

# PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT

---

## JUNEAU DISTRICT, SOUTHEAST ALASKA

Prepared for:



**Grande Portage Resources Ltd.**  
Suite 1050 – 1090 West Georgia Street  
Vancouver, BC V6E 3V7

Prepared by:

**Jack DiMarchi, CPG, PG** – Core Geoscience LLC  
**Dan Mackie, P.Geol.** – SRK Consulting Canada Inc.  
**Kyle Mehalek, PE** – OreLogic LLC  
**Bruce Murphy, P.Eng.** – SRK Consulting Canada Inc.  
**Sterling Watson, P.Eng.** – RESPEC Inc.  
**Dave Webb, Ph.D., P. Geol., P.Eng.** – DRW Geological Consultants Ltd.

Effective Date of Report: February 11, 2026

Effective Date of Resource:  
July 17, 2024

## CONTENTS OF THE TECHNICAL REPORT

<b>1</b>	<b>SUMMARY (Item 1)</b> .....	<b>9</b>
1.1	Executive Overview .....	9
1.2	Summary - Property Description, History & Ownership .....	10
1.3	Summary - Geology, Mineralization, Exploration and Mineral Resource Estimate .....	11
1.4	Summary - Metallurgy, Recovery Methods, Market Studies .....	14
1.5	Summary - Mining Methods & Infrastructure .....	15
1.6	Summary - Environmental & Social Impact .....	18
1.7	Summary - Capital & Operating Costs .....	19
1.8	Summary - Economic Analysis .....	20
1.9	Summary - Conclusions & Recommendations .....	20
<b>2</b>	<b>INTRODUCTION (Item 2)</b> .....	<b>22</b>
2.1	Terms of Reference and Purpose of the Report .....	22
2.2	Effective Date .....	22
2.3	Sources of Information .....	23
2.4	Units of Measure .....	23
2.5	Summary of Qualified Persons .....	23
2.6	QP Site Inspection .....	24
<b>3</b>	<b>RELIANCE ON OTHER EXPERTS (Item 3)</b> .....	<b>26</b>
<b>4</b>	<b>PROPERTY LOCATION AND DESCRIPTION (Item 4)</b> .....	<b>27</b>
4.1	Area and Location .....	27
4.2	Claims and Ownership .....	28
4.3	Environmental Liabilities .....	32
4.4	Other Significant Risks and Factors .....	32
4.5	Exploration Permits .....	32
<b>5</b>	<b>ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPY (Item 5)</b> .....	<b>33</b>
<b>6</b>	<b>HISTORY (Item 6)</b> .....	<b>36</b>
<b>7</b>	<b>GEOLOGICAL SETTING AND MINERALIZATION (Item 7)</b> .....	<b>37</b>
7.1	Regional Geology .....	37
7.2	Property Geology .....	37
<b>8</b>	<b>DEPOSIT TYPES (Item 8)</b> .....	<b>41</b>
<b>9</b>	<b>EXPLORATION (Item 9)</b> .....	<b>42</b>
<b>10</b>	<b>DRILLING (Item 10)</b> .....	<b>43</b>
<b>11</b>	<b>SAMPLE PREPARATION, ANALYSIS AND SECURITY (Item 11)</b> .....	<b>50</b>
11.1	Sample Preparation .....	50
11.2	Security .....	51
11.3	Sample Analyses .....	51
<b>12</b>	<b>DATA VERIFICATION (Item 12)</b> .....	<b>53</b>
<b>13</b>	<b>MINERAL PROCESSING AND METALLURGICAL TESTING (Item 13)</b> .....	<b>58</b>
13.1	2010 Comminution and Cyanidation Testwork .....	58
13.2	2018 Comminution, Flotation, Gravity, and Cyanidation Testwork .....	58
13.3	2025 Sensor-Based Ore Sorting Testwork .....	61
<b>14</b>	<b>MINERAL RESOURCE ESTIMATES (Item 14)</b> .....	<b>64</b>
14.1	Resource Estimation Procedures .....	64
14.2	Resource Statement .....	80
<b>15</b>	<b>MINERAL RESERVE ESTIMATES (Item 15)</b> .....	<b>84</b>
<b>16</b>	<b>MINING METHODS (Item 16)</b> .....	<b>85</b>
16.1	Mine Configuration .....	85
16.2	Geotechnical Factors .....	85
16.3	Hydrogeological Factors .....	92

16.4	Orebody Access & Development Mining.....	94
16.5	Production Mining, Haulage and Backfill .....	96
16.6	Mine Ventilation and Air Heating.....	97
16.7	Water Handling, Electrical, and Compressed Air.....	98
16.8	Communication Systems & Emergency Infrastructure .....	99
16.9	Blasting & Explosives.....	99
16.10	Cutoff Grade .....	99
16.11	Mining Assumptions – Dimensions, Dilution Factors, Productivity Rates, Etc.....	100
16.12	Mining Schedule.....	102
16.13	Underground Mobile & Fixed Equipment .....	108
<b>17</b>	<b>RECOVERY METHODS (Item 17) .....</b>	<b>110</b>
<b>18</b>	<b>PROJECT INFRASTRUCTURE (Item 18) .....</b>	<b>112</b>
18.1	Conceptual Facilities Layout.....	112
18.2	Site Access Road.....	114
18.3	Backfill Materials .....	116
18.4	Production Rock Handling Facilities .....	117
18.5	Electrical Infrastructure.....	117
18.6	Water Handling & Treatment.....	118
18.7	Portal Area.....	119
18.8	Raisebore Area .....	120
18.9	Other Site Facilities.....	120
18.10	Container Transportation to Barge Dock .....	121
18.11	Barge Dock and Seaborne Transport.....	122
18.12	Closure & Reclamation .....	124
18.13	Workforce.....	124
<b>19</b>	<b>MARKET STUDIES AND CONTRACTS (Item 19).....</b>	<b>127</b>
19.1	Initial Offtake Study & Term Sheet.....	127
19.2	Second Offtake Study .....	128
19.3	Other Potential Processing & Offtake Pathways .....	128
<b>20</b>	<b>ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT (Item 20) .....</b>	<b>129</b>
20.1	Environmental Studies .....	129
20.2	Permitting.....	134
20.3	FAST-41 Permitting Process.....	135
20.4	Social and Community Considerations.....	136
20.5	Reclamation.....	136
<b>21</b>	<b>CAPITAL AND OPERATING COSTS (Item 21).....</b>	<b>138</b>
21.1	Introduction.....	138
21.2	Capital Costs .....	138
21.3	Operating Costs .....	141
21.4	Closure Costs .....	142
<b>22</b>	<b>ECONOMIC ANALYSIS (Item 22) .....</b>	<b>143</b>
22.1	Determination of Gold Price Assumption.....	143
22.2	Summary of Inputs for Economic Analysis .....	144
22.3	Results of Economic Analysis for Base Case Gold Price.....	145
22.4	Summary of Tax Factors .....	145
22.5	Cashflow and Payback for Base Case Gold Price .....	146
22.6	Sensitivity Analyses .....	147
22.7	LOM Financial Data using Base Case Gold Price.....	152
22.8	Economic Analysis at Spot Gold Price (Upside Scenario) .....	153
<b>23</b>	<b>ADJACENT PROPERTIES (Item 23).....</b>	<b>153</b>
<b>24</b>	<b>OTHER RELEVANT DATA AND INFORMATION (Item 24) .....</b>	<b>154</b>

