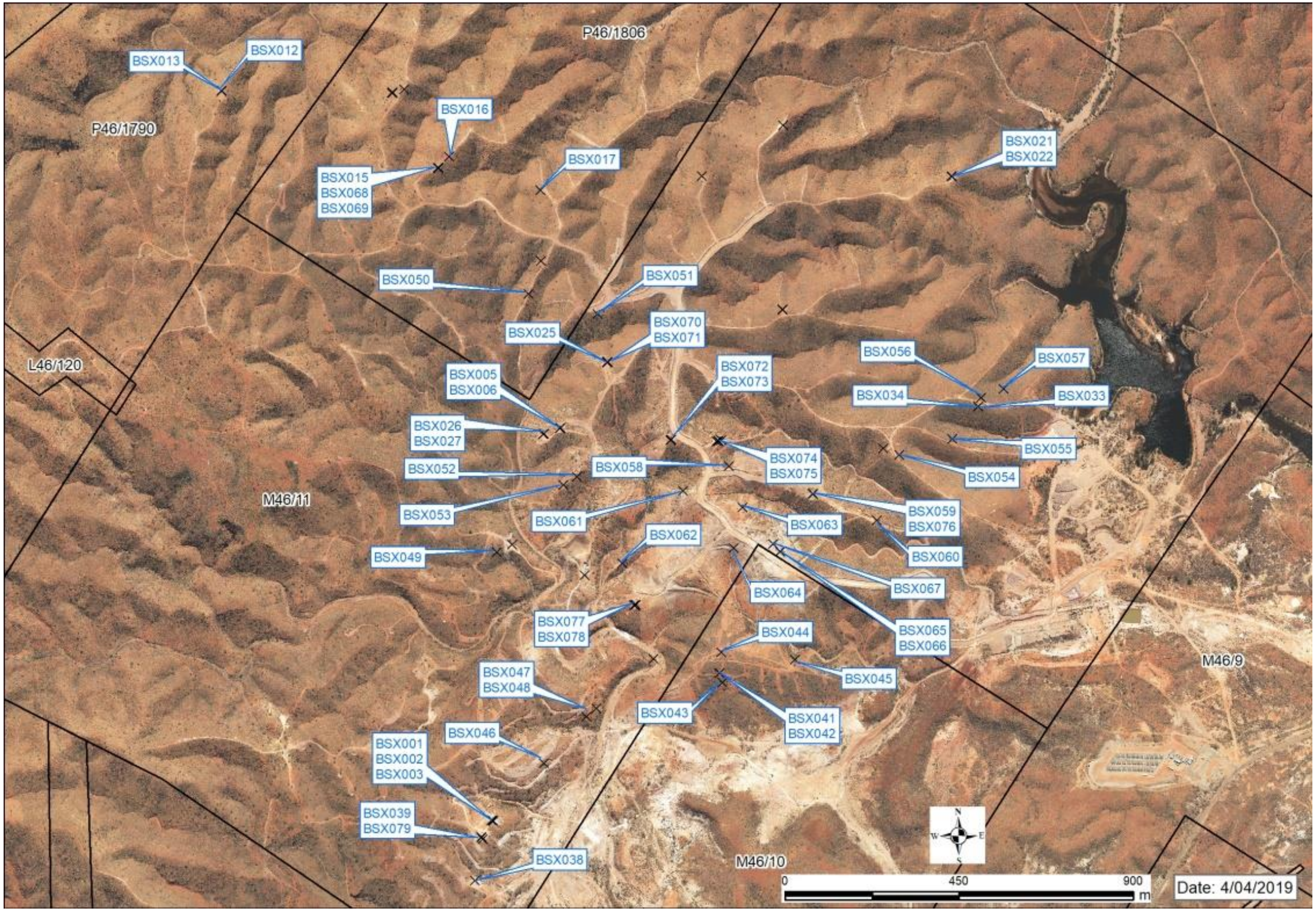


Figure 13-3. Bulk sample location map.

13.5.4 Process Flowsheet

Fifty-eight samples were processed ranging in mass from 0.6 t to 4.9 t, with a mean of 2.3 t.

At the laboratory, samples passed through a staged crushing circuit that reduced the entire sample to P_{90} -2.5 mm. The sample was then pulverized by hammer or rod mill to a P_{90} -0.75 mm, and was fed to a gravity concentrator (**Figure 13-4**).

Some early bulk samples were split in half, with the sub-sample being treated through the gravity plant. Ultimately all remnant halves were processed. The key outputs were (1) gravity concentrate (generally 0.5-1 kg) and (2) 50 kg tails sample. The gravity concentrates were screen fire assayed to extinction. The gravity concentrate grade and tailings grades were combined to give the sample head grade.

The tails were passed through a slurry splitter to cut a 167 kg sub-sample for assay, dried and then subsequently RSD split into a 50 kg sub-sample. This was pulverized to P_{80} -200 µm and further split into a series of duplicate samples for assay via 2x 2.5 kg LeachWELL (with duplicate residue 30 g fire assay); 1x screen fire assay (1 kg); and 10x 0.5 kg PhotonAssay. In all, 11 kg of the pulverized 50 kg tails split were assayed.

All sample splits were optimized to keep the fundamental sampling error (FSE) to less than ±15% at 90% reliability (Gy, 1982; Dominy, Platten and Minnitt, 2010). All physical splitting activities were undertaken via a sectoral splitter to minimize delimitation (DE) and extraction (EE) errors (**Figure 13-4**; slurry and RSD splitters).

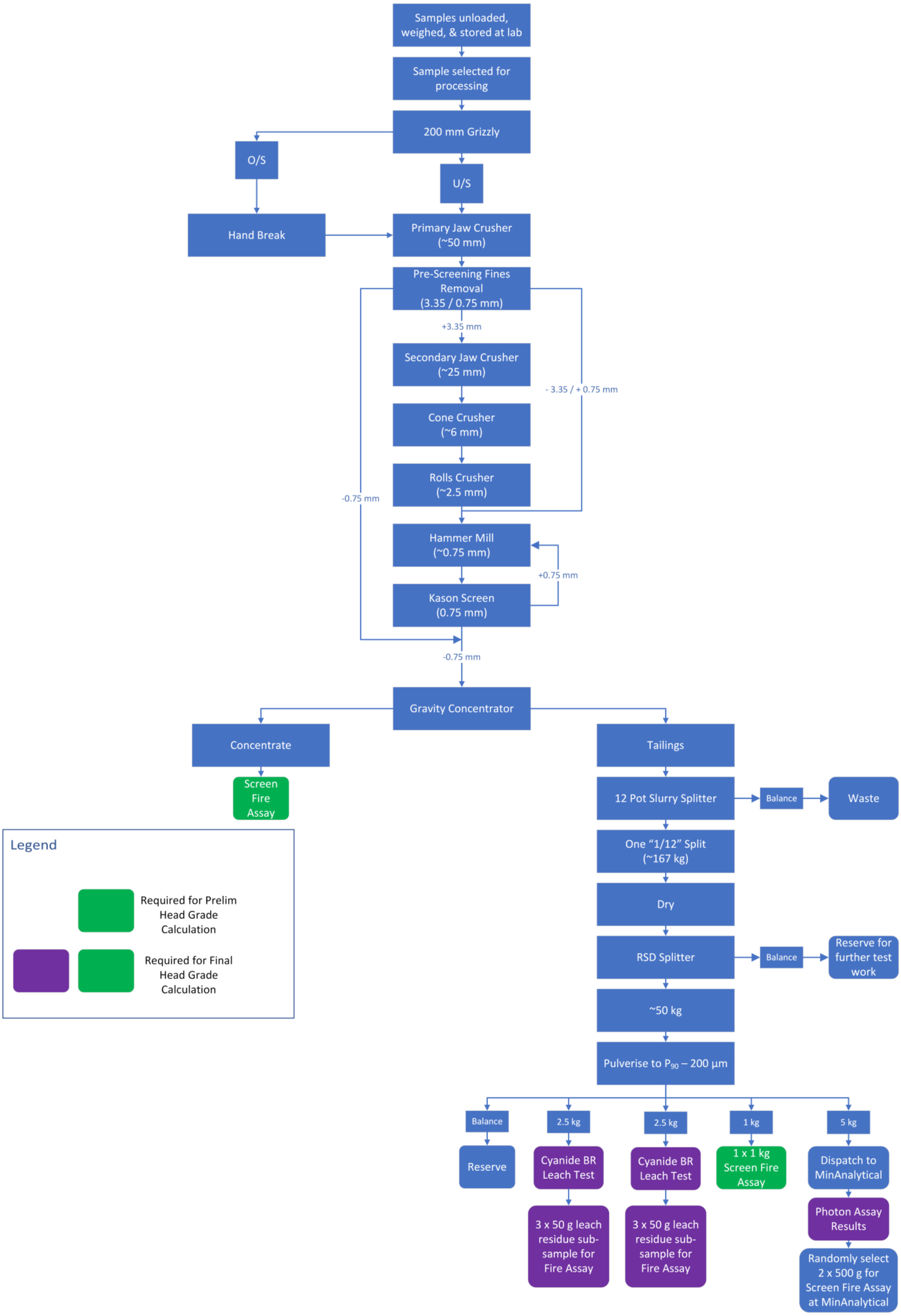


Figure 13-4. Beatons Creek bulk sample processing flow-sheet.

13.5.5 PhotonAssay Gold Assay Technique

Pilot plant tails samples were assayed via the PhotonAssay method. Five kg of -200 µm material were split into 10x 0.5 kg charges for assay (**Figure 13-4**).

The PhotonAssay method is non-destructive and rapid gold assay technique capable of analysing coarse (crushed) 0.5 kg samples (Tickner et al., 2017). Based on the principles of photon activation analysis, the method uses a high-power, high-energy X-ray source to excite nuclear changes in any gold atoms present in a sample, and then measures a characteristic signature emitted by these atoms (**Figure 13-5**). Sample material is loaded into a sealed plastic jar in which it remains throughout the analysis. A removable reference disc is fixed to the outside of the jar.

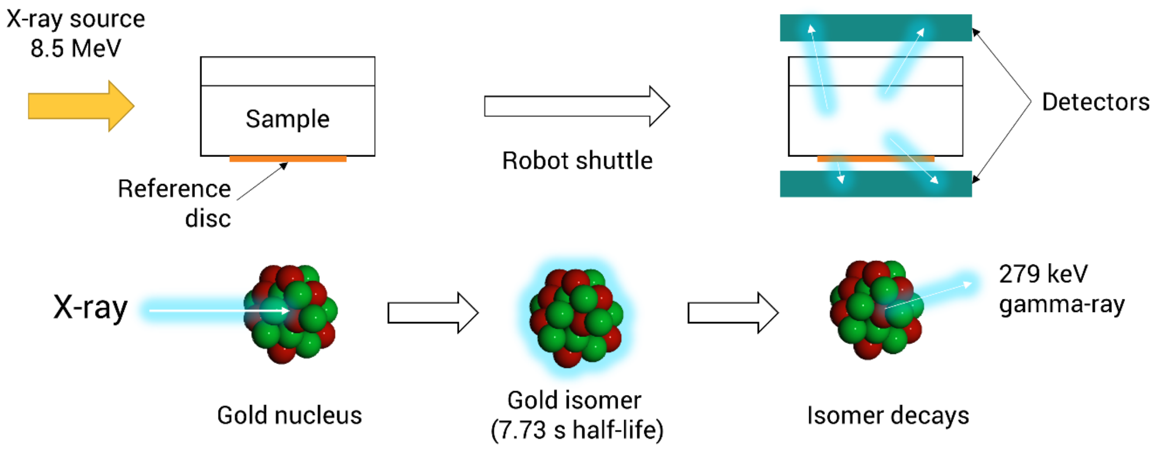


Figure 13-5. Illustration of PhotonAssay process.

The samples and reference disc are exposed to a high-energy, high-intensity X-ray beam. The high-energy X-rays induce nuclear changes in any gold atoms present in the sample, exciting their atomic nuclei into a short-lived state. After a period of irradiation, typically 15-20 seconds, the sample is transferred to a detector station using a robotic shuttle. As the excited gold nuclei relax back to the ground state, they emit gamma-rays with a characteristic gold energy. A detector records and counts the gamma-rays. Software then relates the strength of the gamma-ray signal back to the concentration of gold in the sample.

The PhotonAssay measurement precision varies from about 10% relative at a grade of 0.2 g/t Au to about 4% relative at a grade of 1 g/t Au. At grades of 10 g/t Au, the precision is 1.5% or better. The detection limit is approximately 0.03 g/t Au for typical samples.

The first PhotonAssay unit is located at MinAnalytical Laboratory in Perth, Australia. At a throughput of 72 samples per hour, a single person operating at about 50% capacity can run the machine, including receiving, loading and entering samples into the system, and removing and boxing samples after analysis (Tickner et al., 2017). The method has NATA accreditaion [ISO17025: 2005 (18876/21075)].

13.5.6 QAQC

A QAQC programme was designed to support the bulk sampling programme (**Table 13-1**).

Table 13-1. Summary of bulk sampling programme QA/QC.

Action	Stage	Action	Rate	KPI
Novo Site Activities				
Sample collection and integrity	Sample collection, weighing, containment, dispatch and receipt	Novo	All	Comply
Field duplicates	Sample collection	Novo	Approx. 1 in 5	RSV ±50%
Pilot Plant Activities				
Blank	200-250 kg (1 drum) entire process	Lab	1 in 5	<0.1 g/t Au
Barren quartz flush	200-250 kg (1 drum) crush/grind circuit	Lab	1 in 1 flush Assay 1 in 5; split off 5 kg and assay via 2x LW2500 + 2x SFA500 tails	<0.1 g/t Au
Visual inspection	Crushers, hammer mill and RSD	Lab	All	Comply
Tails duplicates	35 kg gravity tails second split	Lab	1 in 10	RSV ±20%
Assay Laboratory Activities				
Pulp duplicates	Duplicate tails assays, both LW and FA50	-	All (2x LW2500) and (3x FA50)	RSV ±20%
Umpire	Tails 5 kg split to MinAnalytical	Lab	All (PA500 / 2x FA30)	RSV ±20%
CRM	Con. assay Tails assay	Lab	1 in 5	99% 3δ 95% 2δ Within ±10% bias
Novo Review				
QA/QC review	Throughout programme	Novo	As required	-
Lab audit	Throughout programme	Novo	As required	-

Performance of the programme is summarized in **Table 13-2**.

Table 13-2. Summary of bulk sampling programme QA/QC outcomes.

Action	Stage	Action	Rate	Actual KPI
Sample collection and integrity	Sample collection, weighing, containment, dispatch and receipt	Novo	All	In compliance
Field duplicates	Sample collection	Novo	Approx. 1 in 3	COV ±22%
Blank	200-250 kg (1 drum) entire process	SGS	Only 1 undertaken due to focus on processing actual samples	0.1 g/t Au
Barren quartz flush	200-250 kg (1 drum) crush/grind circuit	SGS	1 in 1 flush Assay 1 in 2; split off 5 kg and assay via 2x LW2500 + 2x SFA500 tails	0.02-0.40 g/t Au; mean 0.14 g/t Au
Pilot plant cleaning	Circuit cleaning between each sample	SGS	All	In compliance
Visual inspection	Crushers, hammer mill and RSD	SGS	All	In compliance
Tails duplicates	35 kg gravity tails second split	SGS	1 in 2	COV ±15%
Pulp duplicates	Duplicate tails pulps 1 kg 5 kg	SGS/MinAnalytical	All SFA1000 PA5000	COV ±30% COV ±20%
Umpire	Tails 5 kg split to MinAnalytical	MinAnalytical	All (PA500 / 2x FA30)	COV ±20%
CRM	Con. and tails assays (AMIS485 116.8 g/t Au; G917-1 48.5 g/t Au; G917-2 24.3 g/t Au; OXP116 14.9 g/t Au; AVOL-9 4.5 g/t Au; OREAS224 2.1 g/t Au; OREAS223 1.7 g/t Au; OXE143 0.6 g/t Au; OREAS218 0.5 g/t Au]	SGS/MinAnalytical	1 in 5	99% ±3δ Bias within ±6%
QA/QC review	Throughout programme	Novo	As required	Done
Lab audit	Throughout programme	Novo	As required	All labs visited

13.5.7 Key Reporting Matters

NI 43-101 details relevant aspects of sampling and assaying, and metallurgical testwork programs in *Items 11 and 13* that require disclosure (**Tables 13-3** and **13-4**).

Table 13-3. Extract from NI 43-101 Item 11 pertaining to sampling and assaying.

Sample Preparation, Analyses, and Security	(a)	Sample preparation methods and quality control measures employed before dispatch of samples to an analytical or testing laboratory, the method or process of sample splitting and reduction, and the security measures taken to ensure the validity and integrity of samples taken
	(b)	Relevant information regarding sample preparation, assaying and analytical procedures used, the name and location of the analytical or testing laboratories, the relationship of the laboratory to the issuer, and whether the laboratories are certified by any standards association and the particulars of any certification
	(c)	A summary of the nature, extent, and results of quality control procedures employed and quality assurance actions taken or recommended to provide adequate confidence in the data collection and processing
	(d)	The author's opinion [e.g., Qualified Person] on the adequacy of sample preparation, security, and analytical procedures

Table 13-4. Extract from NI 43-101 Item 13 pertaining to metallurgical testwork.

Mineral processing and metallurgical testing	(a)	Nature and extent of the testing and analytical procedures, and provide a summary of the relevant results
	(b)	Basis for any assumptions or predictions regarding recovery estimates
	(c)	The extent known, the degree to which the test samples are representative of the various types and styles of mineralisation and the mineral deposit as a whole
	(d)	The extent known, any processing factors or deleterious elements that could have a significant effect on potential economic extraction

A detailed review of NI 43-101 *Items 11 and 13* are provided for the Beatons Creek bulk sampling programme in **Tables 13-5** and **13-6**.

Table 13-5. NI43-101 Item 11: Sampling and Assaying.

<table>
<tr><td>Sample Preparation, Analyses and Security</td><td>(a)</td><td>Sample preparation methods and quality control measures employed before dispatch of samples to an analytical or testing laboratory, the method or process of sample splitting and reduction, and the security measures taken to ensure the validity and integrity of samples taken.

• Bulk samples were collected to (a) support a Mineral Resource update reported in accordance with The CIM Code (2014), and (b) to investigate a potential grade upside. The mineralisation is characterised by coarse-gold particles up to 2 mm maximum. NVO collected fifty-eight 2 t bulk samples across approx. 1 m increments of conglomerate gold mineralisation. Samples were collected from surface outcrops of the conglomerate across the oxide zone and have been designed to match the gold grade distribution defined from trench channel sample grades.
• Sample collection was supervised by a Novo Senior Geologist. All samples were placed into bulka bags which were security sealed. The bulka bags were then placed into sealed wooden crates. Storage prior to transport was in a secure yard. After collection, no sample processing was undertaken prior to dispatch to Perth. Samples were shipped to Perth via a third party transport company, independent of Novo.</td></tr>
<tr><td></td><td>(b)</td><td>Relevant information regarding sample preparation, assaying and analytical procedures used, the name and location of the analytical or testing laboratories, the relationship of the laboratory to the issuer, and whether the laboratories are certified by any standards association and the particulars of any certification.