<b>25</b>	<b>INTERPRETATION AND CONCLUSIONS (Item 25)</b> .....	<b>155</b>
25.1	Geology and Exploration .....	155
25.2	Project Development.....	155
<b>26</b>	<b>RECOMMENDATIONS (Item 26)</b> .....	<b>158</b>
26.1	Future Exploration Programs .....	158
26.2	Geotechnical and Hydrogeological Investigation .....	159
26.3	Ore Sorting, Metallurgy, and Offtake .....	160
26.4	Mine Plan Definition Drilling .....	161
26.5	Pre-Feasibility Study (PFS) .....	161
26.6	Environmental Studies & Permitting .....	162
<b>27</b>	<b>REFERENCES (Item 27)</b> .....	<b>163</b>
<b>28</b>	<b>APPENDIX A: QP Certification Letters</b> .....	<b>164</b>
<b>29</b>	<b>APPENDIX B: Glossary of Terms and Abbreviations</b> .....	<b>174</b>
<b>30</b>	<b>APPENDIX C: Mining Schedule - Images of Semi-Annual Progression for Development and Production</b> .....	<b>179</b>

LIST OF TABLES

TABLE 1-1: SENSITIVITY TABLE SHOWING INDICATED MINERAL RESOURCE BY CUT-OFF WITH 181 GPT CAP.....	12
TABLE 1-2: SENSITIVITY TABLE SHOWING INFERRED MINERAL RESOURCE BY CUT-OFF WITH 181 GPT CAP .....	12
TABLE 1-3: PRE-PRODUCTION CAPEX SUMMARY .....	19
TABLE 1-4: SUSTAINING CAPEX SUMMARY.....	19
TABLE 1-5: OPERATING COST SUMMARY .....	19
TABLE 2-1: LIST OF QUALIFIED PERSONS .....	23
TABLE 4-1: NEW AMALGA PROPERTY CLAIM STATUS .....	29
TABLE 10-1: ALL DRILL HOLE LOCATIONS IN NAD 83 Z.8, AZIMUTH, DIP AND TOTAL DEPTH (IN METRES).....	43
TABLE 10-2: LOCATION OF SURFACE CHANNEL SAMPLES .....	48
TABLE 13-1: SUMMARY OF METALLURGICAL RECOVERIES FROM 2018 TESTWORK .....	58
TABLE 13-2: ASSAY HEAD GRADES OF METALLURGICAL SAMPLES FROM 2018 TESTWORK.....	59
TABLE 13-3: BOND WORK INDEX OF METALLURGICAL SAMPLES FROM 2018 TESTWORK .....	59
TABLE 13-4: WHOLE-ORE CYANIDATION PERFORMANCE FROM 2018 TESTWORK.....	59
TABLE 13-5: GRAVITY AND FLOTATION RESPONSE FROM 2018 TESTWORK.....	60
TABLE 13-6: SELECTED ANALYSIS OF FLOTATION CONCENTRATE FROM 2018 TESTWORK .....	61
TABLE 13-7: SUMMARY OF ORE SORTER FEED, OVERALL REJECT, AND OVERALL PRODUCT FROM 2025 TESTWORK .....	62
TABLE 13-8: DETAILS OF EACH REJECT SPLIT VERSUS SORTED PRODUCT AND FINES PRODUCT FROM 2025 TESTWORK .....	62
TABLE 14-1: SELECTED STATISTICS FOR GOLD ASSAYS FROM 1988 DRILL HOLES .....	64
TABLE 14-2: UNIVARIATE STATISTICS FOR THE ENTIRE DATABASE .....	66
TABLE 14-3: UNIVARIATE STATISTICS FOR 1.5 M COMPOSITES OF VEINS AS DESCRIBED.....	66
TABLE 14-4: UNIVARIATE STATISTICS FOR ALL 1.5 X 8 X 8 M BLOCKS WITHIN VEINS .....	67
TABLE 14-5: BULK DENSITY MEASUREMENTS ON 30 MINERALIZED INTERSECTIONS FROM THE 2012 DIAMOND DRILLING .....	69
TABLE 14-6: SENSITIVITY TABLE SHOWING INDICATED RESOURCE BY CUT-OFF GRADE, COMPOSITES CUT TO 181 GPT .....	81
TABLE 14-7: SENSITIVITY TABLE SHOWING INFERRED MINERAL RESOURCE BY CUT-OFF GRADE, COMPOSITES CUT TO 181 GPT....	81
TABLE 14-8: INDICATED MINERAL RESOURCE AT 2.50 GPT CUT-OFF, 181 GPT CAP, BY VEIN.....	81
TABLE 14-9: INFERRED MINERAL RESOURCE AT 2.50 GPT CUT-OFF, 181 GPT CAP, BY VEIN.....	82
TABLE 16-1: GENERAL GROUND SUPPORT FOR THE PORTAL AND DEVELOPMENT .....	91
TABLE 16-2: ESTIMATED RANGE OF INFLOW .....	93
TABLE 16-3 MINING SCHEDULE .....	108
TABLE 16-4: MOBILE MINING EQUIPMENT PROCUREMENT SCHEDULE .....	109
TABLE 16-5: FIXED MINING EQUIPMENT PROCUREMENT SCHEDULE.....	109
TABLE 18-1: ESTIMATED WORKFORCE NUMBERS .....	125
TABLE 20-1: LIST OF ADDITIONAL ENVIRONMENTAL BASELINE STUDIES .....	133
TABLE 20-2: MAJOR PERMITS THAT MAY BE REQUIRED FOR THE NEW AMALGA PROJECT .....	134
TABLE 21-1 PRE-PRODUCTION CAPEX .....	139
TABLE 21-2 SUSTAINING CAPEX.....	140
TABLE 21-3 COMPONENTS OF OPERATING COST (OPEX).....	141
TABLE 22-1 SUMMARY OF MINE PLAN INPUTS FOR ECONOMIC ANALYSIS .....	144
TABLE 22-2 SUMMARY OF COST INPUTS FOR ECONOMIC ANALYSIS .....	145
TABLE 22-3 SUMMARY OF PROJECT FINANCIAL TOTALS USING BASE CASE GOLD PRICE .....	145
TABLE 22-4 SUMMARY OF NPV/IRR AND PROJECT FINANCIAL METRICS USING BASE CASE GOLD PRICE.....	145
TABLE 22-5: PRE-TAX AND AFTER-TAX NPV <sub>5</sub> AND IRR SENSITIVITY TO GOLD PRICE .....	147
TABLE 22-6: NPV SENSITIVITY TO DISCOUNT RATE (BASE CASE GOLD PRICE).....	149
TABLE 22-7: NPV AND IRR IMPACT OF REMOVING ORE SORTER (BASE CASE GOLD PRICE) .....	149
TABLE 22-8: NPV <sub>5</sub> IMPACT OF SENSITIVITY FACTORS USING BASE CASE GOLD PRICE .....	150
TABLE 22-9: IRR IMPACT OF SENSITIVITY FACTORS USING BASE CASE GOLD PRICE.....	150
TABLE 22-10: LOM FINANCIAL DATA.....	152
TABLE 22-11: SUMMARY OF PROJECT FINANCIAL TOTALS USING SPOT GOLD PRICE .....	153

TABLE 22-12: SUMMARY OF NPV/IRR AND PROJECT FINANCIAL METRICS USING SPOT GOLD PRICE .....	153
TABLE 26-1: PROPOSED BUDGET AND WORK PROGRAM TO CONTINUE TO EXPAND NEW AMALGA GOLD PROJECT RESOURCES ...	159
TABLE 26-2: ESTIMATED COST OF GEOTECHNICAL AND HYDROGEOLOGICAL FIELD INVESTIGATION .....	160
TABLE 26-3: ESTIMATED COST OF ADDITIONAL ORE SORTER AND METALLURGICAL TESTWORK .....	160
TABLE 26-4: ESTIMATED COST OF INFERRED RESOURCE DEFINITION DRILLING PROGRAM .....	161
TABLE 26-5: ESTIMATED COST OF PRE-FEASIBILITY STUDY .....	161
TABLE 26-6: ESTIMATED COST OF ENVIRONMENTAL STUDIES & PERMITTING .....	162

LIST OF FIGURES

FIGURE 4-1: MAP INDICATING LOCATION OF THE NEW AMALGA PROJECT .....	27
FIGURE 4-2: NEW AMALGA PROPERTY CLAIM MAP, SOURCED FROM THE ALASKAMAPPER WEBSITE OF THE STATE OF ALASKA DEPT OF NATURAL RESOURCES.....	28
FIGURE 5-1: PHOTOGRAPH OF NEW AMALGA PROPERTY SHOWING TERRAIN ABOVE THE RESOURCE AREA.....	34
FIGURE 5-2: GRAPH OF JUNEAU CLIMATE DATA INCLUDING AVERAGE MONTHLY PRECIPITATION AND TEMPERATURE.....	35
FIGURE 7-1: LOCAL GEOLOGY OF NEW AMALGA PROPERTY AREA.....	38
FIGURE 7-2: PHOTO OF THE GOAT VEIN STRUCTURE (PURPLE LINE), VIEWED TO THE EAST (C. HALE, 2018).....	39
FIGURE 7-3: CREW CUTTING A CONVENTIONAL CHANNEL SAMPLE ON THE GOAT VEIN (C. HALE, 2018) .....	40
FIGURE 8-1: LOCATION OF NEW AMALGA PROPERTY RELATIVE TO COAST RANGE MEGALINEAMENT .....	41
FIGURE 12-1: ASSAYS OF BLANKS FROM 2020, 2021, 2022, 2023 .....	53
FIGURE 12-2: ASSAYS OF OREAS 215 STANDARD .....	54
FIGURE 12-3: HISTORIC ASSAYS OF OREAS 217 STANDARD .....	54
FIGURE 12-4: ASSAYS OF OREAS 10C STANDARD FROM 2020 .....	55
FIGURE 12-5: ASSAYS OF ORAES 229 STANDARD .....	55
FIGURE 12-6: ASSAYS OF OREAS 238 STANDARD FROM 2020, 2021, 2022, 2023 .....	56
FIGURE 12-7: ASSAYS OF OREAS 256 STANDARD FROM 2020 .....	56
FIGURE 12-8: ASSAYS OF OREAS 221 STANDARD .....	57
FIGURE 13-1: GOLD AND SILVER LEACH KINETICS FROM 2018 TESTWORK .....	60
FIGURE 13-2: IMAGE OF NEW AMALGA MATERIAL BEING TESTED IN STEINERT ORE SORTER DURING 2025 TESTWORK.....	63
FIGURE 14-1: TYPICAL EAST FACING CROSS SECTION SHOWING VEIN CORRELATIONS WITH DRILL HOLE TRACES ON A 200 M GRID .	65
FIGURE 14-2: LOG NORMAL PROBABILITY PLOT OF THE RAW GOLD SAMPLE DATA .....	67
FIGURE 14-3: LOG PROBABILITY OF THE RAW SILVER SAMPLE DATA .....	68
FIGURE 14-4: TOPOGRAPHY OVER DRILL AREA WITH KNOWN VEINS AND LIDAR LINEAMENTS .....	69
FIGURE 14-5: DENSITY MEASUREMENTS ON SAMPLES FROM NEW AMALGA GOLD PROJECT.....	70
FIGURE 14-6: THE UNCUT RAW SILVER ASSAY DATA (BLUE LINES) SHOWS THREE LOGNORMAL POPULATIONS (GREEN LINES) .....	71
FIGURE 14-7: VARIOGRAPHY OF DEEP TRENCH VEIN WITH A POORLY DEVELOPED SILL AT 90 M .....	72
FIGURE 14-8: VARIOGRAPHY FOR THE GOAT MAIN VEIN WITH INDETERMINANT RESULTS.....	73
FIGURE 14-9: VARIOGRAPHY OF THE MAIN VEIN WITH A POTENTIAL SILL AT 110 M.....	74
FIGURE 14-10: VIEW OF ALL OF THE VEIN SOLIDS, ON GENERAL GEOLOGY DRAPED OVER TOPOGRAPHY, IN NAD83 Z8.....	75
FIGURE 14-11: NORTH-FACING INCLINED 60M THICK LONGITUDINAL SECTION SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS OF THE DEEP TRENCH VEIN ON 50M GRID (RED LINES) .....	76
FIGURE 14-12: NORTH-FACING INCLINED 40M THICK LONGITUDINAL SECTION SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS OF THE FLOYD VEIN ON 50M GRID (RED LINES).....	77
FIGURE 14-13: NORTH-FACING INCLINED 50M THICK LONGITUDINAL SECTION OF THE RIDGE VEIN SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS ON 50M GRID (RED LINES).....	77
FIGURE 14-14: NORTH-FACING INCLINED 60M THICK LONGITUDINAL SECTION OF THE MAIN VEIN SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS ON 50M GRID (RED LINES).....	78
FIGURE 14-15: NORTH-FACING INCLINED 60M THICK LONGITUDINAL SECTION OF THE MAIN HANGINGWALL VEIN SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS ON 50M GRID (RED LINES).....	78
FIGURE 14-16: NORTH-FACING INCLINED 40M THICK LONGITUDINAL SECTION OF THE SLEEPING GIANT VEIN SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS ON 50M GRID (RED LINES) .....	79
FIGURE 14-17: NORTH-FACING INCLINED 60M THICK LONGITUDINAL SECTION OF THE GOAT VEIN SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS ON 50M GRID (RED LINES).....	79
FIGURE 14-18: NORTH-FACING INCLINED 40M THICK LONGITUDINAL SECTION OF THE GOAT HANGINGWALL VEIN SHOWING RESOURCE BLOCKS AND DRILL HOLE SEGMENTS ON 50M GRID (RED LINES).....	80
FIGURE 16-1: SURFACE EXPOSURE OF THE MAIN VEIN GIVING AN INDICATION OF THE ROCK MASS CONDITIONS IN THE FOOTWALL, OREBODY AND HANGING WALL .....	86