• Bulk sample processing was principally undertaken at SGS Metallurgical (Malaga) Laboratory in Perth, WA. Concentrate and tailings assays were undertaken at SGS Perth Airport, WA and MinAnalytical, Canning Vale, WA. Some bulk sample processing has been via the ALS Metallurgy laboratory at Balcatta, WA. Some crushing and grinding was undertaken through the NAGROM and METLAB Laboratories, all located in Perth, WA.
• Bulk Sample pilot processing is via defined Flowsheet “Beatons Creek SGS Flowsheet Rev. 1.01” dated October 2018 (see Figure 13-4)
• Samples were coarse- and fine-crushed prior to gravity concentration. A slurry splitter was used to take a tails sample for pulverisation and assay.
• Tailings sample was split and pulverised to P_{80} -200 µm and assayed via 1x SFA1000, 2x LW2500 and 10x PA500 (11 kg in total).
• All providers are independent of Novo and provided services under a standard commercial agreement. Novo was provided the final reconciled results as a locked PDF certificate, supported by relevant assay certificates.
• All assay laboratory providers are NATA accredited for fire assay. NVO validated accreditations via the NATA website:
  o The SGS assay laboratory at Welshpool, WA is ISO9001: 2015 accredited. Standard fire assay (AAS) and fire assay by gravimetric finish are accredited via NATA ISO17025: 2005 (1936/1929).
  o The ALS assay laboratory at Malaga, WA is ISO9001: 2008 accredited. Standard fire assay and fire assay by gravimetric finish are accredited via NATA ISO17025: 2005 (825/23001).
  o METLAB does not undertake assays and sends all sub-samples for assay to INTERTEK-GENALYSIS, Maddington, WA. The provider is accredited for standard fire assay by AAS and ICP-AES/MS finish via NATA: ISO17025: 2005 (3244/3237).
  o The MinAnalytical assay laboratory at Canning Vale, WA is accredited for standard fire assay by AAS and ICP-MS finish and PhotonAssay X-ray via NATA: ISO17025: 2005 (18876/21075).
• The SGS Minerals Malaga site is covered by ISO9001: 2008 accreditation, which is managed in two parts. For routine tasks there are set procedures which are compiled on an in-house directory and for non-routine procedures they compile specific</td></tr>
</table>

		Standard Operating Procedures. Novo has reviewed SGS Reference Manual #0837MP, which refers to Novo specific tasks across: LM2 pulveriser; cyanide bottle roll; iCON150 gravity concentrator; sample mixing/splitting; and wet and dry screening procedures.
	(c)	A summary of the nature, extent, and results of quality control procedures employed and quality assurance actions taken or recommended to provide adequate confidence in the data collection and processing. • *Sample collection was supervised by a Senior Geologist.* • *All pilot plant and assaying activities were controlled via defined flowsheet #1 Rev. 0 dated 27/07/2018 and supporting TIs.* • *The QAQC programme covers all Beatons Creek activities (see Tables 13-2 and 13-3).* • *Because of the large mass nature of bulk sampling, Novo opted to drive the QC process via the laboratory providers. Novo has defined requirements that the laboratories are required to obey.* • *The laboratories also undertook their own QA/QC. All internal laboratory QC is supplied to Novo, in addition to the Novo QC.* • *NVO and its laboratory service providers review QA/QC on an on-going basis. Novo and SGS met face-to-face on a weekly basis. Other laboratories were in regular contact with Novo.* • *Laboratory audits were undertaken by Novo staff.*
	(d)	The author's opinion [e.g. Qualified Person] on the adequacy of sample preparation, security, and analytical procedures. • *The QPs believes that the procedures undertaken during sample collection, processing and assay are adequate to produce fit-for-purpose results.*

Table 13-6. NI43-101 Item 13: Metallurgical Testwork.

Mineral processing and metallurgical testing	(a)	Nature and extent of the testing and analytical procedures, and provide a summary of the relevant results. • *Bulk sample processing was principally undertaken at SGS Metallurgical (Malaga) Laboratory in Perth, WA. Concentrate and tailings assays were undertaken at SGS Perth Airport, WA and MinAnalytical, Canning Vale, WA. Some bulk sample processing has been via the ALS Metallurgy laboratory at Balcatta, WA. Some crushing and grinding was undertaken through the NAGROM and METLAB Laboratories, all located in Perth, WA.* • *Bulk sample pilot processing is via defined flowsheet "Beatons Creek SGS Flowsheet Rev. 1.01" dated October 2018.* • *All providers are independent of Novo and provide services under a standard commercial agreement. Novo was provided the final reconciled results as a locked PDF certificate, supported by relevant assay certificates. All assay laboratory providers are NATA accredited for fire assay.* • *Bulk sampling programme results are presented in Tables 13-8-11.*
	(b)	Basis for any assumptions or predictions regarding recovery estimates. • *Previous testwork at Beatons Creek indicated that mineralisation has a high coarse-gold gravity recoverable-gold potential.* • *Consequently, bulk sample processing was based upon gravity concentration and appropriate tails sampling protocols to reconcile a robust head grade.* • *Bulk sample results confirm this assumption, with 62% GRG for 58 samples with a mass weighted mean grade of 2.16 g/t Au.*
	(c)	The extent known, the degree to which the test samples are representative of the various types and styles of mineralisation and the mineral deposit as a whole. • *Preliminary gold particle size-grade relationships were used to apply Poisson statistics to define an optimal field sample mass to achieve a precision of ±10-25% at 68% reliability.* • *Bulk samples were collected to (a) verify an existing Mineral Resource reported in accordance with The CIM Code (2014), and (b) to investigate a potential grade upside. The mineralisation is characterised by coarse-gold particles up to 2 mm maximum. Novo collected 58 approx. 2 t bulk samples across approx. 1 m increments of conglomerate gold mineralisation.* • *Samples have been collected from surface outcrops of the conglomerate across the oxide zone and have been designed to match the gold grade distribution defined from trench channel sample grades. The grade distribution represents the grade population across the P10 to P99.8 percentiles (0.4 to 60 g/t Au). The actual grade distribution achieved by the bulk samples ranges from 0.2 g/t Au to 6.16 g/t Au, noting that the original distribution was defined by 50 kg trench channel samples.*
	(d)	The extent known, any processing factors or deleterious elements that could have a significant effect on potential economic extraction. • *None defined to date for oxide zone mineralisation.*

13.5.8 Programme results

Bulk sampling programme global results are summarised in **Table 13-7**.

Table 13-7. Global bulk sample results.

Metric	[1] All	[2] BS+Dup_1	[3] BS+Dup_2
Reported at 0 g/t Au cut-off			
Number of bulk samples	58	45	45
Total mass (t)	136	104	104
Mass weighted grade (g/t Au)	2.16	2.23	2.17
Min. and max. grade (g/t Au)	0.20 - 6.16	0.20 - 6.16	0.20 - 6.16
COV (%)	±66	±65	±68
Reported above 0.5 g/t Au cut-off			
No of bulk samples	52	43	43
Total Mass (t)	119	93	92
Mass weighted grade (g/t Au)	2.42	2.44	2.39
COV (%)	±57	±60	±61

[1] “All” refers to all bulk samples, including the field duplicates.
[2] “BS+Dup_1” refers to the 45 primary bulk samples plus the primary samples of the field duplicates.
[3] “BS+Dup_2” refers to the 45 primary bulk samples plus the field duplicates.

The global weighted grade above 0.5 g/t Au of the bulk samples (excluding the duplicate pairs) is 2.39 g/t Au and 2.44 g/t Au (**Table 13-8**; BS+Dup_1 or Dup_2), and including the duplicate pairs is 2.42 g/t Au.

The results of individual bulk samples are provided in **Table 13-8**.

Table 13-8. Compilation of all Beatons Creek bulk sample results (N = 58).

Sample ID	Sample Mass (kg)	Head Grade (g/t Au)	Au Rec. Grav. (%)	Au Tails and Dust (%)
BSX001	2.10	1.34	74%	26%
BSX002	1.21	0.22	53%	47%
BSX003	2.13	0.22	61%	39%
BSX005	2.11	2.26	66%	34%
BSX006	1.96	1.93	58%	42%
BSX012	1.28	1.52	67%	33%
BSX013	1.72	0.97	57%	43%
BSX015	4.23	4.38	60%	40%
BSX016	1.88	1.52	59%	41%
BSX017	1.01	0.57	55%	45%
BSX021	2.02	0.77	40%	60%
BSX022	1.43	0.70	42%	58%
BSX025	1.38	1.74	49%	51%
BSX026	1.67	1.13	66%	34%
BSX027	1.66	1.23	66%	34%
BSX033	2.97	0.44	38%	62%
BSX034	3.33	0.38	38%	62%
BSX038	3.42	2.09	48%	52%
BSX039	2.46	0.20	70%	30%
BSX041	2.43	2.93	46%	54%
BSX042	4.40	0.75	27%	73%
BSX043	4.13	4.33	68%	32%
BSX044	3.26	1.20	41%	59%
BSX045	1.68	1.43	61%	39%
BSX046	4.90	5.42	70%	30%
BSX047	2.24	0.59	65%	35%
BSX048	3.80	1.33	61%	39%
BSX049	1.61	1.28	47%	53%
BSX050	0.95	1.09	72%	28%
BSX051	1.64	2.00	64%	36%
BSX052	0.65	6.16	70%	30%
BSX053	1.03	3.00	53%	47%
BSX054	1.65	1.08	37%	63%
BSX055	1.01	1.15	51%	49%
BSX056	1.24	4.00	34%	66%
BSX057	1.39	3.49	39%	61%
BSX058	2.31	2.70	73%	27%
BSX059	1.93	1.24	58%	42%
BSX060	1.46	0.49	59%	41%
BSX061	1.09	1.93	53%	47%
BSX062	2.02	1.38	54%	46%
BSX063	2.95	1.49	37%	63%
BSX064	2.46	3.27	69%	31%
BSX065	4.57	4.39	70%	30%
BSX066	3.05	1.79	65%	35%
BSX067	3.91	4.73	67%	33%
BSX068	3.19	4.46	75%	25%
BSX069	3.68	4.29	72%	28%
BSX070	2.15	0.94	39%	61%
BSX071	2.32	1.23	51%	49%
BSX072	2.53	2.97	43%	57%
BSX073	1.80	2.84	66%	34%
BSX074	3.95	1.32	60%	40%
BSX075	2.78	1.27	70%	30%
BSX076	1.83	2.00	62%	38%
BSX077	1.77	3.13	63%	37%
BSX078	2.64	1.92	72%	28%
BSX079	3.31	0.35	63%	37%

The bulk sample results by resource area are provided in **Table 13-9**.

Table 13-9. Bulk sample results by resource area.

Area	Reefs	[1] No. BS	Total tonnes (t)	Weighted grade (g/t Au)
Central	M1; M2	8	12.1	2.02
Golden Crown channels	930; 931; 934	3	7.2	2.21
Golden Crown marine	921; 922; 923	16	36.6	2.39
Grants Hill	M0; M1	9	23.6	2.58
North	M1	2	2.0	0.79
South Hill channels	341; 342; 343	7	21.9	1.84
Total		45	104	2.23

[1] Note Table uses the single non-duplicated values, refer Table 13-7 “BS+Dup_1”.

The bulk sample results by dominant reef are provided in **Table 13-10**.

Table 13-10. Bulk sample results by dominant reef.

Area	Reef	[1] No. BS	Total tonnes (t)	Weighted grade (g/t Au)
Central	M1	6	8.8	2.33
Grants Hill	M1	8	21.1	2.86
Golden Crown marine	922	10	25.6	2.65

[1] Note: Table uses the single non-duplicated values, refer Table 13-7 “BS+Dup_1”.

13.5.9 Bulk Sample Verification

On delivery to SGS and other laboratories, all sample boxes were checked for damage and to verify that the internal bulka bags and their seals were not broken. Novo staff and Dr Simon Dominy (QP), visited the SGS pilot plant on a weekly basis to inspect operations and sample progress. All assays (e.g., concentrates, and dust and tails samples) were provided to Novo by SGS and other laboratories as secured PDF certificates.

The inputs to all bulk sample head grade calculations were checked by Novo against the original assay certificates and verified by Dr Simon Dominy. "Preliminary" and "Final" bulk sample head grade calculations were provided to Novo as secured PDF certificates. Novo reviewed all raw MS Excel head grade calculations prior to review and release by SGS as secured PDFs.

All QAQC reports (inclusive of laboratory CRMs, blanks and duplicates) from SGS and other laboratories have been reviewed by Dr Simon Dominy and found to be of an appropriate quality (**Table 13-3**).

Thirteen field duplicates were collected during the programme (**Table 13-11**). The pairwise COV value was 22%, which indicates that the bulk samples have an acceptable level of precision. The field duplicate precision value includes all variability from in-situ nugget effect; to sample collection and preparation error and analytical error.

Table 13-11. Beatons Creek duplicate bulk sample results.

Original BS	Duplicate BS	Original grade (g/t Au)	Duplicate grade (g/t Au)	Absolute difference (g/t Au)	Mass weighted mean grade (g/t Au)
BSX05	BSX06	2.26	1.93	0.33	2.10
BSX12	BSX13	1.47	0.97	0.50	1.18
BSX15	BSX68	4.38	4.46	0.08	4.41
BSX21	BSX22	0.77	0.70	0.07	0.74
BSX25	BSX70	1.74	0.94	0.80	1.25
BSX26	BSX27	1.13	1.23	0.10	1.18
BSX33	BSX34	0.44	0.38	0.06	0.41
BSX39	BSX79	0.20	0.39	0.19	0.31
BSX68	BSX69	4.46	4.29	0.17	4.37
BSX70	BSX71	0.94	1.25	0.31	1.07
BSX72	BSX73	2.63	2.89	0.26	2.74
BSX74	BSX75	1.29	1.33	0.04	1.31
BSX77	BSX78	2.81	1.85	0.96	2.24
Mass weighted mean grade (g/t Au)		2.07	1.87	-	1.79
Pairwise COV		±22%			

Twenty-five tails duplicates (e.g., 50 kg at -750 µm; refer **Figure 13-4**) were collected during the programme. The pairwise COV value was 16%, which indicates that the sample tails split has an acceptable level of precision. The tails duplicate precision value includes all error from the RSD split through to the preparation and analytical error.

13.5.10 Conclusions

Bulk samples were collected following an initial review of historical metallurgical and mineralogical data to determine a grade-gold particle size relationship. The subsequent 48 plus 10 bulk sample variability programme covered the broad grade distribution spatially across a number of conglomerates and wholly within oxide mineralization.

Table 13-12. Risk review for the Beatons Creek bulk sampling programme.

	Key Parameter	Comment	[1] Component Error	TOS Error	[2] Error Rating
1	Spatial distribution and number of samples	Samples collected across accessible surface areas of oxide conglomerate mineralisation 48 primary samples collected, with 10 field duplicate samples Reasonable representation of grade distribution (0.2 to 6.2 g/t Au)	20%	GNE	Low
2	Sample mass (representativity)	Indicated optimum mass approx. 1 t to achieve 68% ±15% 2 t samples collected across 1 m of conglomerate			Low-mod.
3	Collection and handling	Supervised collection of samples DGPS locations taken Samples placed into bulk bags		EE	Low
4	Transport and security	All bulka bag samples secured into wooden containers Chain of custody recorded between mine and off-site laboratory Independent transportation of samples to SGS Perth		-	Low
5	Preparation	Entire sample lot crushed and pulverised and passed through a gravity unit Tails sample split at -0.75 mm	16%	-	Low
6	Assay			-	Low
7	QAQC	Full inspection and cleaning of pilot plant; barren flushes run between samples CRMs and blanks inserted at 1 to 25 rate in assay stream Full written protocols for the sampling-assaying process QC results within acceptable limits	-	-	Low
8	Validation/variability indicators	Sample population RSV: 65%	Total 22%		Low-mod.
		Summary			
		Sample collection error rating (1)–(3)			Low
		Preparation and assay error rating (4)-(7)			Low
		Overall fit-for-purpose acceptance			**Acceptable**

[1] Component errors from limited duplicate pair analysis; [2] Indicative total error rating; red: high (>±50%); orange: moderate (±25–50%); low-moderate (±20–35%); green: low (<±25%).

The programme was deemed to be fit for purpose based on an acceptable total sampling error component of ±22%, and overall compliance with all QC requirements (**Table 13-2**).

The programme indicates that even at a coarse grind size of 750 µm, good recoveries are possible via gravity and leaching. Globally the bulk sample lot (135 t) yielded a grade of 2.2 g/t Au, with 62% gravity recovery. The recovery for the >0.5 g/t Au bulk samples (119 t) was 2.42 g/t Au also with 62% recovery.

The majority of the bulk samples were collected from what would be classified as Indicated Mineral Resources. The programme results are discussed further in Section 14.19.

14. MINERAL RESOURCE ESTIMATES

14.1 Disclosure

Mineral Resources have been prepared by Novo under the supervision of the principal author and QP, Dr Simon Dominy. The author, by way of experience and qualifications, is a Qualified Person as defined by NI 43-101 and is independent of Novo.

14.2 Assumptions, Methods and Parameters

The estimates have been prepared in the following steps:

- Data validation
- Data preparation
- Exploratory data analysis
- Geological interpretation and modelling
- Compositing of assay intervals
- Consideration of extreme grades
- Variogram analysis
- Establishment of block models
- Grade estimation
- Model validation
- Depletion
- Classification of estimates with respect to CIM Definition Standards
- Resource tabulation and resource reporting

The estimate has been completed using Datamine Studio RM v1.4.175. All statistical analysis has been undertaken using Snowden Supervisor v 8.11.

14.3 Data Provided

The drillhole data used for the Beatons Creek Mineral Resource estimate has been exported from Novo's secure SQL database and provided in .csv format.

A digital terrain model for the topographic elevation has been provided by Novo, together with wireframe solids for each of the mineralization domains (44 total). The topographic surface was constructed from Lidar survey data, surveyed in 2015. The mineralization wireframes were created in Micromine and exported to Vulcan .00t format. The wireframes were imported into Datamine Studio RM.

Novo provided a weathering surface representing the top of the fresh material determined from downhole logging.

14.4 Data Used in 2019 Mineral Resource Estimate

The project database comprises several generations of exploration drilling campaigns by various operators prior to acquisition by Novo. The database has been reviewed and some data excluded (**Table 14-1**)

Table 14-1. Summary of data excluded from the current estimate.