FIGURE 16-2: RELATIONSHIP OF THE PROMINENT CONTACT FAULT TO THE GOAT VEIN ALONG WHICH WATER IS FLOWING ON SURFACE WHERE PREFERENTIAL EROSION OF THE ALTERATION SELVAGES IS OCCURRING.....	87
FIGURE 16-3: VIEW LOOKING EAST OF DESIGNED STOPE SHAPES WITH AVAILABLE RQD DATA FROM THE EXPLORATION DATABASE.....	88
FIGURE 16-4: CORE PHOTOS AND SECTIONS DEMONSTRATING THE ROCK MASS CONDITIONS INTERSECTING A PLANNED STOPE	88
FIGURE 16-5: EXAMPLE OF PRELIMINARY GEOTECHNICAL DOMAINING PROCESS BASED ON RQD ASSESSMENTS, LITHOLOGY AND ALTERATION.....	89
FIGURE 16-6: 3-D VIEW OF PROPOSED MINE LAYOUT, LOOKING SOUTH-SOUTHEAST .....	95
FIGURE 16-7: SIDE VIEW OF MINE LAYOUT SHOWING OVERLYING TERRAIN, LOOKING NORTH .....	95
FIGURE 16-8: THREE-DIMENSIONAL DIAGRAM SHOWING SILL PILLAR EXTRACTION .....	97
FIGURE 16-9 SCHEDULE OF PRODUCTION TONNAGE AND GRADE .....	103
FIGURE 16-10 SOURCES OF MINED PRODUCTION .....	104
FIGURE 16-11 RESOURCE CLASSIFICATION OF AU OUNCES SHIPPED .....	104
FIGURE 16-12 DRIFTING RATE AND BREAKDOWN BY TYPE .....	105
FIGURE 16-13 WASTE ROCK GENERATION VS BACKFILL .....	106
FIGURE 16-14 TEMPORARY BACKFILL MATERIALS STOCKPILE BALANCE OVER MINE LIFE (WASTE ROCK).....	106
FIGURE 16-15 VOLUME BALANCE FLOWCHART FOR RETURNING ALL STOCKPILED WASTE TO UG.....	107
FIGURE 17-1: STEINERT ORE SORTING MACHINE .....	111
FIGURE 18-1: CONCEPTUAL LAYOUT OF MINE SURFACE FACILITIES RELATIVE TO UNDERGROUND WORKINGS .....	113
FIGURE 18-2: CONCEPTUAL LAYOUT OF MATERIALS HANDLING AND MAINTENANCE AREA .....	114
FIGURE 18-3: CONCEPTUAL ACCESS ROAD CONNECTION TO GLACIER HIGHWAY .....	115
FIGURE 18-4: PHOTO OF THE HERBERT RIVER NEAR THE PROPOSED BRIDGE LOCATION .....	115
FIGURE 18-5: EXAMPLE OF ISG-BRAND "ROTAINER" ORE CONTAINER.....	117
FIGURE 18-6: CONCEPTUAL LAYOUT OF MINE PORTAL AREA.....	120
FIGURE 18-7: MAP OF HAULAGE ROUTE FROM NEW AMALGA MINESITE TO PROPOSED BARGE TERMINAL AT CASCADE POINT ...	122
FIGURE 18-8: CASCADE POINT CONCEPTUAL SITE LAYOUT.....	124
FIGURE 22-1: ANNUAL PRE-TAX AND AFTER-TAX CASHFLOWS.....	146
FIGURE 22-2: PRE-TAX AND AFTER-TAX CUMULATIVE CASHFLOWS AND PROJECT PAYBACK PERIOD.....	147
FIGURE 22-3: GRAPH OF PRE-TAX AND AFTER-TAX NPV <sub>5</sub> SENSITIVITY TO GOLD PRICE .....	148
FIGURE 22-4: "SPIDER GRAPH" OF CAPEX, OPEX, MINED GRADE SENSITIVITY FACTORS USING BASE CASE GOLD PRICE .....	151
FIGURE 26-1: ALL RAW ASSAYS VS ELEVATION IN METRES AMSL SHOWING ALL ASSAYS >52 GPT OCCUR BETWEEN -180M AND +128M AMSL .....	158

# 1 SUMMARY (Item 1)

## 1.1 Executive Overview

This Technical Report has been prepared by Grande Portage Resources Ltd (“Grande Portage”) to disclose the results of a Preliminary Economic Assessment (“PEA”) for the New Amalga Gold Project, located in southeast Alaska, USA approximately 25 km north of the city of Juneau. Grande Portage is publicly traded on the TSX-Venture exchange (symbol: GPG) and owns a 100% interest in the New Amalga Gold Project.

The Project is a development stage property located approximately 6km east of a public paved highway and consists of 165 unpatented federal claims. Helicopter-supported exploration drilling consisting of 210 drillholes and 35 channel samples has delineated a gold-bearing mesothermal vein system which has been the subject of multiple resource statements, with the most current published on July 17, 2024. This resource is summarized below (at a 2.5g/t Au resource cutoff) and was utilized as the basis for the PEA mine design.

- **Indicated Resource:** 4,726 kt at 9.47 g/t Au (1,439 koz Au) and 5.86 g/t Ag (891 koz Ag)
- **Inferred Resource:** 1,813 kt at 8.58 g/t Au (516 koz Au) and 6.70 g/t Ag (391 koz Ag)

The PEA contemplates a portal-and-ramp accessed underground mine with a production rate of 1,150 t/d. The primary mining method would be selective longitudinal longhole stoping with supplementary cut-and-fill.

Processing would be undertaken offsite by a third party. This project configuration has been selected to reduce CAPEX while facilitating permitting by minimizing the project’s environmental footprint. The production rock would be subjected to a sensor-based ore sorting system to remove dilution onsite prior to being trucked approximately 32 km to a new barge dock site, then transported overseas to a third-party processing facility.

This setup avoids the need to develop an onsite concentrator or tailings storage facility and enables all waste rock to be returned underground as backfill, eliminating the need for permanent surface stockpiles. Grande Portage has received indicative terms from a third party trading firm for the purchase and processing of New Amalga production, with an average gold payability of approximately 85%. Silver is present at low grades and is not payable. Key economic results of the study are as follows (in USD):

- **Mined Production:** 2,438 kt at 13.6 g/t Au over a seven-year production life (using a 7.0g/t mining cutoff)
- **Material Shipped:** 1,859 kt of sorted production rock at 17.6 g/t Au, containing 1,053 koz Au
- **Cost Metrics:** Pre-Production CAPEX of US\$254.8M (incl contingency), Sustaining CAPEX of \$269.3M, Operating Cost of \$272.11/t mined, AISC (all-in sustaining cost) of \$1,408 per gold ounce payable
- **Financial Metrics (Base Case at \$3,200/oz Au Price):** \$721M after-tax NPV<sub>5</sub> and 56% after-tax IRR with a 1.3-year after-tax payback period
- **Financial Metrics (Spot Price “Upside” Case at \$5,000/oz Au Price):** \$1,557M after-tax NPV<sub>5</sub> and 91% after-tax IRR with a 0.8-year after-tax payback period

*The preliminary economic assessment described in this report was prepared in accordance with the Canada National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101), as was the previously-published mineral resource utilized as the basis for the PEA. The economic analysis contained in this Technical Report is based partly on Inferred Mineral Resources, and is preliminary in nature. Inferred Mineral Resources are considered too geologically speculative to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. There is no certainty that the economic forecasts on which this PEA is based will be realized. The PEA is preliminary by definition and does not establish mineral reserves which would meet the definition of "ore" under NI 43-101. The word "ore" is therefore used in this document only in the context of referring to the names of specific equipment, processes or installations, such as "Ore Sorter Machine", "Ore Container", etc.*

## **1.2 Summary - Property Description, History & Ownership**

### *1.2.0 Property Description and Location*

The New Amalga Property (the "Property") is located in southeastern Alaska, approximately 32 km north of Juneau in UTM Zone 8. The project comprises a contiguous block of 101 Federal mineral claims and 64 Federal millsite claims covering approximately 970 hectares (2,400 acres). The property was previously referred to as the "Herbert Gold Property" until being renamed as the "New Amalga Property" in September 2024.

### *1.2.1 Ownership and Royalties*

Grande Portage Resources Ltd. ("GPG") holds a 100% interest in the Property, having fulfilled option obligations and finalized an acquisition agreement with Quaterra Resources Ltd. (QR) in 2016. The Property is subject to a sliding-scale Net Smelter Return (NSR) royalty of up to 5% payable to Juneau Exploration and Development Inc. (JEDI) when gold prices exceed \$601/oz. Additionally, a minimum annual advance production royalty of \$30,000 is payable to JEDI.

### *1.2.2 Exploration Permitting and Environment*

The Property is situated on Federal lands within the Tongass National Forest. It is effectively exempt from the "Roadless Rule" as the claims pre-date the regulation. Exploration proceeds under an approved 2026 U.S. Forest Service Plan of Operations and a City/Borough of Juneau exploration permit. No known environmental liabilities are associated with the Property.

### *1.2.3 Accessibility, Infrastructure, and Climate*

The Property is currently accessed via helicopter from Juneau (32 km). However, the project is only 5.5 km east of the Glacier Highway (Route 7), which provides a potential land-access corridor.

- **Local Resources:** Juneau is a major regional mining hub, providing a skilled labor force and vendor support due to the nearby active mines (Greens Creek and Kensington).

- **Physiography:** The Property lies on the western flank of the Coast Range Mountains, with elevations ranging from 40 m to 1,200 m. Rapid retreat of the Herbert Glacier (4 km since 1900) has significantly increased bedrock exposure in the project area.
- **Climate:** The region features a humid maritime climate. While winters are moist and snowfall is significant (averaging 220 cm), the proximity to the Pacific Ocean keeps temperatures relatively mild, allowing for the potential of year-round mining operations with appropriate infrastructure.

#### 1.2.4 History

The Property is situated within the prolific Juneau Gold Belt, near the historical Amalga Gold Camp (which produced tens of thousands of ounces between 1904 and 1915).

Modern exploration began in 1986 when Houston Oil and Minerals discovered high-grade gold-bearing quartz veins exposed by retreating ice. Initial drill testing (1,100 m across 8 holes) yielded encouraging results. Following a period of ownership by Echo Bay Minerals and JEDI, Quaterra Resources and GPG initiated intensive modern exploration.