Excluded Holes	Number of holes	Reason for exclusion
RAB holes	445	RAB not suitable for estimation
Spear sampled holes	6	06BCRC holes, spear sampled holes
1984 RC holes	77	Split manually, aqua regia analysis and no QAQC. Erratic results and potential GPS mislocation
2016 trenches Hole IDs; 16TP*	36	Grab samples from trial mine benches
2017 trenches Hole IDs; WRM*	4	Grab samples from windrows
Bulk samples 2018	58	2018 bulk samples were used to validate the 2019 resource
Hole ID; WW2	1	RAB hole and SPEAR sample first 50 m
2018 DDH metallurgical holes	3	Assays not returned to date
2018 RC waste characterisation holes	10	Waste characterisation holes, no assays
Hole ID; BCDD18-017	1	Redrilled - BCDD18-017a
Hole ID; DS03a	1	RC hole outside the BC area
2017 RC drill program	129	Low recoveries, excluded due to bias
2013 RC drill program	51	Low recoveries, excluded due to bias
Repeat trench collar	2	Duplicate collar
Holes with no assays	110	No assays

The 2019 resource was estimated from 3,767 composites sourced from 2,423 RC samples (64%), 229 diamond core samples (6%), and 1,116 trench channel samples (30%). **Figure 14-1** shows the location of the input data intervals in plan-view for all samples.

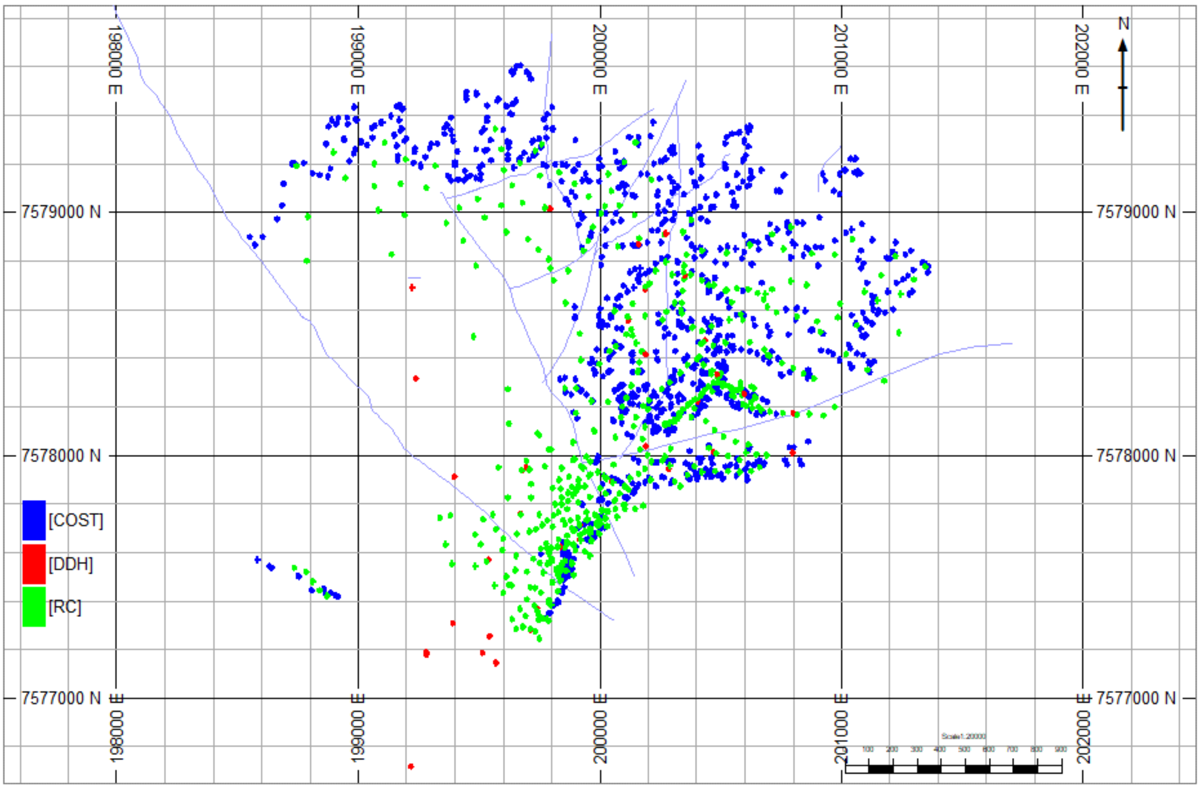


Figure 14-1. Distribution of samples/drill holes that inform this estimate. Note: [COST] = trench channel samples.

14.5 Data Validation

Collars, surveys, assays, lithology and specific gravity data have been imported into Datamine format from .csv. Records in the database have been flagged as RESGRADE = 1 if they are to be used in the estimate.

Collars
A collar to topography analysis was undertaken to ensure the drillhole collars had been picked up correctly. Eight collars were identified to have a collar to topography discrepancy >2 m. Each was reviewed and it was determined that all eight collars in the database were correct and post-dated the LIDAR topographic survey, in areas where the trial pit was mined or significant earthworks had since taken place. No additional issues have been identified.

Surveys
Downhole surveys were reviewed to ensure no erratic survey measurements existed in the database. Many of the drillholes are vertical. Each record was reviewed to determine if there were issues. No problems were identified.

Assays
Analysis of 1,203 LeachWELL samples with fire assay tails was undertaken. In the database, there were a number of samples that were assayed by LeachWELL method which did not have the tails assayed. Based on the analysis of all the fire assays tails, a correction factor was determined and applied to the remaining LeachWELL samples. Samples with any other assay method have not been corrected. The following correction factors have been applied:

- For samples where AU_PPM was greater than or equal to 0.10 g/t Au and less than 0.40 g/t Au, a correction factor of 1.15 was applied.
- For samples where AU_PPM was greater than or equal to 0.40 g/t Au and less than 2.00 g/t Au. A correction factor of 1.10 was applied.
- Where AU_PPM was greater than or equal to 2.00 g/t Au a factor of 1.05 has been applied.

All assay samples have been reviewed for overlaps and duplicate records, no issues have been identified.

Lithology
All lithology intervals have been reviewed for overlaps and duplicate records, no issues have been identified.

The data used in the 2019 Beatons Creek Mineral Resource estimate has been reviewed with validation checks showing no material issues with the database supplied.

14.6 Geological Interpretation and Modelling

The 2018 diamond drilling program aimed to establish a 3D structural framework to underpin an improved stratigraphical subdivision to provide better geological control when generating grade shells. Diamond drilling and downhole televiewer data from previous RC holes also give a more representative width of mineralization as opposed to RC drilling intervals.

The improved geological confidence generated two major domain boundaries. The dominant contact is the Mosquito Creek Formation contact, providing a solid boundary to the east. The second domain break separates the Golden Crown mineralization from all other fault blocks to the west. Structural data, imbrication measurements, and interrogating the mine stratigraphy show that all other fault blocks represent the same sequence, albeit offset. The Golden Crown block represents a different fan altogether.

Channel mineralization is restricted to closer proximity to the Mosquito Creek Contact and is the dominant mineralization at South Hill. Channel mineralization and marine lags are both present in the southern margin of Golden Crown and the south-eastern margin of Grants Hill and Grants Hill South.

Marine lags are the only mineralization distal from the contact, with up to five lags identified at Grants Hill and golden Crown. Towards Edwards Lease, only two dominant marine lags continue.

Micromine was used to generate a 3D model of faults, using strings along outcrop mapping and projected through intersected faults in drilling to generate suitable wireframes. Key geological intervals (e.g., marker tuffs and the well-defined mine stratigraphy contacts) were modelled next, providing a framework to guide grade shell generation.

Grade shells are constructed by selecting the an interval and coding it to the interpreted grade shell position. A DTM is then extracted from the top and base of that interval and all other intervals from other samples with the same code. This is then extended to intersect the nearest contact or fault boundary and turned into a solid wireframe (**Figure 14-2**).

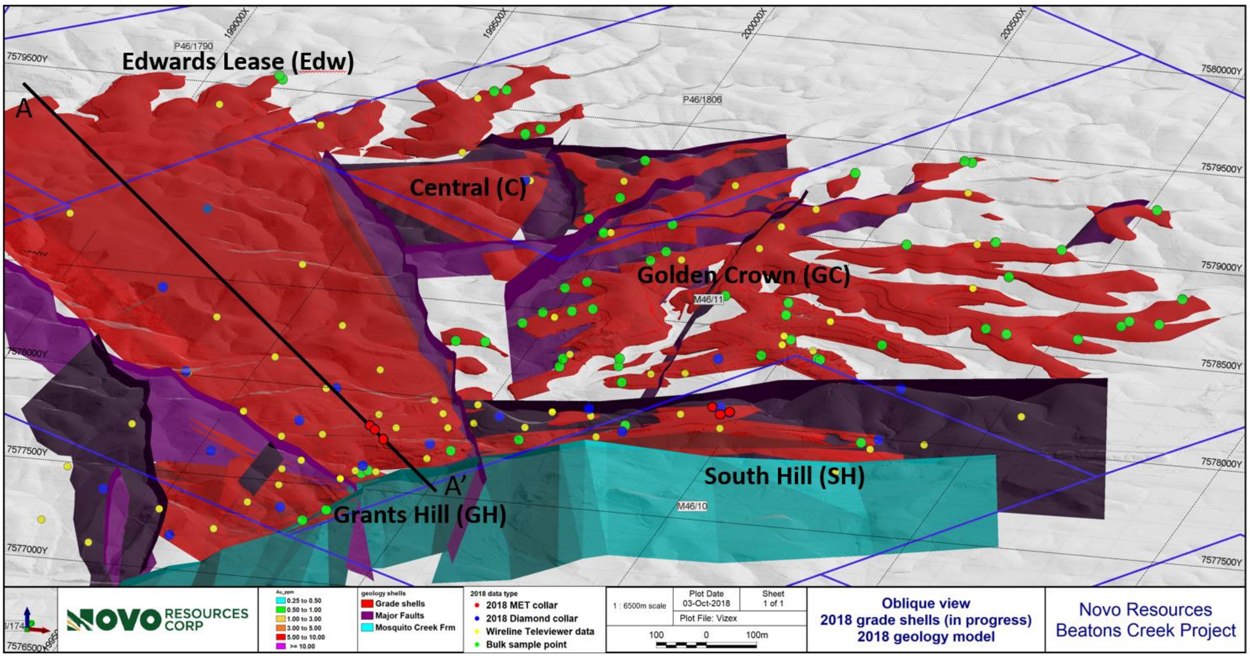


Figure 14-2. 3D (Micromine) view of updated grade shells cut to the topography.

The initial round of grade shell generation focused on recent logging data to ensure the mineralized position was appropriately modelled and providing the best quality data. A second round of modeling focused predominantly on RC data, where the initial grade shell was fine-tuned by using the downhole assay data. A final round of modeling snapped all grades shells to each intersecting drill hole where no significant assay was intersected. Downhole logging was used to pick the interval most applicable to be treated as the continuation of mineralization.

The geological model and grade shells are considered to be of high confidence. The preliminary shells within each fault block immediately captured the bulk of mineralization, with subsequent integration of assay data only slightly adjusting the shape of the initial shell. The limited drill holes that did not return a significant assay still indicated the mineralized position with assay results in the 0.1-0.5 g/t Au range.

All fault blocks with the exception of Golden Crown have the M1 and M2 defined as the most dominant and consistent lodes. These represent the two most consistent marine lags and are always located in the same stratigraphic sequence (noticeably the M1 approximately 12 m below the lowest marker Tuff, and the M2 approximately 10 m below the M1). This initial framework provides much support to the geological continuity of the system. The M1 and M2 lodes are consistently modelled over 2.5 km in strike (**Figure 14-3**).

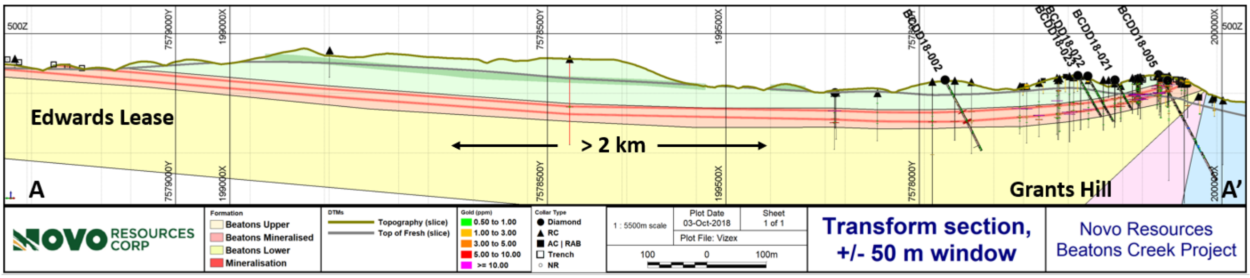


Figure 14-3. Cross section showing mine stratigraphy, marker tuff and M1 and M2 continuity.

Additional parallel marine lags are identified as M0, M3, M4 and M5 in the Grants Hill, Grants Hill South and Central domains.

The Golden Crown block represents a different fan with imbrication suggesting sedimentation from the east as opposed to the south-east. Five marine lags are defined in this domain, and an additional sequence of channel mineralization towards the southern margin.

South Hill seems to solely represent channel mineralization. These channels have potentially incised the Golden Crown domain, running parallel to the Mosquito Creek faulted contact, and are the likely source of sedimentary input into the Grants Hill and Central domains.

Logging of oxidation state from diamond core and televiewer data was used to generate a triangulated surface in Micromine of the boundary between oxide and fresh material. There are no significant amounts of transported material or transition zone material to warrant any additional surfaces to be modelled.

The boundary between oxide and fresh was used to attribute blocks within the resource model.

Figure 14-4 shows the spatial extent of the mineralization wireframes used in the estimate.

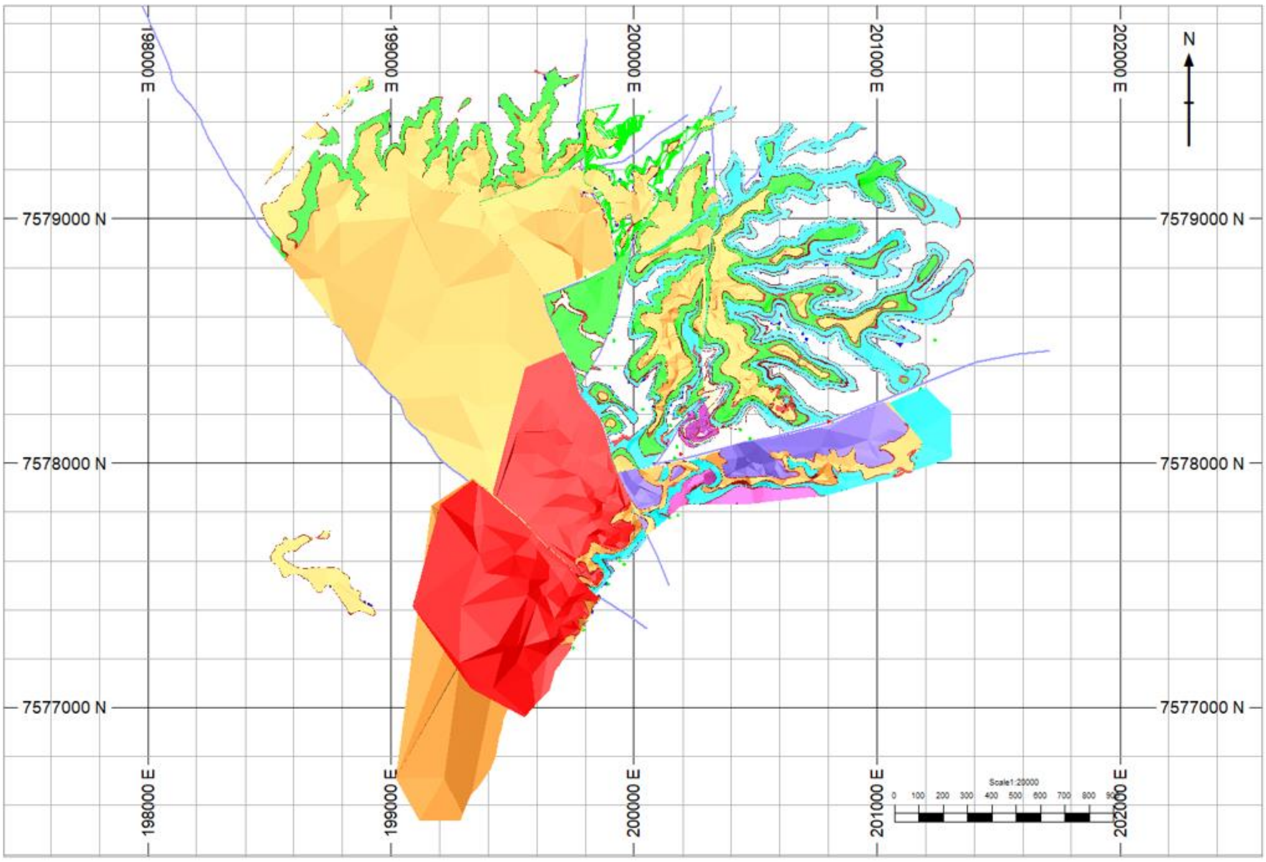


Figure 14-4. Spatial extent of the mineralization wireframes used in the estimate (Datamine image).

The resulting mineralization wireframes have been used to code the drillhole database by fault block, lag type, lag number and mineralization domain. Domain is assigned based on individual wireframes made up from adding together the fault block, lag type and lag number. Estimation domain has been assigned based on grouping of domains of the same marine lag across different fault blocks. The estimation domain (ESTDOM) is the field used for estimation, which all analysis, estimation and validation has been undertaken (**Table 14-2**).

Table 14-2. Estimation domains.

Wireframe Name	Field	Domain	Style	LagNo	Lag Type Marine / Channel	Fault block	Estimation Domain	Description
c_m1	DOMAIN	411	Solid	1	10	400	11	Central block Marine lag 1
c_m2	DOMAIN	412	Solid	2	10	400	12	Central block Marine lag 2
c_m3	DOMAIN	413	Solid	3	10	400	13	Central block Marine lag 3
cn_m1	DOMAIN	811	Solid	1	10	800	11	Central North block Marine lag 1
cn_m2	DOMAIN	812	Solid	2	10	800	12	Central North block Marine lag 2
fw_01	DOMAIN	149	Solid	9	40	100	149	Grants Hill South Channel lag 0
gc_01	DOMAIN	921	Solid	1	20	900	921	Golden Crown separate Marine lag 1
gc_02	DOMAIN	922	Solid	2	20	900	922	Golden Crown separate Marine lag 2
gc_03	DOMAIN	923	Solid	3	20	900	923	Golden Crown separate Marine lag 3
gc_04	DOMAIN	924	Solid	4	20	900	924	Golden Crown separate Marine lag 4
gc_ch1a	DOMAIN	930	Solid	0	30	900	930	Golden Crown Channel lag 1a
gc_ch1	DOMAIN	931	Solid	1	30	900	931	Golden Crown Channel lag 1
gc_ch2	DOMAIN	932	Solid	2	30	900	932	Golden Crown Channel lag 2
gc_ch3	DOMAIN	933	Solid	3	30	900	933	Golden Crown Channel lag 3
gc_ch4	DOMAIN	934	Solid	4	30	900	934	Golden Crown Channel lag 4
gc_ch5	DOMAIN	935	Solid	5	30	900	935	Golden Crown Channel lag 5
gc_ch6	DOMAIN	936	Solid	6	30	900	936	Golden Crown Channel lag 6
gc_ch7	DOMAIN	937	Solid	7	30	900	937	Golden Crown Channel lag 7
gc_ch8	DOMAIN	938	Solid	8	30	900	938	Golden Crown Channel lag 8

Wireframe Name	Field	Domain	Style	LagNo	Lag Type Marine / Channel	Fault block	Estimation Domain	Description
gh_m0	DOMAIN	210	Solid	0	10	200	10	Grants Hill Marine lag 0
gh_m1	DOMAIN	211	Solid	1	10	200	11	Grants Hill Marine lag 1
gh_m2	DOMAIN	212	Solid	2	10	200	12	Grants Hill Marine lag 2
gh_m3	DOMAIN	213	Solid	3	10	200	13	Grants Hill Marine lag 3
gh_m4	DOMAIN	214	Solid	4	10	200	14	Grants Hill Marine lag 4
gh_m5	DOMAIN	215	Solid	5	10	200	15	Grants Hill Marine lag 5
gh_m6	DOMAIN	216	Solid	6	10	200	16	Grants Hill Marine lag 6
ghs_m0	DOMAIN	110	Solid	0	10	100	10	Grants Hill South Marine lag 0
ghs_m1	DOMAIN	111	Solid	1	10	100	11	Grants Hill South Marine lag 1
ghs_m2	DOMAIN	112	Solid	2	10	100	12	Grants Hill South Marine lag 2
ghs_m3	DOMAIN	113	Solid	3	10	100	13	Grants Hill South Marine lag 3
ghs_m4	DOMAIN	114	Solid	4	10	100	14	Grants Hill South Marine lag 4
ghs_m5	DOMAIN	115	Solid	5	10	100	15	Grants Hill South Marine lag 5
ghs_m6	DOMAIN	116	Solid	6	10	100	16	Grants Hill South Marine lag 6
n_m1	DOMAIN	711	Solid	1	10	700	11	North block Marine lag 1
n_m2	DOMAIN	712	Solid	2	10	700	12	North block Marine lag 2
nw_m1	DOMAIN	611	Solid	1	10	600	11	North West block Marine lag 1
nw_m2	DOMAIN	612	Solid	2	10	600	12	North West block Marine lag 2
nwa_m2	DOMAIN	512	Solid	2	10	500	12	North West sub block Marine lag 2
sh_ch1	DOMAIN	341	Solid	1	40	300	341	South Hill Channel lode 1
sh_ch2	DOMAIN	342	Solid	2	40	300	342	South Hill Channel lode 2
sh_ch3	DOMAIN	343	Solid	3	40	300	343	South Hill Channel lode 3
sh_ch4	DOMAIN	344	Solid	4	40	300	344	South Hill Channel lode 4
sh_ch5	DOMAIN	345	Solid	5	40	300	345	South Hill Channel lode 5
sh_ch6	DOMAIN	346	Solid	6	40	300	346	South Hill Channel lode 6

Topographic surface wireframe has been used to code all data below the topography, the wireframe representing the top of the fresh material has been used to code the data according to oxide and fresh material. Coding has been summarized in **Table 14-3**.

Table 14-3. Coding for oxide/fresh boundary and topography.

Wireframe name	Field	Code	Description
TOFR_MM_2018 (above)	OX	1000	Oxide material
TOFR_MM_2018 (below)	OX	2000	Fresh material
TOPO_HIGHRES (above)	TOPO	0	Above topography
TOPO_HIGHRES (below)	TOPO	1	Below topography

14.7 Statistical Analysis

Contact analysis

A contact analysis has been undertaken reviewing the boundary between the oxide and fresh material for all the Marine lags, South Hill channels, Golden Crown Marine lags and Golden Crown channel lags. The lag types are summarized in **Table 14-4**.

Table 14-4. Lag type coding.

LAGTYPE code	Description
10	Marine lag Grants Hill, Grants Hill South, Central, North and North west areas
20	Marine lag Golden Crown area
30	Channel lag Golden Crown area
40	Channel lags South Hill area

Analysis of each of the four Lag types showed there was no discernable grade difference across the oxide/fresh boundary. Therefore, for the purposes of estimation, oxide and fresh material have not been sub-domained.

Figure 14-5 shows a contact analysis plot for lagtype 10 (all marine lags) above and below the oxide/fresh boundary.

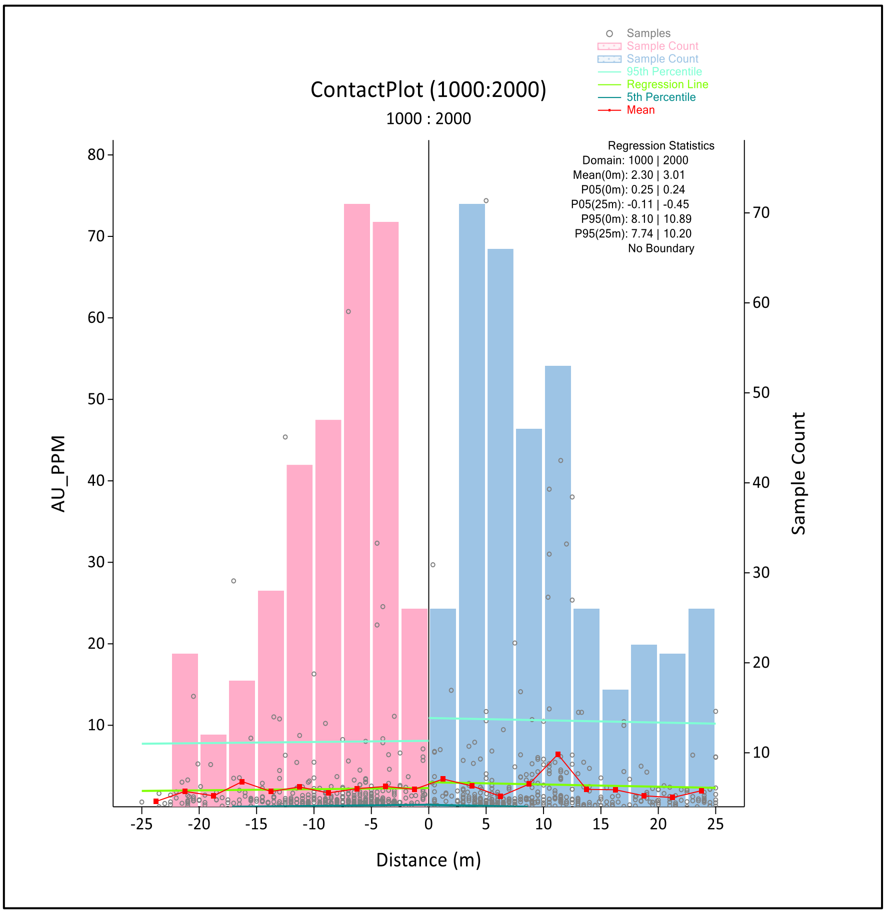


Figure 14-5. Contact analysis plot for lagtype 10 (all marine lags) above and below the oxide/fresh boundary.

Raw sample analysis

Analysis of the raw samples within all the mineralization domains indicated that the modal sample length of the raw data is 1 m with the average sample length being 0.91 m (**Figure 14-6**). This is predominantly due to the majority of samples being RC.

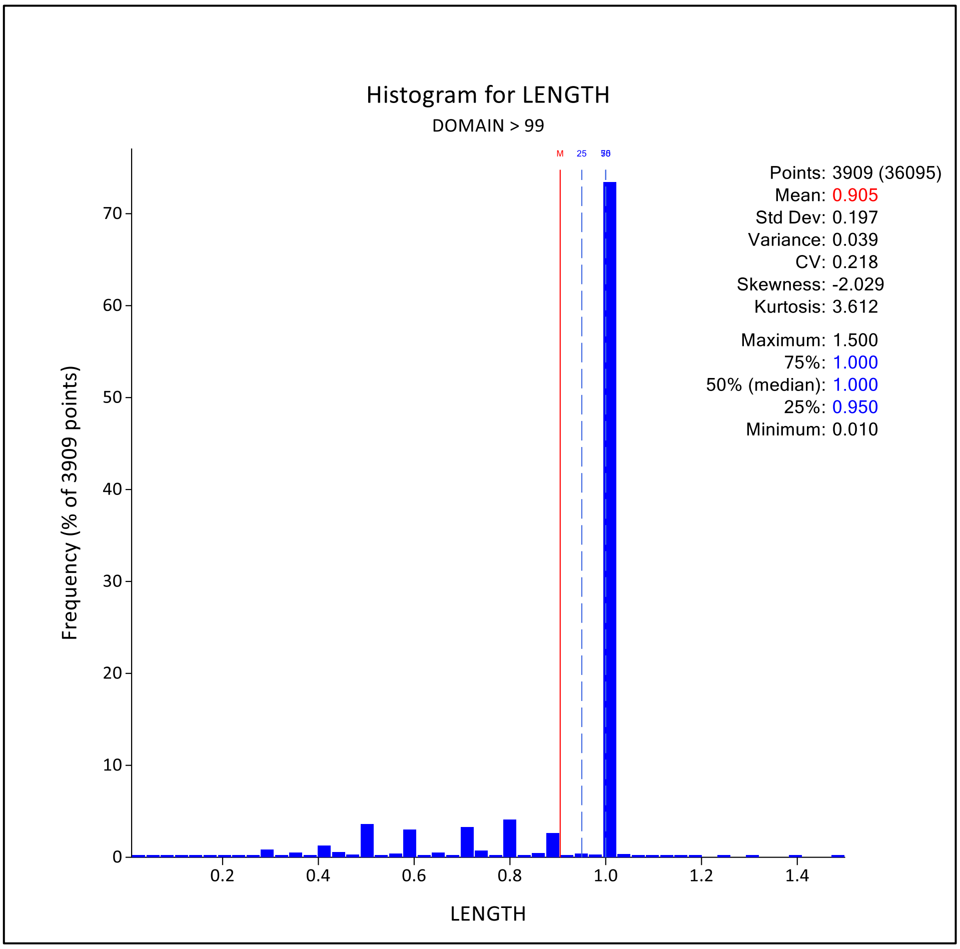


Figure 14-6. Histogram of sample length.

14.8 Compositing of Assay Intervals

Samples have been composited to 1 m lengths within each domain using the Datamine function COMPDH and the parameter MODE = 1, ensuring all residuals will be incorporated into the composites and no data lost. A minimum composite length of 0.25 m has been applied, this removes 13 samples from the dataset which are approximately 0.1 m in length.

A comparison between the raw sample and composite sample statistics for each mineralization domain is shown in **Table 14-5**. There has been no reduction in the grade of the mineralized intercepts due to compositing.

Table 14-5. Raw sample and composite sample statistics for each mineralization domain.

Domain Name	Estimation Domain	Number of Samples		Mean Grade (g/t Au)			Std Dev (g/t Au)		Coeff Variation (COV)	
		Raw	Composite	Raw	Composite	% Diff	Raw	Composite	Raw	Composite
M0	10	211	209	1.04	1.04	0.0%	1.92	1.92	1.84	1.84
M1	11	799	762	3.93	3.93	0.0%	7.68	7.51	1.95	1.91
M2	12	575	550	2.25	2.25	0.0%	4.50	4.48	2.00	2.00
M3	13	287	277	1.27	1.27	0.0%	1.62	1.61	1.28	1.26
M4	14	132	129	0.91	0.91	0.0%	1.54	1.53	1.69	1.69
M5	15	89	84	0.78	0.77	-0.6%	0.99	0.94	1.27	1.22
M6	16	34	32	1.09	1.08	-0.4%	1.12	1.12	1.03	1.03
fw_01	149	14	14	2.46	2.46	0.0%	2.91	2.91	1.18	1.18
sh_ch1	341	67	67	0.98	0.98	0.0%	1.43	1.42	1.46	1.46
sh_ch2	342	117	110	0.96	0.96	0.0%	1.40	1.38	1.46	1.43
sh_ch3	343	101	100	2.02	2.01	-0.1%	3.31	3.28	1.64	1.63
sh_ch4	344	45	40	0.86	0.86	0.0%	0.57	0.55	0.67	0.65
sh_ch5	345	42	35	1.30	1.30	0.0%	0.73	0.66	0.56	0.50
sh_ch6	346	11	10	1.67	1.67	0.0%	3.08	3.08	1.84	1.84
gc_01	921	179	175	1.49	1.47	-0.9%	2.46	2.39	1.66	1.62
gc_02	922	315	302	2.24	2.24	0.0%	5.03	5.03	2.25	2.24
gc_03	923	255	245	1.48	1.47	-0.6%	3.02	2.99	2.05	2.04
gc_04	924	189	186	1.01	1.01	0.0%	1.45	1.44	1.43	1.42
gc_ch1a	930	66	67	1.21	1.17	-3.5%	2.18	1.92	1.81	1.65
gc_ch1	931	100	100	1.03	1.03	0.0%	1.29	1.27	1.25	1.23
gc_ch2	932	104	102	1.51	1.51	0.0%	1.91	1.90	1.27	1.26
gc_ch3	933	54	54	1.79	1.79	0.0%	3.36	3.36	1.88	1.88
gc_ch4	934	44	43	2.08	2.08	0.0%	2.20	2.15	1.06	1.03
gc_ch5	935	23	21	3.98	3.98	0.0%	4.73	3.58	1.19	0.90
gc_ch6	936	26	25	1.69	1.69	0.0%	1.48	1.42	0.88	0.84
gc_ch7	937	18	17	2.32	2.32	0.0%	4.80	3.74	2.07	1.61
gc_ch8	938	11	11	1.04	1.04	0.0%	1.06	1.06	1.02	1.02

14.9 Consideration of Extreme Grades and Estimation Methodology

Composites within each of the domains have been analyzed to ensure that the grade distribution is indicative of a single population with no requirement for additional sub-domaining. Each estimation domain has been reviewed using histograms, log-probability plots and mean variance plots to identify whether extreme values exist which may influence the estimate. Where extreme grades have been identified, the impact of top-cutting and the values at which top-cuts should be applied has been assessed, and top-cuts selected reducing the COV to 1.5. Not all domains required a top-cut (**Table 14-6**).

Table 14-6. Top-cuts applied to estimation domains.

Estimation domain	Number of samples		Mean grade (g/t Au)			Top-cut value	Standard deviation (g/t Au)		Coeff of Variation (COV)		Max uncut grade (g/t Au)
	Uncut	Top cut	Uncut	Top cut	% Diff		Uncut	Top cut	Uncut	Top cut	
10	209	2	1.01	0.99	-2%	10	1.86	1.28	1.84	1.30	28.75
11	762	12	3.93	3.66	2%	30	7.03	5.59	1.97	1.53	104.51
12	550	3	2.25	2.13	7%	25	4.14	3.06	2.07	1.44	78.11
13	277	1	1.27	1.25	2%	10	1.55	1.46	1.26	1.17	15.30
14	129	1	0.90	0.84	-7%	5	1.50	1.06	1.67	1.26	13.90
341	67	2	0.98	0.96	-1%	6.5	1.42	1.36	1.46	1.41	7.10
342	110	2	0.96	0.92	-4%	6	1.38	1.08	1.43	1.18	13.96
343	100	4	2.01	1.90	-6%	12	3.28	2.83	1.63	1.49	17.32
346	10	1	1.67	1.23	-26%	5	3.08	1.69	1.84	1.37	11.21
921	175	4	1.47	1.38	-7%	10	2.39	1.84	1.62	1.33	18.93
922	302	2	2.24	2.07	-7%	25	5.03	3.09	2.24	1.49	72.46
923	245	1	1.47	1.37	-7%	15	2.99	2.02	2.04	1.48	36.90
924	186	1	1.01	0.98	-3%	10	1.44	1.10	1.42	1.12	20.37

Estimation domain	Number of samples		Mean grade (g/t Au)			Top-cut value	Standard deviation (g/t Au)		Coeff of Variation (COV)		Max uncut grade (g/t Au)
	Uncut	Top cut	Uncut	Top cut	% Diff		Uncut	Top cut	Uncut	Top cut	
930	67	3	1.17	1.11	-5%	7	1.92	1.65	1.65	1.49	12.34
932	102	2	1.51	1.47	-2%	10	1.90	1.71	1.26	1.16	13.17
933	54	2	1.79	1.54	-14%	10	3.36	2.00	1.88	1.30	24.80
934	43	1	2.08	1.99	-5%	7.5	2.15	1.78	1.03	0.90	11.44
935	21	2	3.98	3.75	-6%	10	3.58	2.99	0.90	0.80	13.64
936	25	1	1.69	1.66	-1%	5	1.42	1.35	0.84	0.81	6.32
937	17	2	2.32	1.47	-37%	5	3.74	1.49	1.61	1.01	12.39

Given the relatively low degree of skewness and the presence of only a few samples with extreme grades, it was determined that an estimation of grades using ordinary kriging with a top-cut would be appropriate for estimation. Given the undulating nature of the wireframes, it was decided that dynamic anisotropy would be appropriate.

14.10 Variogram Analysis

Grade continuity analysis has been undertaken in Snowden Supervisor software for the mineralized domains. Due to the positively skewed nature of the grade distributions, normal scores experimental variograms were modelled for the gold domains. The normal scores models were back-transformed prior to estimation.

Given the nature and narrowness of the marine lags, it was not possible to model a downhole variogram as many of the drillholes had a single sample intercept. An omni-directional variogram was modelled on closely spaced data for marine lag 1 (M1, ESTDOM = 11), which gave a transformed nugget value of 0.48. The 0.48 nugget backtransformed to approximately 60%. The high nugget value is not surprising given the mixed sample types (Trench, RC and DDH) and inherent nuggety nature of the conglomerate. The transformed 0.48 nugget value has been applied to all variograms.

Variograms were modelled separately for Marine lag 1 (M1) and Marine lag 2 (M2). The remaining individual marine lags (M0, M3 to M6) did not have sufficient samples for modelling variography. M1 variogram has been used for the M0 lag. The M2 variogram has been used for the lower marine lags M3, M4, M5 and M6. For the Golden Crown area, there was insufficient sample data for individual domain variography analysis, so data from all four marine lags has been combined and used to model variograms. Similarly, data from Golden Crown Channels were combined for variography and data from all the South Hill channels combined for variographic analyses. A variogram was modelled for each of these groupings. The variogram for M2 (estimation domain 12) is provided in **Figure 14-7**.