Since optioning the Property in 2010, GPG has completed multiple drill programs (2010–2012, 2017–2023), alongside trenching, mapping, and metallurgical and environmental baseline studies. Surface water quality monitoring has been conducted annually since 2020, with formal mine planning and advanced environmental studies commencing in 2024 to support this PEA.

### 1.3 Summary - Geology, Mineralization, Exploration and Mineral Resource Estimate

The Property is located within the historic, 160 kilometer long Juneau Mining District (JMD) which hosts over 200 gold-quartz-vein deposits with production nearing 7,000,000 ounces of gold since 1880. More than three-quarters of Alaska's lode gold was mined from the Juneau gold belt. Most of the prospects and mines within the JMD are in close proximity to the Coastal Range Megalineament – a major crustal structure defined by northwest – striking, moderately to steeply dipping, penetrative foliation. This structure is parallel to the boundary between the Gravina Belt to the west and the Taku terrane to the east. Regional metamorphism and deformation, including the Coastal Range Megalineament, are linked to the emplacement of multiple intrusive bodies of varied composition.

Historic production from the Juneau Mining District was mainly from mesothermal quartz veins and stringers hosted by greenschist to amphibolite – facies metasedimentary rocks and relatively competent igneous bodies. Many of the mineralized veins in the Juneau District extend over significant distances along strike and down-dip. The Juneau gold belt has been Alaska's largest lode gold producer, yielding approximately 6.8 million ounces of gold, largely from the Alaska-Juneau and Treadwell mines. The Kensington Mine, owned by Coeur Mining Inc. operates within this belt approximately 45 km north of the New Amalga Property.

The empirical relationship between orogeny and gold- vein formation in the Juneau gold belt is well established. A belt of tonalitic plutons intruded approximately 5 km east of the megalineament between 68-61 Ma (Barker et al., 1986; and Wood et al., 1991). Eocene granodiorites intruded 10 km east of the gold belt, and are coeval with the gold mineralization (48 to 55 Ma.) (Miller et al., 1995). The granodiorites are believed to have been the primary source of heat that drove prograde metamorphic reactions devolatilizing rocks of the Wrangelia terrane to produce the gold deposits.

Bulk density for the New Amalga Property mineralized rock is 2.757 g/cc (average of 30 mineralized samples).

The results are from a total of 210 diamond drill holes, 35 trenches with sawn channel cuts or continuous chip samples on the New Amalga Property. Five thousand one hundred forty-two (5,142) ICP gold assays, 130 gold assays with gravimetric finish, 1,144 screened metallic gold assays comprised the digital database for this study. This resource estimate is updated from the Mineral Resource reported in 2019. Several exploratory drill holes also encountered other targets.

The resource estimation was prepared D.R. Webb P. Geol., P.Eng who is a Qualified Person for this report within the meaning of NI 43-101. This resource estimate is unchanged from the previous resource statement and accompanying 43-101 report "TECHNICAL REPORT ON THE HERBERT GOLD PROPERTY" dated July 17, 2024.

Utilizing a base case cut-off of 2.5 gpt, the nine veins on the property host an Indicated Mineral Resource of 4,726,000 tonnes at a grade of 9.47 gpt (1,438,500 ounces of gold and 891,000 ounces of silver at 5.86 gpt) and an Inferred Mineral Resource of 1,813,000 tonnes at a grade of 8.58 gpt (515,700 ounces of gold and 390,600 ounces of silver at 6.70 gpt) using a 181 gpt top cut.

**Table 1-1: Sensitivity Table showing Indicated Mineral Resource by cut-off with 181 gpt cap**

Cut-off	Tonnes	Grade Au gpt	Grade Ag gpt	Ounces Au	Ounces Ag
3.0 gpt	3,931,000	10.83	6.60	1,368,400	834,600
2.5 gpt	<b>4,726,000</b>	<b>9.47</b>	<b>5.86</b>	<b>1,438,500</b>	<b>891,000</b>
2.0 gpt	5,654,000	8.28	5.21	1,505,500	946,900

**Table 1-2: Sensitivity Table showing Inferred Mineral Resource by cut-off with 181 gpt cap**

Cut-off	Tonnes	Grade Au	Grade Ag	Ounces Au	Ounces Ag
3.0 gpt	1,562,000	9.82	7.34	493,300	368,400
2.5 gpt	<b>1,813,000</b>	<b>8.58</b>	<b>6.70</b>	<b>515,700</b>	<b>390,600</b>
2.0 gpt	2,383,000	7.26	5.59	556,400	428,300

Metallic or screened assays were used in all instances where they were available (1,144 samples). All other assays are standard one assay ton results reported using ICP finish or where over limit (>10 gpt) are reported using gravimetric finish. All unsampled drill hole intervals were assigned -9 grade to facilitate resource calculations.

A series of cross sections were developed for each of nine different zones where correlations in gold assays, alteration zones, and multi-element data appear to exist down-dip on section and between sections. These correlations were corrected and modified as supported by surface mapping and geology.

MapInfo's 3D solid generation routine was used to construct three dimensional models from the sections. These were examined to conform to geology and all analytical data and adjusted where necessary.

Some areas of the Main Vein provided multiple options for correlations that were permissive by geology and sample geochemistry. The correlation that best matched surface geology was selected. The Deep Trench vein was remarkable in the simplicity and consistency of a very planar orientation of the correlations.

Block model parameters are based on geostatistical applications. Based on numerous iterations, it was decided that the Inverse Distance Squared ( $ID^2$ ) method was appropriate. It was determined that a block model using tabular-shaped blocks 1.5m thick, and 8m x 8m rotated into the plane of the vein provided suitable detail without creating an unnecessarily large database. This was applied to all veins. The raw and composited assay data for the veins display a single population or a dominant population with <1% secondary populations on the lognormal probability plots. These can be modeled smoothly without any obvious outliers that can over-influence the estimation and to account for the nugget effect. Statistical studies showed that capping could be supported a 181 gpt gold. This was applied to the two veins affected. The resource remains open in multiple directions along these defined veins.

The long axis of the blocks are aligned with the strike of the structural domain, and the shorter dimension is aligned perpendicular to the strike and dip direction. Interpolation parameters are defined based on a combination of geology, drill hole spacing and geostatistical analysis of the data. Individual structural zones, interpreted in the various deposit areas, are segregated for modeling purposes and isotropic search orientations are utilized which retain vein geometry of the gold mineralization in the resource model.