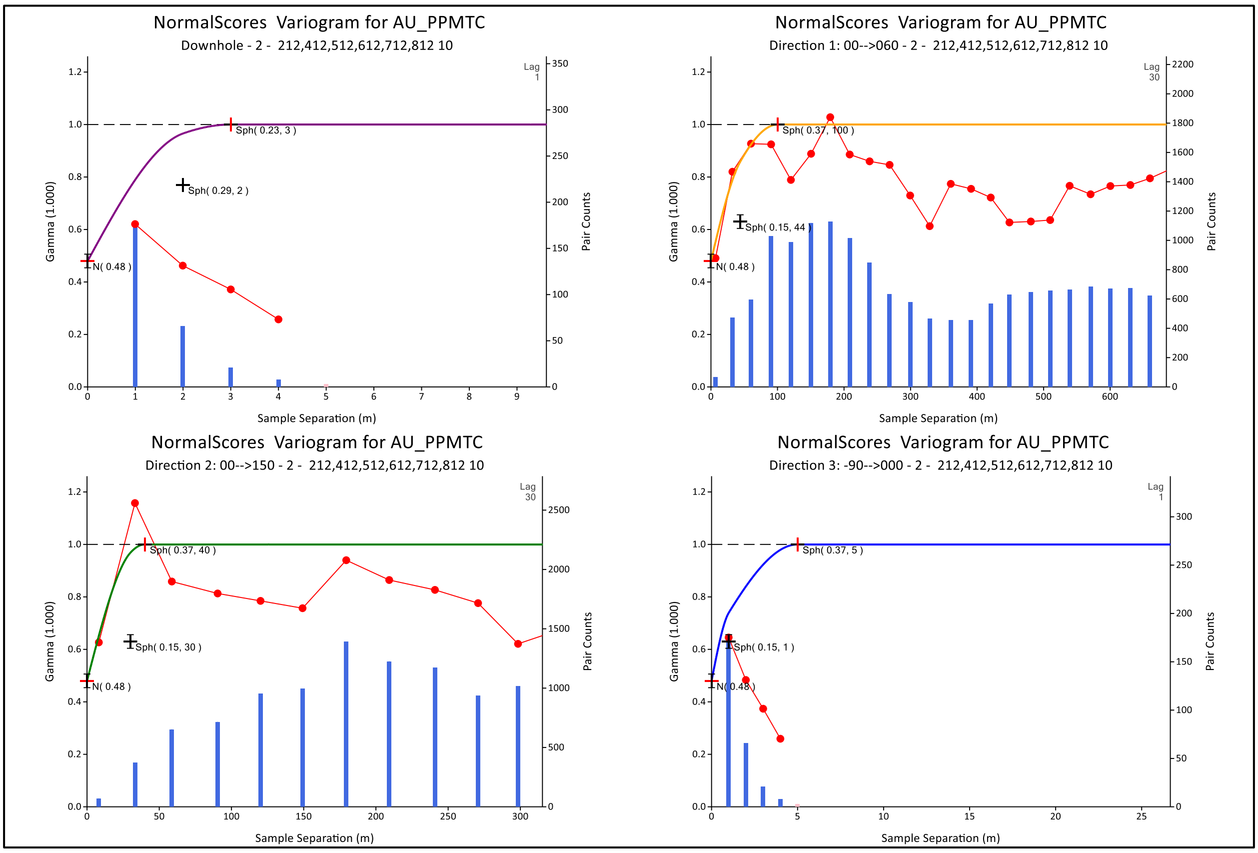


Figure 14-7. Variogram for the M2 reef (estimation domain 12).

The variogram model parameters are provided in **Table 14-7**.

Table 14-7. Gold grade variogram model parameters.

Domain	Variogram Orientations						Datamine Rotation			Variographic parameters - back transformed										Comments
	HZ	AS	DP	Dir 1	Dir 2	Dir 3	Z	X	Z	C0	C1		A1	C2		A2	C3	A3	Sill check	
M1	000->230	000->320	000->055	000->055	000->145	-090->000	0.0	0.0	-35.0	0.61	Dir 1	0.23	35	Dir 1	0.16	70	Dir 1		1.00	Used for M0 and M1
											Dir 2		7	Dir 2		35	Dir 2			
											Dir 3		2	Dir 3		5	Dir 3			
M2	000->230	000->320	000->060	000->060	000->150	-090->000	0.0	0.0	-30.0	0.60	Dir 1	0.17	44	Dir 1	0.23	100	Dir 1		1.00	Used for M2, M3, M4, M5, M6
											Dir 2		30	Dir 2		35	Dir 2			
											Dir 3		1	Dir 3		5	Dir 3			
GC20	000->220	000->310	000->040	000->040	000->130	-090->000	0.0	0.0	-50.0	0.60	Dir 1	0.15	37	Dir 1	0.25	300	Dir 1		1.00	Used for all Golden Crown marine lags 921-924
											Dir 2		20	Dir 2		130	Dir 2			
											Dir 3		6	Dir 3		10	Dir 3			
GC30	000->255	000->345	000->075	000->075	000->165	-090->000	165.0	170.0	-175.0	0.56	Dir 1	0.17	51	Dir 1	0.27	105	Dir 1		1.00	Used for all Golden Crown channel lags 930-938
											Dir 2		57	Dir 2		200	Dir 2			
											Dir 3		9	Dir 3		10	Dir 3			
SH40	000->260	000->350	000->080	000->080	000->170	-090->000	0.0	0.0	-10.0	0.60	Dir 1	0.10	34	Dir 1	0.30	200	Dir 1		1.00	Used for all South Hill channel lags 341-346
											Dir 2		16	Dir 2		35	Dir 2			
											Dir 3		13	Dir 3		14	Dir 3			

14.11 Kriging Neighbourhood Analysis

A Kriging Neighbourhood Analysis (KNA) has been undertaken on gold in the M2 marine lag (ESTDOM = 12) in order to determine the block size and estimation parameters for the block model and estimation. This marine lag has been selected as it has the most extensive coverage. The KNA analysis has been located in an area of good sample support.

Determining the optimal block size is the first step in the KNA process. A range of block sizes have been tested (**Figure 14-8**), with the 20 m by 20 m by 1 m giving a higher kriging efficiency than the 10 m by 10 m by 1 m block size previously used.

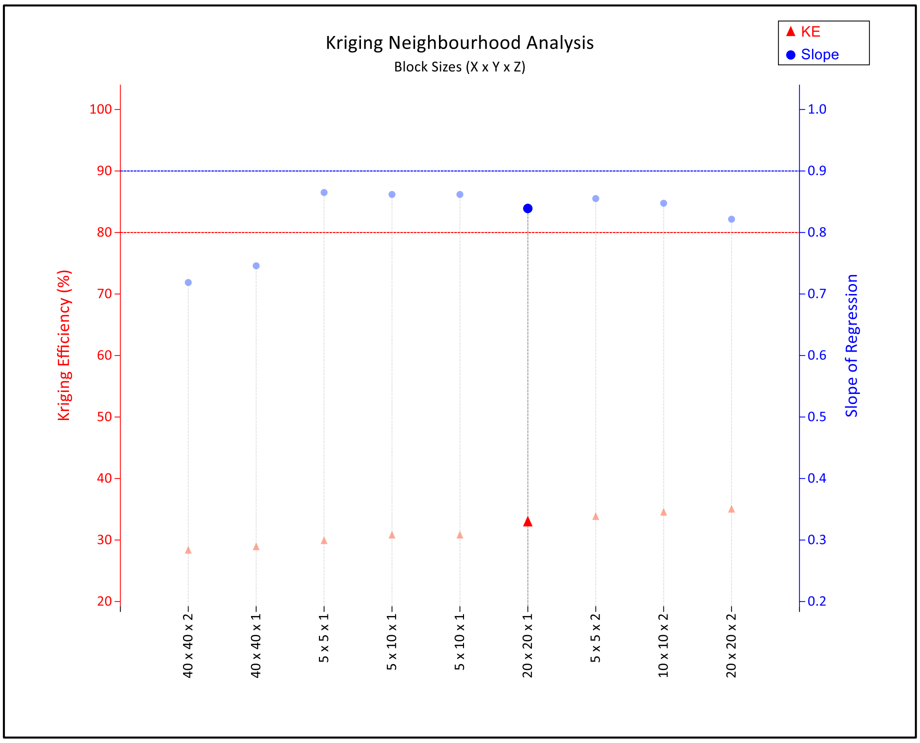


Figure 14-8. KNA plot for block size optimization.

The number of informing samples is the next parameters tested. The number of informing samples has been analyzed using a block size of 20 m by 20 m by 1 m (**Figure 14-9**). A minimum of 5 and maximum of 22 has been selected based on this analyses.

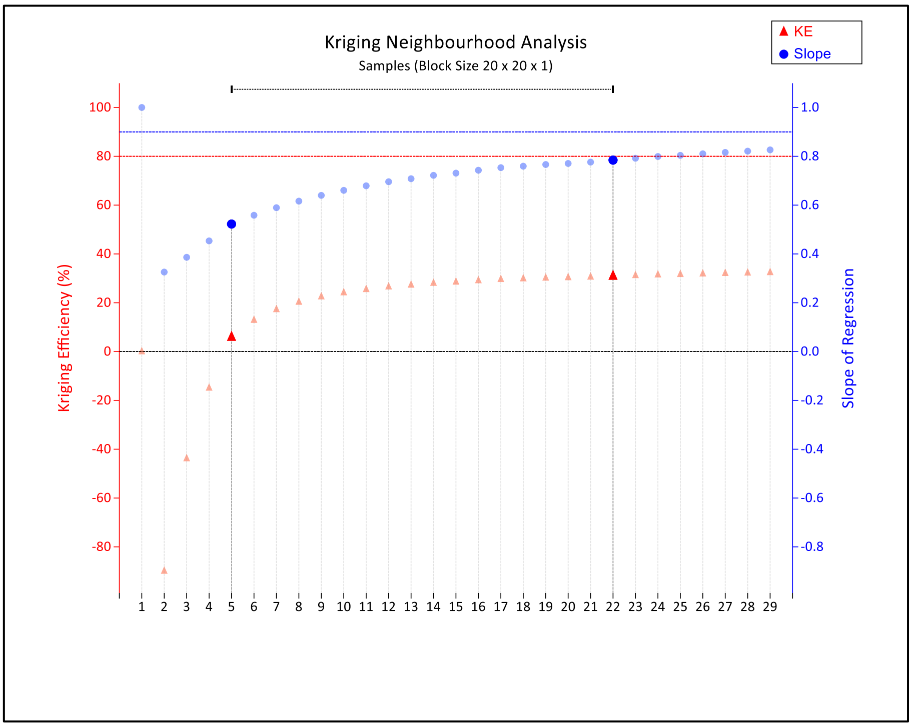


Figure 14-9. KNA plot for optimizing number of informing samples.

Search ellipse parameters and discretization have also been reviewed. Search passes have been based on the variography.

14.12 Establishment of Block Models

A block model has been created encompassing the mineralization at Beatons Creek, with the final Datamine block model file called "bcfin_1902.dm".

Due to the variable drill spacing, two block models with different parent block sizes have been constructed to cover the extents of the mineralization. The predominant block model parent size has been selected based on the kriging neighborhood analysis (KNA) in the previous section and is approximately half the dominant drill spacing within the area selected for review. The more widely spaced drilling, 100 m by 100 m up to 200 m by 200 m, uses a block size of 40 m by 40 m by 1 m. The closely spaced drilling uses a block size of 20 m by 20 m by 1 m. For both block models, the sub blocking goes down to 2.5 m (X) by 2.5 m (Y) by 0.25 m (Z) for effective boundary definition. The same sub block size was selected to ensure a smooth combination of the models at the end.

Figure 14-10 shows model extents outlined in black with the 40 m by 40 m area within the blue boundary.

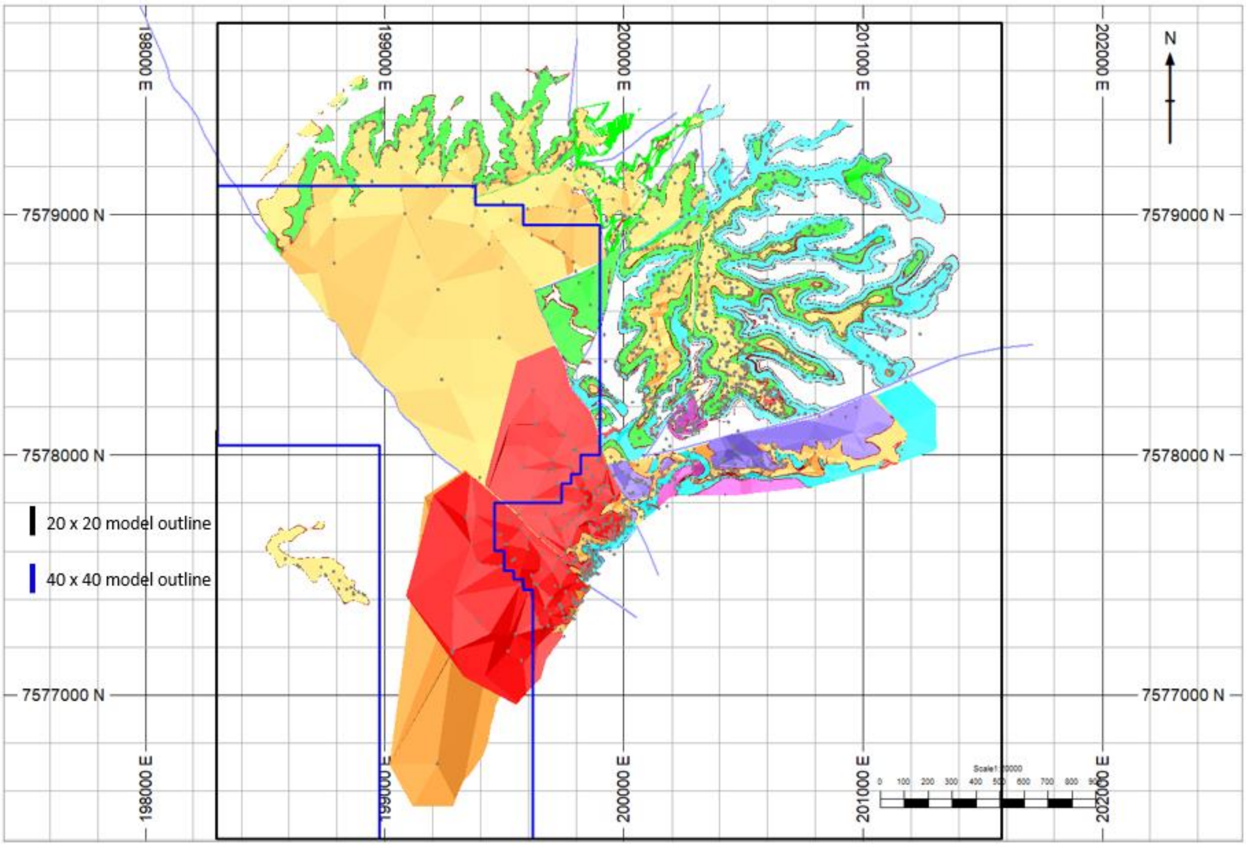


Figure 14-10. Extents of the 40 m by 40 m and 20 m by 20 m estimation block sizes used in the resource estimate.

All sub-cells have been estimated at the scale of the parent block and therefore have the same estimated grade. The block model extents are summarized in **Table 14-8**.

Table 14-8. Block model extents.

	Block Model Origin			Block Model Maximum			Parent Block Size			Sub-Cell Block Size		
Parent	**X**	**Y**	**Z**	**X**	**Y**	**Z**	**X**	**Y**	**Z**	**X**	**Y**	**Z**
20x20	198,300	7,576,400	- 100	201,580	7,579,800	510	20	20	1	2.50	2.50	0.25
40x40	198,300	7,576,400	- 100	201,580	7,579,800	510	40	40	1	2.50	2.50	0.25

The 40 m by 40 m model has been estimated using all the data within the relevant domains, the 20 m by 20 m model has been estimated using all the data within the relevant domains. The estimated 40 m by 40 m model was then selected within the model area wireframe and sliced onto the 20 m by 20 m model prototype. The estimated 20 m by 20 m model has been selected outside of the model area wireframe. The resulting 40 m by 40 m and 20 m by 20 m models were combined to form the final model. The block model fields have been summarized in **Table 14-9**.

Table 14-9. Summary of block model fields.

Variable	Description
DOMAIN	Individual wireframed mineralisation domains
OX	0 = air, 1000 = oxidised material, 2000 = fresh material
FBLOCK	Fault block - 100 = Grants Hill South, 200 = Grants Hill, 300 = South Hill, 400 = Central, 500 = North West A, 600 = North West, 700 = North, 800 = Central North, 900 = Golden Crown
TOPO	0 = air, 1 = fresh rock below topography
ESTDOM	Estimation domain: 10 = M0, 11 = M1, 12 = M2, 13 = M3, 14 = M4, 15 = M5, 16 = M6, 149 = fw1, 341 = South Hill CH 1, 342 = South Hill CH 2, 343 = South Hill CH 3, 344 = South Hill CH 4, 345 = South Hill CH 5, 346 = South Hill CH 6, 921 = Golden Crown M1, 922 = Golden Crown M2, 923 = Golden Crown M3, 924 = Golden Crown M4, 930 = Golden Crown CH 1A, 931 = Golden Crown CH 1, 932 = Golden Crown CH 2,933 = Golden Crown CH 3, 934 = Golden Crown CH 4, 935 = Golden Crown CH 5, 936 = Golden Crown CH 6, 937 = Golden Crown CH 7, 938 = Golden Crown CH 8
LAGNO	Lag number (0, 1, 2, 3, 4, 5, 6, 7, 8)
LAGTYPE	Lag type, 10 = Marine Lag, 20 = Golden Crown Marine lag, 30 = Golden Crown Channels, 40 = South Hill Channels
TRDIPDIR	True dip direction used for dynamic anisotropy
TRDIP	True dip used for dynamic anisotropy
AU_PPM	Estimated gold grade using OK
AU_ID1	Check estimate - gold grade using Inverse distance power 1
AU_ID0	Check estimate - gold grade using Inverse distance power 0
NUMSAMAU	Number of samples used to estimate each block
SVOLAU	Estimation pass
DISTAU	Transformed distance to nearest sample
VARAU	Variance
AU_NOH	Number of drillholes used for each block estimate
KE_AU	Kriging efficiency
SLOPE_AU	Slope of regression
DENSITY	Bulk density assigned - 2.4 mineralized oxide, 2.4 unmineralized oxide, 2.85 mineralized fresh, 2.75 unmineralized fresh material
RESCAT	1 = Measured, 2 = Indicated, 3 = Inferred, 4 = Unclassified
MINED	1 = Mined, 0 = In-situ

14.13 Grade Interpolation Parameters

Ordinary Kriging (OK) was used as the interpolation method at Beatons Creek. The interpolations have been constrained within the estimation domains and undertaken in four passes. All estimation domains have been estimated using hard boundaries. Dynamic anisotropy has been used for each domain. Two check estimations using Inverse distance to the power of one (ID^1) and Inverse distance to the power of zero (ID^0) have been completed.

Dynamic anisotropy involves the estimation of the dip and dip direction of the mineralization wireframes into the block model allowing both the search and variogram to be oriented locally according to the dip and dip direction of the mineralization.

The estimation domains have been coded based on the mineralization wireframe domains. For the more extensive marine lags (M0, M1, M2, M3, M4, M5 and M6) that exist across fault block boundaries, the estimation domain has been created to allow data coded for the same marine lags to be used across the faults. Between the fault blocks 200, 400, 500, 600, 700, 800, the offset is minimal and the search ellipse allows data to be used across the boundaries.

The main mineralization estimation domains are M1 and M2 (ESTDOM 11 and 12, respectively).

In general, the first search pass is half the variogram range, the second search pass is at the variogram range and the third pass up to three times the range. A fourth pass has been included to fill un-estimated blocks at pass three, however, these blocks have not been reported. A minimum of five samples and maximum of 22 samples have been used for passes one and two, a minimum of two samples and maximum of 22 has been used for the third pass and for the fourth pass, a minimum of one sample and maximum of 22 samples used. For all searches, a maximum of two samples per drillhole has been applied.

The search parameters for each estimation domain have been summarized in **Table 14-10**.

Table 14-10. Search parameters for each estimation domain.

Domain	ESTDOM	Search			# Samples		Second Pass			# Samples		Third Pass			# Samples		Fourth Pass			# Samples		
		Major	Semi-Major	Minor	Min	Max	Major	Semi-Major	Minor	Min	Max	Major	Semi-Major	Minor	Min	Max	Major	Semi-Major	Minor	Min	Max	No per hole
M0	**10**	35	17.5	5	5	22	70	35	10	5	22	210	105	30	2	22	700	350	100	1	22	2
M1	**11**	35	17.5	5	5	22	70	35	10	5	22	210	105	30	2	22	700	350	100	1	22	2
M2	**12**	50	20	5	5	22	100	40	10	5	22	300	120	30	2	22	800	320	80	1	22	2
M3	**13**	50	20	5	5	22	100	40	10	5	22	300	120	30	2	22	800	320	80	1	22	2
M4	**14**	50	20	5	5	22	100	40	10	5	22	300	120	30	2	22	800	320	80	1	22	2
M5	**15**	50	20	5	5	22	100	40	10	5	22	300	120	30	2	22	800	320	80	1	22	2
M6	**16**	50	20	5	5	22	100	40	10	5	22	300	120	30	2	22	800	320	80	1	22	2
FW_1	**149**	35	17.5	5	5	22	70	35	10	5	22	210	105	30	2	22	700	350	100	1	22	2
SH_CH1	**341**	100	17.5	7	5	22	200	35	14	5	22	400	70	28	2	22	600	105	42	1	22	2
SH_CH2	**342**	100	17.5	7	5	22	200	35	14	5	22	400	70	28	2	22	600	105	42	1	22	2
SH_CH3	**343**	100	17.5	7	5	22	200	35	14	5	22	400	70	28	2	22	600	105	42	1	22	2
SH_CH4	**344**	100	17.5	7	5	22	200	35	14	5	22	400	70	28	2	22	600	105	42	1	22	2
SH_CH5	**345**	100	17.5	7	5	22	200	35	14	5	22	400	70	28	2	22	600	105	42	1	22	2
SH_CH6	**346**	100	17.5	7	5	22	200	35	14	5	22	400	70	28	2	22	600	105	42	1	22	2
GC_01	**921**	100	45	5	5	22	200	90	10	5	22	300	135	15	2	22	300	135	15	1	22	2
GC_02	**922**	100	45	5	5	22	200	90	10	5	22	300	135	15	2	22	300	135	15	1	22	2
GC_03	**923**	100	45	5	5	22	200	90	10	5	22	300	135	15	2	22	300	135	15	1	22	2
GC_04	**924**	100	45	5	5	22	200	90	10	5	22	300	135	15	2	22	300	135	15	1	22	2
GC_CH1A	**930**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH1	**931**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH2	**932**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH3	**933**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH4	**934**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH5	**935**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH6	**936**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH7	**937**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2
GC_CH8	**938**	50	100	5	5	22	100	200	10	5	22	200	400	20	2	22	200	400	20	1	22	2

Blocks that did not estimate in the fourth pass have been assigned a gold grade of zero. All unmineralized material has been assigned a grade of zero.

14.14 Density Analysis and Assignment

Specific gravity has been measured using standard wax coated water immersion technique. Specific gravity has been assigned based on analysis of 676 measurements; 178 measurements from oxide material and 498 measurements from fresh material. Novo undertook additional specific gravity determination in March 2019.

Specific gravity for mineralized oxide material has been assigned based on 29 samples sourced from drill core within the mineralized domains (**Table 14-11**). Specific gravity for fresh mineralized material has been assigned based on 55 samples sourced from drill core within the mineralized domains (**Table 14-11**).

Table 14-11. Summary of SG data.

Material type	Oxide code	All data		Density assigned
		Number of measurements	Avg. Density (t/m^3)	t/m^3
Mineralized oxide	1000	29	2.37	2.40
Unmineralized oxide	1000	149	2.43	2.40
Mineralized fresh	2000	55	2.85	2.85
Unmineralized fresh	2000	443	2.76	2.75

It is recommended that additional samples be collected in an oxide material throughout the resource area to enable spatial modeling of specific gravity.

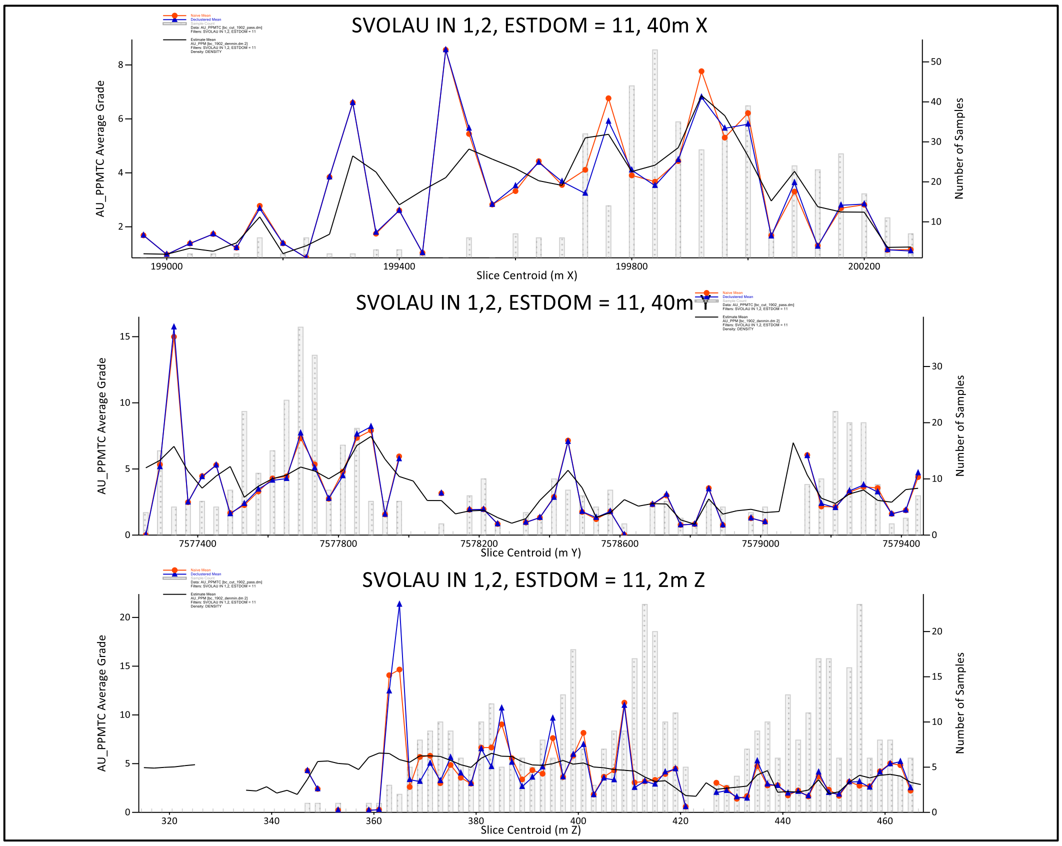
14.15 Model Validation

In addition to conducting validation checks on all stages of the modelling and estimation process, final grade estimates and models have been validated by: undertaking global grade comparisons with the input drillhole composites; visual validation of block model plan sections and by grade trend plots. In general the model validated well. A domain by domain comparison between the declustered composites and the output block model grades for the 27 domains shows block grades generally within error (±10%) in the areas estimated in the first or second pass (**Table 14-12**).

Table 14-12. Domain by domain comparison between the declustered composites and the output block model grades for the 27 domains.

Estimation domain	No. composites	Composite grade (cut) (g/t Au)	Declustered composite grade (cut) (g/t Au)	Estimated grade (model) (g/t Au)	% Diff est vs comp	% Diff est vs declustered comp
M0 / 10	118	1.12	0.96	0.98	-12.28	2.36
M1 / 11	457	4.01	3.71	4.28	6.58	15.45
M2 / 12	360	2.63	2.33	2.4	-8.77	2.65
M3 / 13	171	1.33	1.28	1.4	5.48	9.5
M4 / 14	90	0.81	0.63	0.63	-22.38	0.45
M5 / 15	43	0.68	0.64	0.72	5.99	11.81
M6 / 16	7	2.04	1.9	1.66	-18.55	-12.45
341	47	1.03	0.93	0.99	-4.05	6.27
342	86	0.92	0.85	0.81	-11.88	-3.88
343	70	1.96	1.51	1.41	-28.1	-6.71
344	21	0.74	0.7	0.86	15.85	22.14
345	11	1.3	1.38	1.36	4.98	-1.62
921	163	1.53	1.43	1.37	-10.44	-4.42
922	275	2.16	1.86	1.75	-19.09	-5.94
923	209	1.47	1.36	1.27	-13.13	-6.03
924	159	1.14	1.14	1.1	-3.84	-3.95
930	62	1.28	1.11	1.02	-20.27	-8.12
931	95	1.13	0.96	0.8	-28.95	-16.26
932	96	1.43	1.42	1.4	-1.84	-1.5
933	50	1.46	1.42	1.62	10.46	13.81
934	40	1.95	1.85	1.63	-16.3	-11.83
935	20	4.01	3.83	3.12	-22.26	-18.61
936	23	1.82	1.6	1.72	-5.55	7.53
937	15	1.41	1.15	1.05	-25.33	-8.32
938	11	1.02	1.06	1.15	13.48	8.94

Moving window plots have been generated and reviewed for each of the estimation domains. In general, the trend of the model follows the trend of the composites well. In areas of high drillhole data density, the block model grade is seen to closely mimic the declustered composite grade, however in areas of low drillhole data density, the block model grade deviates from the declustered composite grade. Some domains have very few samples which can impact the estimate. Scenario testing has been undertaken to optimize the estimation. In domains where there is overestimation, it is generally towards the extents of the mineralization, in areas with less sample support and this has been managed in the classification. **Figure 14-11** shows the trend plot for M1 (ESTDOM 11).



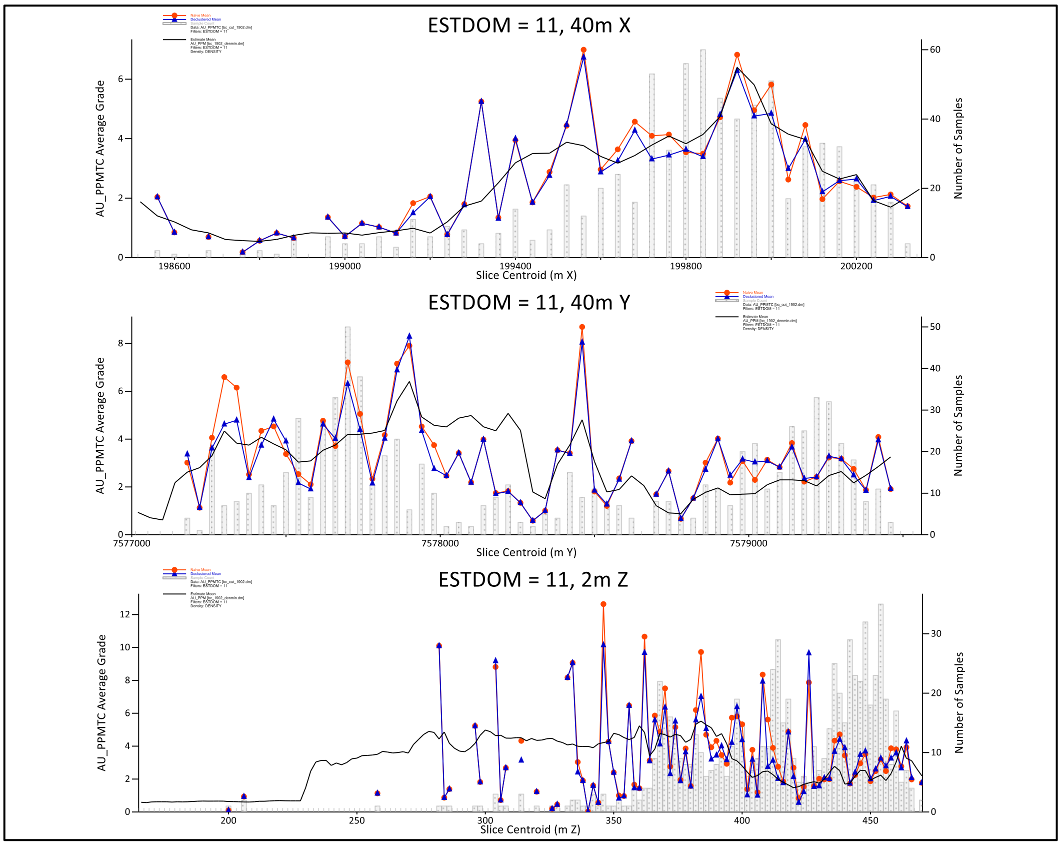


Figure 14-11. Validation trend plot for M1 (ESTDOM 11).

Visual validation for each estimation domain was completed validating the model grade against the composite grade. The gold estimates show a good visual correspondence with the input composite grades. **Figures 14-12** and **14-13** show the grade comparison for M1 (ESTDOM 11) and Golden Crown M2 (ESTDOM 922).

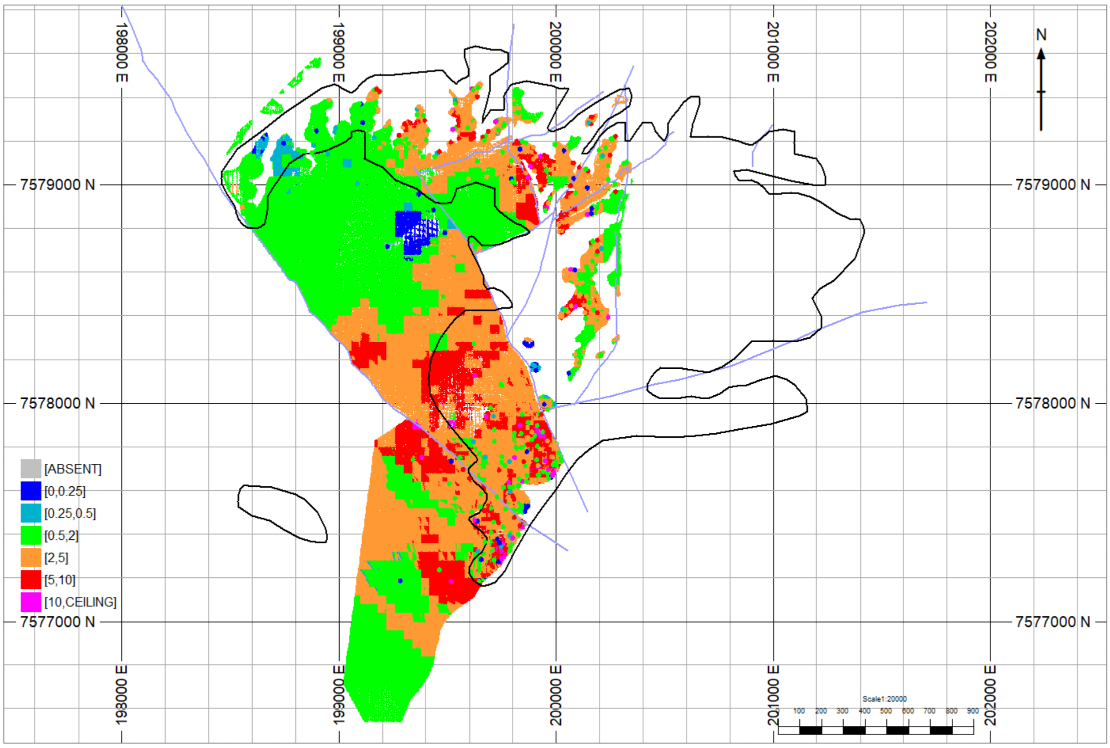


Figure 14-12. Grade comparison for M1 (ESTDOM 11). Black outline is optimized pit shell.