A graphical validation was done on the block model where cross sections, plans, and a 3D examination were conducted, testing intersections, solids and surface boundaries, and geology. Each block appears to be well represented by the immediately adjoining composites as would be expected using the  $ID^2$  method. A minimum of 2 and maximum of 8 composites were used to create each block. Meaningful variograms could not be generated, likely due to a paucity of data points within individual veins.

The resources are classified according to their proximity to the sample locations and are reported, as required by NI 43-101, according to the CIM Definition Standards for Mineral Resources and Mineral Reserves. Indicated resources comprise blocks that are situated within 60 meters of assays derived from drill holes or trenches. Inferred resources include all blocks >60m and <100m. No Measured Resource was determined at this time.

## 1.4 Summary - Metallurgy, Recovery Methods, Market Studies

The New Amalga project will utilize sensor-based ore sorting to produce an upgraded “direct-shipping” product, avoiding the need for onsite fine grinding, flotation, or cyanidation circuits. The product will be transported offsite for further processing, eliminating the requirement for tailings storage facilities at the project site.

### 1.4.0 Metallurgical Testwork

Testwork conducted between 2010 and 2018 established the following:

- **Comminution:** the mineralization is moderately hard, with a Bond Ball Mill Work Index (BWI) ranging from 14.3 to 15.7 kWh/t.
- **Traditional Recovery:** Initial tests showed excellent response to a gravity concentration plus flotation flowsheet as well as whole-ore cyanidation flowsheet, with gold recoveries exceeding 98% in high-grade samples.
- **Coarse Gold:** Significant "nugget effect" was observed, with visible coarse gold causing variance in head assays.

### 1.4.1 Sensor-Based Ore Sorting (2025)

To mitigate mining dilution of the mineralized material from wall rock (primarily barren quartz diorite), 2025 testwork utilized **Steinert US** sensor-based ore sorting equipment which incorporated color, laser, and X-ray sensors. The testing successfully demonstrated the ability to separate mineralized quartz veins from waste rock.

- **Mass Rejection:** The sorter rejected 57% of the feed mass as waste, closely aligned with the approximately 55% proportion of wall rock lithology intervals within the sample.
- **Grade Increase:** The assayed gold grade of the sorted product was 12.9 g/t, compared to a sorter feed grade of 5.9 g/t.
- **Gold Loss:** The rejected material assayed at 0.6 g/t, far below the resource cutoff grade, resulting in a gold recovery of approximately 94%.

### 1.4.2 On-Site Flowsheet

The proposed recovery method involves a single-stage jaw crusher reducing run-of-mine (ROM) material to a 100mm topsize, followed by ore sorting. Fines are typically mineralized and therefore bypass the sorter and are blended with the "accepted" product. The sorted product is then shipped to a third party for processing.

### 1.4.3 Market Studies and Contracts

Grande Portage has confirmed the marketability of the New Amalga sorted product through two independent offtake studies. An indicative / non-binding offtake term sheet was then received from a large global metals trader.

#### 1.4.4 Offtake Terms and Payability

The economic analysis in this study is based on an indicative term sheet from a major global metals trading firm. Key terms include:

- **Gold Payability:** Ranges from 72% to 87% depending on shipment grade. Averages approximately 85% over the Life-of-Mine production plan.
- **Minimum Grade:** Shipments must maintain a minimum of 7.0g/t Au for payability.
- **Treatment/Refining (TC/RC):** Copper benchmark TC + \$95/tonne, plus a refining charge of \$10/oz Au.
- **Deleterious Elements:** Potential for occasional minor deleterious element penalties from arsenopyrite content is considered non-material and manageable through standard grade control.

#### 1.4.5 Silica Flux Opportunity

A secondary marketability study highlighted that the DSO product may be desirable as silica flux substitute for copper smelters due to its ~50% silica (SiO<sub>2</sub>) content. This could enable material to serve as an alternative to purchased flux, potentially enabling favorable terms at smelters outside of China and mitigating future geopolitical or tariff risks.

### 1.5 Summary - Mining Methods & Infrastructure

The New Amalga Project is designed as a “direct-shipping” operation, utilizing selective underground mining. By employing sensor-based ore sorting the project eliminates the need for an onsite processing plant and tailings storage facility, significantly reducing its environmental footprint and capital intensity.

#### 1.5.0 Mine Design and Access

The mine will be accessed via a 900m decline initiated from a surface portal. Mined production will reach a target rate of 1,150 tonnes per day (t/d).

- **Primary Method:** Longitudinal Longhole Open Stopping (LHOS) with 16m sublevel spacing.
- **Secondary Method:** Mechanized Cut-and-Fill (C&F) mining, reserved for zones of lower rock mass quality.
- **Backfill:** Cemented Rockfill (CRF) using development waste rock, typically 4-5% cement. In certain areas, higher-strength CRF (8–10% cement) will be utilized for sill pillar extraction to maximize resource recovery. Production haul trucks will bring CRF underground on the back-haul.

#### 1.5.1 Geotechnical and Hydrogeological Considerations

The rock mass is categorized into three domains: Good (44%), Fair (49%), and Poor (7%).

- **Stability:** LHOS is recommended for Good and Fair domains, while C&F is required for the Poor domain (primarily in alteration zones and near the Contact Fault).
- **Water Management:** While bulk rock permeability is low, localized high inflows may occur near faults. Mine development will incorporate proactive cover drilling on advance and pressure grouting where necessary to mitigate inflow risks.

### 1.5.2 Cutoff Grade (COG)

A gold COG of 7.0 g/t (pre-dilution) is applied. This specific threshold is driven by indicative offtake terms requiring a minimum monthly shipment grade of 7.0 g/t for payability. An incremental COG of 5.0 g/t is applied to mineralization encountered during essential development.

### 1.5.3 Underground Mine Infrastructure

The DSO configuration allows for streamlined underground and surface infrastructure, primarily focused on material handling, ventilation, and water treatment.