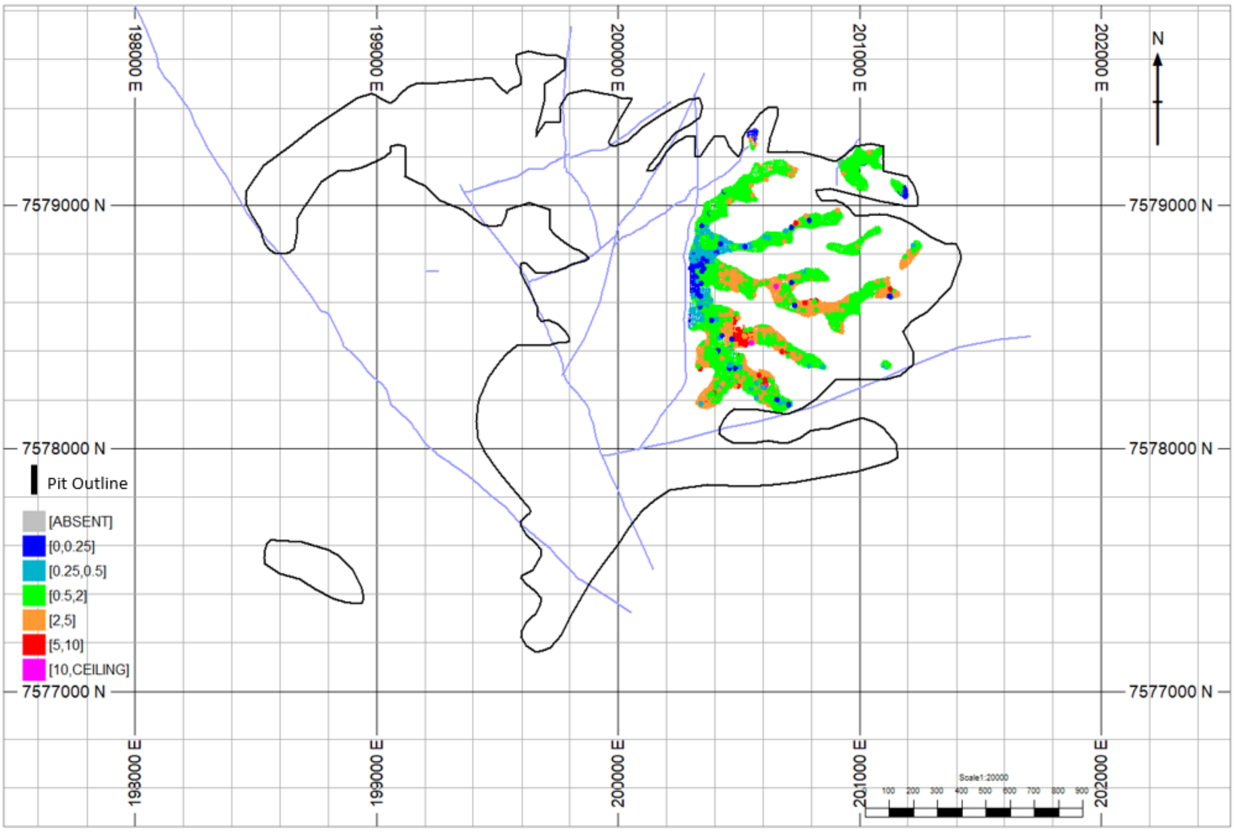


Figure 14-13. Grade comparison Golden Crown M2 (ESTDOM 922). Black outline is optimized pit shell.

14.16 Resource Classification

Mineral Resources have been classified according to the classification definitions published by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM, 2014).

The model has been classified on a domain by domain basis, a string for each domain and for each classification category was created to delineate and code the model. Indicated and Inferred Mineral Resources have been defined at Beatons Creek.

The definition of Measured resources at Beatons Creek cannot be justified based on the following:

- Low quality "QC" over a number of historical programmes where CRMs were not submitted. For some programmes where CRMs are present, their performance whilst not poor, is below expectation.
- The resource input data is very noisy – as reflected by a measured nugget effect of 60%. This reflects multiple data types (e.g., DD vs. RC vs trench channel) and sample/assay approaches (e.g., different submission weights, preparation routes and assays via FA, SFA and LW).
- Duplicate sample pair analysis of duplicates gives precisions of 55-77% for RC rig splits and trench channel field duplicates. Whilst not excessively high, this is indicative of high variability. Duplicate pulp splits from the trench channel programme yield precisions of 23%. Again not excessively high, but indicating variability at the pulp scale.

- SG data for oxide zone is acceptable, but shows variability which is represented by too few data points in the current Indicated Mineral Resource area.
- The block model has been based on 20 m by 20 m by 1 m, and 40 m by 40 m by 1 m estimation blocks kriged using a 60% nugget effect. Such an estimate is highly smoothed, effectively removing any selectivity from the estimate.

Areas classified as Indicated Mineral Resources are informed by relatively close-spaced drilling (ranging from less than 10 m by 10 m up to 40 m by 40 m spacing) and estimated within the first or second pass. Individual domains have been reviewed and classified accordingly. Areas classified as Inferred Mineral Resources are informed by drilling spaced from 40 m up to 100 m, and have been estimated within the first or second, generally the third estimation pass. Individual domains have been reviewed and classified accordingly. Areas that have estimated in the fourth pass have been categorized as “unclassified” and have not been reported or used for the optimized pit shell.

Figure 14-14 shows the model coloured on resource classification. The approximate pit outline is shown in black, with collar locations shown as grey dots.

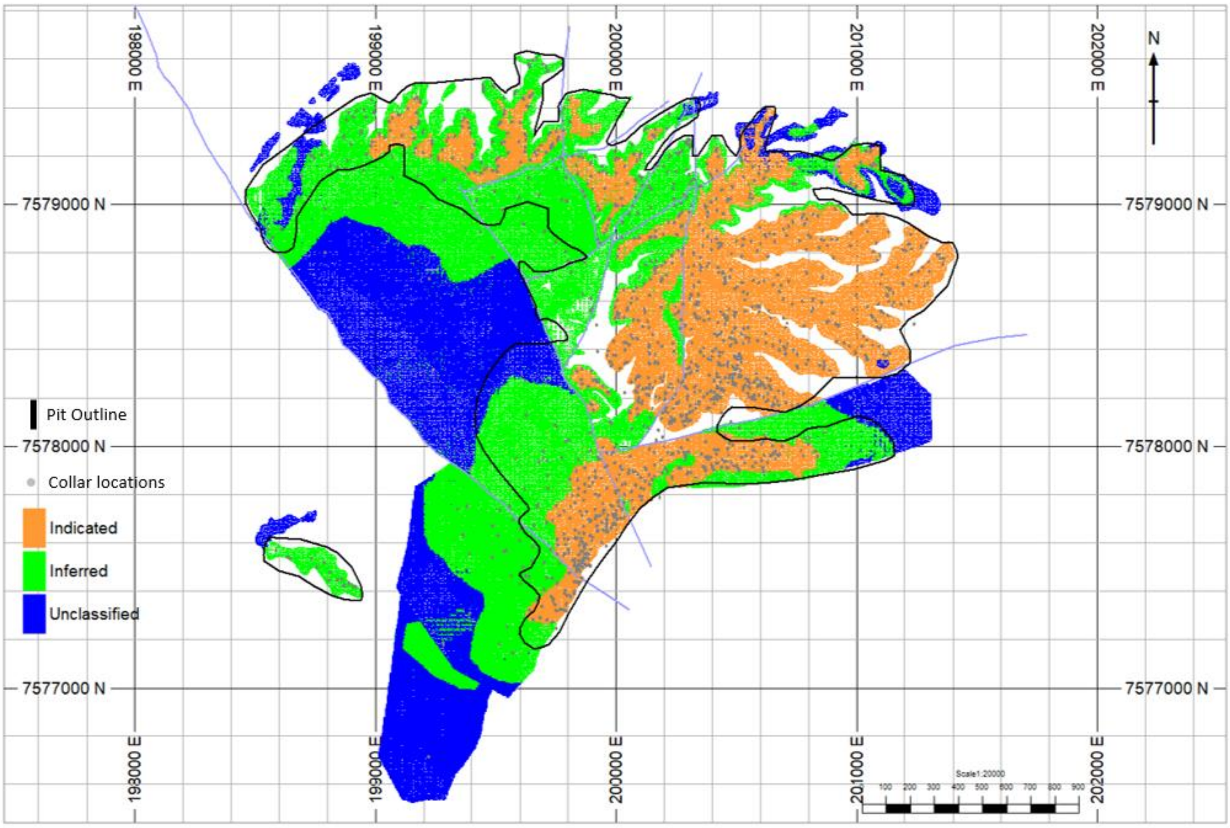


Figure 14-14. Model coloured on resource classification.

14.17 Resource Pit Shell Optimization and Underground Resources

A Whittle optimization has been undertaken in order to generate a pit shell to report the Mineral Resource within. The Whittle pit shell was estimated with the following indicative parameters:

(a) Gold price: USD $1,311 (AUD $1,850) / troy ounce (actual gold price as of 29th March 2019);
(b) Nominal metallurgical recoveries of 95% oxide and 90% fresh (see Section 13);

(c) Measured SGs: Oxide 2.40 t/m^3 and fresh 2.85 t/m^3 (see **Table 14-11**);
(d) USD $2.40/t mining cost for oxide and USD $3.68/t for fresh;
(e) USD $17/t oxide and USD $19/t fresh processing cost; and
(f) USD $3/t general and administrative costs.

Mineral Resources are reported above a cut-off grade of 0.5 g/t Au within the optimized pit. Reasonable prospects for eventual economic extraction have been evaluated within a potentially exploitable pit shape.

Mineral Resources outside of the pit (e.g., underground) are reported above a cut-off grade of 3.5 g/t Au. These Mineral Resources are constrained to modelled contiguous discrete reefs within what Novo determines to have a reasonable prospect to be mined by underground methods.

14.18 Resource Reporting

The Mineral Resources are reported above a cut-off grade of 0.5 g/t Au within the optimized pit, and at a cut-off grade off 3.5 g/t Au for underground resources (**Table 14-13**).

Table 14-13. Tabulation of Beatons Creek Mineral Resources by open pit vs. underground, resource classification, and fresh vs. oxide.

Open Pit Mineral Resources (oxide and fresh mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	6,645,000	2.1	457,000
Inferred	0.5	3,410,000	2.7	294,000

Open Pit Mineral Resources (oxide mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	4,500,000	1.9	272,000
Inferred	0.5	765,000	1.8	44,000

Open Pit Mineral Resources (fresh mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	2,145,000	2.7	185,000
Inferred	0.5	2,645,000	2.9	250,000

Underground Mineral Resources (fresh mineralization)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Inferred	3.5	885,000	5.3	152,000

Total Mineral Resources (oxide and fresh mineralization; open pit and underground)

Classification	Cut-off Grade (g/t Au)	Tonnes	Grade (g/t Au)	Ounces Troy Au
Indicated	0.5	6,645,000	2.1	457,000
Inferred	0.5, 3.5	4,295,000	3.2	446,000

Notes:
1. Open pit Mineral Resources contain oxide and fresh mineralization within a Whittle optimized shell.
2. Underground Mineral Resources contain fresh mineralization outside the optimized shell. Underground resources are constrained to discrete areas of contiguous mineralization.
3. Columns may not total due to rounding.

The terms “Mineral Resource”, “Inferred Mineral Resource” and “Indicated Mineral Resource” have the meanings given in the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by the Canadian Institute of Mining, Metallurgy and Petroleum Council (CIM, 2014). Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability; it is uncertain if applying economic modifying factors will convert Measured and Indicated Mineral Resources to Mineral Reserves. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues, however, no issues are known at this time. The quantity and grade of reported Inferred Mineral Resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as an Indicated or Measured Mineral Resource. It is reasonably expected that the majority of Inferred Mineral Resource could be upgraded to Indicated Mineral Resources with continued exploration.

Grade-tonnage curves are not presented for this resource update. Given the large estimation block sizes applied (e.g., 20 m by 20 m and 40 m by 40 m; see Sections 14.11 and 14.12), such curves are misleading as no selectivity is implied by the model (e.g., 60-65% nugget effect; see Section 14.10) and the blocks are a much greater in size than any likely selective mining unit.

14.19 Bulk Sample Program and Reconciliation with Estimate

The 2018 bulk sampling programme was presented in Section 13.5. Its purpose was to investigate: (a) local grade at a large (c. 2 t) sample support; and (b) metallurgical recovery within the oxide mineralization.

The global weighted bulk sample grade is 2.16 g/t Au (for 136 t) and 2.42 g/t Au (for 119 t) if only samples above the resource cut-off grade of 0.5 g/t Au are considered.

Table 14-14 shows a resource area reconciliation of samples with the 2018 trench channel samples (used in the resource estimate) and the local estimation block grade closest to each bulk sample.

Table 14-14. Bulk sample results by oxide resource area.

Area	Reefs	No. BS [1]	Weighted BS grade (g/t Au)	2018 trench channel sample grade at BS sites (g/t Au)	Local block model grade at BS site (g/t Au)
Central	M1; M2	8	2.02	4.34	3.27
Golden Crown channels	930; 931; 934	3	2.21	1.21	2.93
Golden Crown marine	921; 922; 923	16	2.39	4.32	2.93
Grants Hill	M0; M1	9	2.58	4.99	2.90
North	M1	2	0.79	3.22	2.33
South Hill channels	341; 342; 343	7	1.84	3.94	2.23
Total		45	2.23	3.97	3.16

[1] Note Table uses the single non-duplicated values, refer Table 13-7 "BS+Dup_1".

The local block model (i.e. the resource block that a bulk sample sits in) grades are generally higher than the bulk samples grades; globally 3.16 g/t Au versus 2.23 g/t Au. The trench channel grades are higher than the bulk sample grades; globally 3.97 g/t Au versus 2.23 g/t Au (**Table 14-15**).

Table 14-15. Comparison of mean grades across different sample supports in the oxide mineralization Indicated Mineral Resource.

Support type	Trench channel sample mean grade at bulk sample sites (uncut grades)	Block model local (bulk sample sites) grades (cut grades in estimate)	Weighted bulk sample grades (uncut grades)	Block model global grade (cut grades in estimate)
Grade	3.97 g/t Au	3.16 g/t Au	2.23 g/t Au	1.88 g/t Au
Support mass	Multiple of c. 50 kg	960 t	2.3 t	960 t

A number of issues are key:

- The comparison between a bulk sample (nominally 1 m by 1 m by 1 m; 2.3 t average mass) and an estimation block (nominally 20 m by 20 m by 1 m; 960 t) is not exact given the orders of magnitude difference in support.
- The trench channel samples were taken across the back of the extracted bulk sample void for comparison. It is known that the channel samples are generally biased high, due to the non-intentional selective sampling (extraction error) of the softer gold-bearing conglomerate matrix.
- In the block model-bulk sample comparison areas, trench channel samples dominate the input data and thus the block estimates are locally high.

The bulk sampling program indicates that oxide mineralization could locally yield grades of between 0.2 g/t Au and 6.2 g/t Au at a mean of around 2.23 g/t Au (**Table 14-15**). Individual or groups of bulk samples cannot be directly compared with co-located resource blocks due to the two orders of magnitude difference in sample support, e.g. 2.3 t versus 960 t. A 960 t resource block could contain 417 bulk samples, which will show a range of grades, some of which will be below the cut-off grade (Clark and Dominy, 2017). Any mining operation will extract on a selective mining unit volume, which will be less than the resource block and greater than the bulk sample volumes.

The bulk sample results indicate that the resource grades are reasonable, given the high nugget nature of the mineralization and sample support issues noted previously. The large estimation block size was applied to reduce conditional bias. There is no selectivity in the estimation blocks due to the smoothing nature of kriging with a high nugget effect.

14.20 Comparison with Previous Mineral Resource Estimate

There are a number of differences between the 2019 Mineral Resource estimate and the previous, with the greatest difference being a change of geological interpretation and the addition of 2018 diamond drill holes and trench samples.

Key differences relate to:

- Addition of 2018 diamond and trench data;
- Different geological interpretation, more constrained wireframes;
- Different block model size, larger estimation blocks;
- Different variography based on the data set applied within new wireframes;
- Different SGs based on new data;
- New oxide-fresh surface;
- Coherent resource classification – no spotted dog effect;
- Higher underground cut-off based on potential mining scenario; and
- Different pit shell based on new optimization at the current gold price.

14.21 Mineral Resource Risk Factors

Mineral resources out of the proximity of trench surface samples have been primarily estimated using RC sampling. Sample collection by RC is not the ideal method for reef sampling because RC sampling cannot define the reef hanging- and foot-walls as diamond core drilling or trench sampling have indicated. As a result, reefs thicknesses defined by RC grade intervals have most likely predicted thicker reefs with possibly lower grades than true widths.

An additional factor that could materially affect the Mineral Resources is cut-off grade parameters that have not been developed in detail with a mining study. Subsequent mining studies could materially alter any or all the parameters used to estimate a reasonably informed cut-off grade.

There are no additional environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or any other relevant factors that the authors of this Technical Report is aware of that could materially affect the Mineral Resource estimate.

A summary of key risk factors is given in **Table 14-16**.

Table 14-16. Risk matrix for the Beatons Creek Mineral Resource estimate.

Factor	Risk	Comment
Sample collection, preparation and assaying	Moderate-high	The resource input data is noisy – as reflected by a measured nugget effect of 60-65%. This reflects multiple data types (e.g., DD vs. RC vs trench channel) and sample/assay approaches (e.g., different submission weights, preparation routes and assays via FA, SFA and LW). Duplicate sample pair analysis of duplicates gives precisions of 50-60% for RC rig splits and trench channel field duplicates. Whilst not excessive, this is indicative of high variability. Duplicate pulp splits from the trench channel programme yield precisions of 23%; indicating variability at the pulp scale.
QAQC	Low-moderate	Low quality “QC” over a number of historical programs where CRMs were not submitted. For some programs where CRMs are present, their performance is below average.
Geological data and model	Low	Strong geological control based on revised model. Conglomerate bodies have good global continuity .
Grade estimate	Moderate	Smoothed estimate based on high nugget effect, no selectivity in the model. Large estimation block applied to reduce conditional bias. Estimate reflects the input data, particularly where some blocks are high due to the dominance of channel samples .
Tonnage estimate	Low-moderate	Some risk due to relative lack of spatially distributed SG data. Some dilution of reef width due to RC composites, which may locally increase tonnage.
Resource up-rating and extension	Low	With appropriate diamond core drilling, uprating of resources; Inferred to Indicated and unclassified to Inferred possible. Potential to add new resources from extensional drilling.
Economic factors including mineral processing	Moderate	Based on the current resource, Beatons Creek has reasonable prospects for eventual economic extraction. Preliminary metallurgical test-work in the Fresh mineralization and test-milling indicated gold recovery is achievable using gravity or leaching methods. Further metallurgy work required to optimize gold recovery. Characterization work is required on the fresh mineralization reef interburden zone to investigate PAF potential. Minimal geotechnical assessment has been undertaken. No preliminary economic assessment has been undertaken. No Mineral Reserves have been defined.
Accuracy of the estimate	Moderate	No simulation studies have been undertaken to quantitatively evaluate accuracy at Beatons Creek. However, the QP expects the following based on resource category: Indicated: ±15-25% at the 90% confidence level over a half year period Inferred: ±25-50% at the 90% confidence level over an annual period
Overall rating	**Moderate**	**The current resource estimate carries moderate uncertainty and risk. This risk is principally relates to the high nugget effect displayed by the input data.** **This rating is reflected by the use of the “Inferred Mineral Resource” and “Indicated Mineral Resource” categories.**

The overall resource risk is given as moderate, principally driven by the nature of the mineralization and input data (e.g., high nugget effect). Risk can be reduced by undertaking:

- Diamond core drilling to uprate Inferred to Indicated resources supported by appropriate sampling-assay protocols and a QAQC programme;
- Additional SG determinations across both fresh and oxide mineralization;
- Additional metallurgical testwork in the fresh mineralization; and
- Additional waste characterization, particularly in the fresh zone inter-burden that may have a PAF nature.

Section 26 of this Technical Report presents recommendations for further work to advance the Beatons Creek project.

14.22 Peer Review of the Mineral Resource Estimate

The Mineral Resource estimation process was peer reviewed by Mr. Ian Glacken FAusIMM(CP), a Director and Principal of Optiro Pty Ltd.

Mr. Glacken met with Dr. Dominy (QP) and Ms. Graham on a regular basis to review all aspects of the estimation process.

Optiro have endorsed the estimation approach and classification.

15. MINERAL RESERVE ESTIMATES

Applies to advanced properties only, and has not been addressed in this Technical Report.

16. MINING METHODS

Applies to advanced properties only, and has not been addressed in this Technical Report.

17. RECOVERY METHODS

Applies to advanced properties only, and has not been addressed in this Technical Report.

18. PROJECT INFRASTRUCTURE

Applies to advanced properties only, and has not been addressed in this Technical Report.

19. MARKET STUDIES AND CONTRACTS

Applies to advanced properties only, and has not been addressed in this Technical Report.

20. ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Applies to advanced properties only, and has not been addressed in this Technical Report.

21. CAPITAL AND OPERATING COSTS

Applies to advanced properties only, and has not been addressed in this Technical Report.

22. ECONOMIC ANALYSIS

Applies to advanced properties only, and has not been addressed in this Technical Report.

23. ADJACENT PROPERTIES

The Beatons Creek project area is situated immediately to the west of Millennium Minerals Ltd Nullagine gold project, which covers a large area in the central part of the Mosquito Creek Belt.

None of the Millennium operating mines or projects are in conglomerate mineralization.

Tenements (both live and pending) covering the intervening area between the two separate parts of the Beatons Creek project and Millennium project area are predominantly Joint Ventures in which the Creasy Group holds a 30% stake.

24. OTHER RELEVANT DATA AND INFORMATION

Relevant data and information at this stage of project development has been included within the respective sections in this Technical Report.

25. INTERPRETATION AND CONCLUSIONS

Novo has undertaken detailed mapping and geological interpretation, including surface trench and bulk sampling, diamond core drilling, reverse circulation drilling, and trench channel sampling. All activities have been undertaken by applying industry standard methods and practices.

Sample preparation and analysis has been undertaken by certified laboratories resulting in results that support the estimation of Mineral Resources in accordance to acceptable practice.

As a result of this resource update, it may be appropriate to advance the project to a preliminary economic assessment (PEA).

The project has positive attributes that justify advancement, including:

- Project location in a local jurisdiction familiar with historical mining activities;
- Local permitting authorities and the community are accustomed to mine development and the potential economic benefits;
- The nature of oxide mineralization will potentially support free-dig mining methods;
- Metallurgical testwork provides favorable indications that optimal gold recoveries (90-95%) can be achieved by means of gravity and cyanide leaching for both the oxide and fresh mineralization;
- The 2018 oxide bulk sampling program indicates that at a coarse grind size of 0.75 mm, good recoveries are possible via gravity and leaching. Globally the bulk sample lot (135 t) yielded a grade of 2.2 g/t Au, with 62% gravity recovery. The recovery for the >0.5 g/t Au bulk samples (119 t) was 2.4 g/t Au also with 62% recovery. The bulk sampling programme indicates that oxide mineralization may globally yield grades of around 2.4 g/t Au, though this may vary locally across individual reefs ranging from 1.9 g/t Au to 3.6 g/t Au. These figures are not guaranteed to be achieved during mining, but indicate a potential upside above the global oxide block model grade of 1.9 g/t Au (Indicated resources).
- Potential for staged development utilizing possible cash-flow from initial oxide production to capitalize future fresh mining and processing; and
- Potential processing of the Novo resources by custom milling or any other possible negotiation with nearby operators may allow for lower CAPEX development of the Beatons Creek conglomerates.

26. RECOMMENDATIONS

The resource update at Beatons Creek indicates that the project warrants further work to support a PEA and ultimately PFS.

The following recommendations are made for further work:

1. Diamond core drilling to add to the Mineral Resource base;
2. Diamond core drilling to reclassify current Inferred resources to Indicated resources;
3. Undertake further SG determinations across both fresh and oxide mineralization;
4. Undertake further metallurgical testwork on fresh mineralization;
5. Undertake waste characterization, particularly for AMD potential, on fresh mineralization inter-reef material;
6. Continue environmental and permitting activities; and
7. Undertake a PEA.

The potential cost for further work is given in **Table 26-1**.

Table 26-1. Approximate costs of recommended work programs.

Work programme	Quantity	Unit cost	Cost
Preliminary economic study (PEA)	-	-	A$250,000
Core drilling to uprate Inferred to Indicated resources; incl. assaying and SG determination	5,000 m	A$350/m	A$1,750,000
Core drilling to increase the Inferred resources	2,500 m	A$350/m	A$875,000
Fresh mineralization metallurgical testwork: 6x approx. 90 m diamond core holes into four reefs	550 m	A$350/m	A$200,000
Fresh mineralization additional testwork: 4x sets of testwork on four reefs	4	A$75,000	A$300,000
Waste characterization	-	-	A$200,000
Permitting and environmental activities	-	-	A$500,000
Total estimated expenditure			A$4,075,000

All additional drilling activities must be supported by a robust QAQC programme.

The accumulated additional information may be the basis to define Mineral Reserves to increase the project study level to that of a PFS.

27. REFERENCES

Arrowsmith, V., Parker, B. and Dominy, S.C. 2019. *Beatons Creek Conglomerate Gold Project, Pilbara, Western Australia: Metallurgical Testwork Report.* Unpublished report, Novo Resources Corporation, Draft dated 30th April 2019. pp. 69 plus Appendices.

Barnicoat, A.C., Henderson, J.H.C., Knipe, R.J., Yardley, B.W.D., Napier, R.W., Fox, N.P.C., Kenyon, A.K., Minting, D.J., Stardom, D., Winkler, K.S., Lawrence, S.R., Cornford, C., 1997, *Hydrothermal gold mineralization in the Witwatersrand basin*. Nature, v. 386, p. 820–824.

Blake, T.S., 1984a. *Evidence for stabilization of the Pilbara Block, Australia*: Nature, v. 307, p. 721–723.

Blake, T.S., 1984b. *The lower Fortescue Group of the northern Pilbara Craton: stratigraphy and paleogeography*, in Archaean and Proterozoic Basins of the Pilbara: Evolution and Mineralization Potential: Geological Department and University of Extension, University of Western Australia, Publication 9, p. 123–143.

Blake, T.S., 1993, *Late Archaean crustal extension, sedimentary basin formation, flood basalt volcanism and continental rifting: the Nullagine and Mount Jape Super sequences, Western Australia*, in Archaean and Early Proterozoic geology of the Pilbara region, Western Australia: Precambrian Research, v. 60 (Special issue), p. 185–241.

Blake, T.S., 2001, Cyclic continental mafic tuff and flood basalt volcanism in the Late Archaean Nullagine and Mount Jape Super sequences in the eastern Pilbara, Western Australia: Precambrian Research, v. 107, p. 139–177

Blake, T.S., Buick, R., Brown, S.J.A., and Barley, M.E., 2004, *Geochronology of a Late Archaean flood basalt province in the Pilbara Craton, Australia: constraints on basin evolution, volcanic and sedimentary accumulation, and continental drift rates*: Precambrian Research, v. 133, p.143–173

Carter, J.D., and Gee, R.D., 1988, *Geology and exploration history of uraniferous and auriferous pyritic conglomerates, Western Australia*: Western Australia Geological Survey, Report 23, Professional Papers, p. 17–36.

CIM, 2014 *Definition Standards for Mineral Resources and Mineral Reserves*; CIM: Montreal, QC, Canada, p. 9.

Clark, I and Dominy, S.C. 2017. Underground bulk sampling, uniform conditioning and conditional simulation - unrealistic expectations? In *Proceedings of the World Conference on Sampling and Blending*; Australasian Institute of Mining and Metallurgy: Melbourne, pp. 3-19.

Dominy, S.C. 2018. *Resource Development Programme – Beatons Creek Gold Project, Nullagine, WA*. Novo Resources Corporation: Perth, WA, Australia, April 2018. pp. 90.

Dominy, S.C., Platten, I.M. and Minnitt, R.C.A. 2010. Heterogeneity, sampling errors and the nugget effect – implications for evaluation, exploitation and extraction. In *Proceedings Gravity Gold Conference*; Australasian Institute of Mining and Metallurgy: Melbourne, pp. 3-17.

Dominy, S.C., Platten, I.M. and Xie, Y. 2010. Determining gold particle size in gravity ores for sampling and metallurgical characterisation – discussion and test protocol. In *Proceedings*

Gravity Gold Conference; Australasian Institute of Mining and Metallurgy: Melbourne, pp. 83-95.

Dominy, S.C., Glass, H.J., O'Connor, L., Lam, C.K., Purevgerel, S. and Minnitt, R.C.A. 2018. Integrating the Theory of Sampling into underground mine grade control strategies, *Minerals*, 8, 232, doi.org/10.3390/min8050232.

Farrell, B.L. and Blake, T.S., 1984, *A report on exploration activities on exploration Licence EL46/28 and EL46/30, Nullagine, Western Australia*; Australis Mining NL, Bass Strait Oil and Gas (Holdings) NL: Unpublished open-file report (Item A15572), 156 p.

Finucane, K.J., 1935, *The Nullagine conglomerates, Pilbara Goldfield:* Aerial Geological and Geophysical Survey of Northern Australia, Report Western Australia, 4, 6 p.

Gy, P.M. 1982. *Sampling of Particulate Materials: Theory and Practice*; Elsevier: Amsterdam, The Netherlands, p. 431.

Hallbauer, D.K., 1975a. *Geochemistry and morphology of mineral components from the fossil gold and uranium placers of the Witwatersrand*: U.S. Geological Survey Professional Paper 1161, p. M1–M18.

Hallbauer, D.K., 1975b. *Plant origin of the Witwatersrand carbon*. Miner. Sci. Eng. 7, p. 111–113.

Hickman, A.H., 1979. Nullagine, Western Australia: Geological Survey of Western Australia 1:250,000 *Geological Series Explanatory Notes*.

Hickman, A.H., 1983, *Geology of the Pilbara Block and its environs*: Western Australia Geological Survey, Bulletin 127, 268 p.

Huston, D., Blewett, R., Mernaugh, T., Sun, S-S. and Kamprad, J., 2001, *Gold Deposits of the Pilbara Craton*: Results of AGSO Research, 1998-2000: AGSO Record 2001/10, 74 p.

Huston, D.L., Sun, S.-S., Blewett, R.S., Hickman, A.H, Van Kranendonk, M., Phillips, D., Baker, D. and Brauhart, C.W, 2002a, *The timing of mineralization in the Archaean Pilbara terrain*, Western Australia: Economic Geology, v. 97, p. 733–755.

Maitland, A.G., 1905, *Further report on the geological features and mineral resources of the Pilbara goldfield*, Geological Survey of Western Australia Bulletin 20, 127 p.

Martin, D.McB, Clendenin, C.W., Krapež, B. and McNaughton, N.J., 1998. *Tectonic and geochronological constraints on late Archaean and Palaeoproterozoic stratigraphic correlation within and between the Kaapvaal and Pilbara Cratons*. Journal of the Geological Society, London, v. 155, p. 311–322.

Mossman, D.J., Minter, W.E.L., Dutkiewicz, A., Hallbauer, D.K., George, S.C., Hennigh, Q., Reimer, T.O. and Horscroft, F.D., 2008, *The indigenous origin of Witwatersrand "carbon"*: Precambrian Research, v. 164, p. 173–186.

Nelson, D.R., Trendall, A.F., de Laeter, J.R., Grobler, N.J., and Fletcher, I.R., 1992, *A comparative study of the geochemical and isotopic systematics of late Archaean flood basalts from the Pilbara and Kaapvaal Cratons*: Precambrian Research, v. 54, p. 231–256.

Nelson, D.R., Trendall, A.F. and Altermann, W., 1999, *Chronological correlations between the Pilbara and Kaapvaal Cratons*: Precambrian Research, v. 97, p. 165–189.

NI 43-101. 2011. *National Instrument 43-101, Standards of Disclosure for Mineral Projects*; Canadian Securities Administrators: Montreal, QC, Canada, p. 44.

Noldart, A.J., and Wyatt, J.D., 1962. *The geology of portion of the Pilbara Goldfield covering the Marble Bar and Nullagine 4-mile map sheets*: Western Australia Geological Survey, Bulletin, 115.

Phillips, G.N. and Law, J.D.M., 1994, *Hydrothermal replacement model for Witwatersrand gold*: Economic Geology 100th Anniversary Volume, p. 799–811.

Phillips, G.N. and Meyers, R.E., 1989, *Witwatersrand goldfields. Part II. An origin for Witwatersrand gold during metamorphism and associated alteration*: Economic geology Monograph 6, p. 598–608.

Scott, R.J., 2011, *Independent Technical Report on the Pilbara Palaeoplacer Project* (Nullagine & Marble Bar Project Areas, Pilbara Region, W.A., Australia), prepared for Galliard Resources Group, unpublished.

SGS, 2019. *Beatons Creek Bulk Sample Head Grade Calculation Programme.* Unpublished Report by SGS Australia Pty Ltd for Novo Resources Corporation, Draft dated 30th April 2019. pp. 15 plus Appendices.

Smith, R.E., Perdrix, J.L., and Parks, T.C., 1982, *Burial metamorphism in the Hamersley Basin, Western Australia*: Journal of Petrology, v. 23, p. 75–102.

SRK, 2019. *Beatons Creek Tailings Characterisation – Physical and Chemical Characterisation.* Unpublished Report by SRK Consulting for Novo Resource Corporation, Draft dated 1st March 2019. pp. 19 plus Appendices.

TetraTech, 2015. *NI 43-101 Technical Report Resource Update, Beatons Creek Gold Project, Pilbara Region, Australia.* Unpublished Report by TetraTech for Novo Resources Corporation, dated 1st October 2015. pp. 133.

TetraTech, 2018. *NI 43-101 Technical Report Resource Update, Beatons Creek Gold Project, Pilbara Region, Australia.* Unpublished Report by TetraTech for Novo Resources Corporation, dated 20th November 2018. pp. 111.

Thorne, A.M. and Trendall, A.F., 2001, *Geology of the Fortescue Group, Pilbara Craton, Western Australia*: Geological Survey of Western Australia Bulletin 144, 249 p., 3 plates.

Tickner, J., Ganly, B., Lovric, B. and O'Dwyer, J. 2017. Improving the sensitivity and accuracy of gamma activation analysis for the rapid determination of gold in mineral ores. *Appl. Radiat. Isot.*, 122, 28-36.

Williams, I.R., 1998. Geology of Muccan, 1:100,000 Sheet 2956: Geological Survey of Western Australia *Geological Series Explanatory Notes*.

28. DATE AND SIGNATURE PAGE

CERTIFICATE OF AUTHOR

Dr. Simon C. Dominy FAusIMM(CP) FAIG(RPGeo)
34 Wey House, 15 Church Street, Weybridge, Surrey KT13 8NA, United Kingdom.

I, Dr. Simon C. Dominy FAusIMM(CP) FAIG(RPGeo), do hereby certify the following:

- I am a co-author of this technical report titled "Amended and Restated *NI 43-101 Technical Report: Mineral Resource Update, Beatons Creek Conglomerate Gold Project, Pilbara Region, Western Australia*" (the "report"), with an effective date of 28th February 2019.
- I take responsibility for sections 1, 2, 3 and 10 to 26 of this report.
- 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 professional associations, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- I am a graduate of the University of London, England (1988), holding a BSc Honours degree in Applied Geology; and an MSc in Mining and Minerals Engineering from the Camborne School of Mines, England (1990). I obtained a Doctor of Philosophy (PhD) degree in Resource Geology from Kingston University London, England in 1993.
- I am a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM #205232) and Chartered Professional; and Fellow of the Australian Institute of Geoscientists (FAIG #1576) and Registered Professional Geoscientist (Mining).
- I have worked in my profession as a mining geologist-geometallurgist for over 25 years, both as an employee of mining/exploration companies, Universities, and as a consultant and contractor. I have worked on a variety of gold mining and resource development projects across Africa, Australia, Europe and, North and South America.
- I have read National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1; and the Technical Report has been prepared in compliance with that instrument and form.
- As of the effective date of the report, to the best of my knowledge, information and belief, the portions of the report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those portions of the report not misleading.
- I completed a site inspection of the subject property during 8-9th February 2018.
- I am independent of Novo Resources Corp. as defined by Section 1.5 of NI 43-101, and do not expect to become an insider, associate or employee of the issuer.
- For this project I have operated as a consultant.
- I have acted as a consultant to Novo Resources Corp. since February 2018, being involved in the design, planning and undertaking of the Beatons Creek project bulk sampling, diamond core drilling and metallurgical testwork programs.

Dated 22 October 2020.

"Simon C. Dominy" - Signed

Simon C. Dominy

Print name of Qualified Person

CERTIFICATE OF AUTHOR

Dr. Quinton T. Hennigh PGeo
500 Coffman Street, Suite 106, Longmont, CO, USA 80501.

I, Dr. Quinton T. Hennigh PGeo, do hereby certify the following:

- I am a co-author of this technical report titled "Amended and Restated *NI 43-101 Technical Report: Mineral Resource Update, Beatons Creek Conglomerate Gold Project, Pilbara Region, Western Australia*" (the "report"), with an effective date of 28th February 2019.
- I take responsibility for sections 4 to 9 of this report.
- 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 professional associations, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- I am a graduate of the University of Missouri and hold a BSc Hons. degree in geology. I obtained Master of Science (MSc) and Doctor of Philosophy (PhD) degrees in geology and geochemistry from the Colorado School of Mines.
- I am a Professional Geoscientist with the Mining and Metallurgical Society of America (MMSA 01340QP).
- I have worked in my profession as a geologist for 25 years, as an employee of mining/exploration companies and as a consultant and contractor. I have worked on a variety of gold mining and resource development projects across North and South America, Australia, Europe, and Asia.
- I have read National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1; and the Technical Report has been prepared in compliance with that instrument and form.
- As of the effective date of the report, to the best of my knowledge, information and belief, the portions of the report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those portions of the report not misleading.
- I completed a site inspection of the subject property during September 30 - October 5, 2018.
- I am not independent of Novo Resources Corp. as defined by Section 1.5 of NI 43-101.
- I am the chairman and president of Novo Resources Corp. and have had prior involvement with the subject property in such capacity.

Dated 22 October 2020.

"*Quinton T. Hennigh*" - Signed

Quinton T. Hennigh

Print name of Qualified Person