- **Ventilation and Heating:** A 160m<sup>3</sup>/s ventilation system will pull fresh air through the portal, exhausting via a dedicated 3.0m diameter raise. Due to local climate conditions, a 5,300kW propane-fired intake heater is required to prevent ice build-up in the decline.
- **Power and Utilities:** High-voltage power (13.8kV) will be distributed to underground mine power centers. Service water will be recirculated from underground settling sumps to minimize pumping requirements to the surface treatment plant.
- **Maintenance:** A three-bay underground service area will handle preventative maintenance, while major overhauls will be conducted at a surface shop or third-party facilities in Juneau, facilitated by the project's all-weather road connection.
- **Safety:** The mine will include an underground Wi-Fi/radio network, a stench gas emergency alert system, and MSHA-compliant refuge chambers with self-contained life support.

### 1.5.4 Mining Schedule

The mine plan results in the shipment of 1,859 kt of sorted material at a gold grade of 17.6 g/t over a seven-year production life. This requires the mining of 2,438 kt of production rock at a grade of 13.6 g/t (before sorting) as well as 23,597m of lateral waste development and 1,143m of vertical development.

The production plan is designed to target the higher-grade areas of the resource first in order to maximize early cashflows, pay off CAPEX and maximize NPV/IRR.

### 1.5.5 Site Access and Layout

The project surface facilities will be located south of the Herbert River, positioned to minimize visibility from local recreational trails and avoid wetlands areas.

- **Access Road:** A new 5.2 km single-lane gravel access road will connect the site to the Glacier Highway. This route includes a 40 m bridge over the Herbert River.
- **Personnel:** No on-site camp is required. Personnel will be shuttled from Juneau via a 35-minute bus commute.

### 1.5.6 Backfill and Waste Management

A primary environmental feature of the project is avoidance of permanent waste stockpiles on surface.

- **Backfill Batch Plant:** An on-site plant will mix waste rock with cement and water to produce Cemented Rock Fill (CRF).
- **Temporary Backfill Materials Stockpile:** All development waste and ore-sorter reject material will be stored in a temporary lined stockpile.
- **Full Return:** The entirety of the stockpile will be returned underground as structural backfill or placed in haulage ramps and development excavations at closure, leaving no permanent waste rock stockpiled on the surface.

### 1.5.7 Power and Water Infrastructure

- **Power Generation:** Due to the isolated and interruptible nature of the Juneau electrical grid, the base case assumes on-site diesel generation (three 2.5 MW units). Future integration with regional hydropower remains a potential upside if local generation and transmission infrastructure is expanded.
- **Water Treatment:** A dedicated plant will manage an estimated underground inflow and surface runoff. The facility will treat in order to appropriately control suspended solids, dissolved metals, pH, and nitrates before discharging to the Herbert River.

### 1.5.8 Product Handling and Logistics

The project utilizes a multi-modal logistics chain to transport product to overseas smelters:

- **Containerization:** Sorted product will be loaded into 21-tonne sealed "rotainer" containers to prevent dust generation and moisture contact during transport.
- **Road Haulage:** Containers will be trucked 32 km from the mine site to the Cascade Point barge dock. To minimize local impact, haulage will be paused on summer weekends and holidays.
- **Marine Transport:** In cooperation with Goldbelt Incorporated, containers will be barged from Cascade Point to deepwater port facilities in British Columbia. From there, material will be loaded onto bulk cargo vessels for delivery to international smelters.

### 1.5.9 Surface Facilities and Portal

A 1.4 km internal haul road connects the Materials Handling Area to the portal.

- **Portal Area:** Includes intake air heaters, primary compressors, and electrical switchgear.
- **Support Facilities:** The main site will host a four-bay maintenance shop, administrative offices, a gold assay lab, and a fueling station.
- **Raisebores:** The raisebore sites will have minimal infrastructure, featuring only the ventilation exhaust and a warming shelter for the emergency escapeway.

### 1.5.10 Closure and Reclamation

Upon depletion of the resource, all remaining rock on surface will be moved underground. Water treatment will continue as necessary until regulatory standards are met. Infrastructure will be dismantled, and the portal and raises will be plugged. The site will be regraded to its approximate original contour and revegetated, and other restoration measures will be undertaken in line with state and federal permits.

## 1.6 Summary - Environmental & Social Impact

Baseline environmental studies that have been performed to varying degrees on the property to date include cultural resources, aquatic life surveys, wetlands delineation, surface water quality sampling and waste rock characterization. Surface and groundwater hydrology and meteorological monitoring are planned to start in early 2026. Additional baseline studies have been recommended to generate the data to support future mine design, development of an Environmental Impact Statement (EIS), permitting, construction, operations and closure.

A significant number of permits from state, federal and local governments will be necessary to develop a new mine. The Company has initiated pre-permitting engagement with regulatory agencies and stakeholders with the intent of identifying significant issues and mitigating them to the greatest practical extent through the mine engineering and operating plans. The project may apply for Federal FAST-41 status, which provides an opportunity for a more efficient and transparent permitting pathway.

The New Amalga Gold project has the potential to improve work opportunities for southeast Alaska residents in the area. Local concern regarding potential social and environmental impacts may focus on the fact that the project is reasonably close to Juneau and is across the Herbert River from a popular hiking trail. However New Amalga has optimized the project design and layout to protect this recreational resource primarily by utilizing topography and vegetation to screen the site and mitigate noise and visual impacts to the trail. The project area and surrounding areas have been the object of historic mining and mineral exploration for more than 100 years, notably the eponymous Amalga Gold Camp which was a significant production hub during the early 20<sup>th</sup> century and was located approximately six kilometers away from the New Amalga mine resource.

The QP concludes that the project is well positioned to continue to move forward on a reasonable schedule while increasing the scope of their environmental baseline program and generating the data required for project plan development, community relations and permitting.

## 1.7 Summary - Capital & Operating Costs

Pre-Production CAPEX totals US\$254.8M and is summarized in the table below.

**Table 1-3: Pre-Production CAPEX Summary**

<b>Pre-Production CAPEX</b>	<b>Cost \$M USD</b>
Eng. & Env. Studies, Definition Drilling, Permitting, Owner's Construction Mgmt Team	\$16.9
Mine Access Road	\$9.4
Mine Site Surface Facilities	\$73.6
Surface Haulage Equipment & Ore Containers	\$9.9
UG Pre-Production Capital Development	\$22.0
UG Equipment (Mobile & Fixed)	\$47.0
Ore Loading Dock (Cascade Point)	\$12.3
Indirect Costs (10%)	\$17.4
Contingency applied to Equipment Purchases (15%)	\$8.5
Contingency applied to Construction, UG Dev't, & all other pre-production activities (25%)	\$37.9
<b>Total Pre-Production CAPEX</b>	<b>\$254.8</b>

Sustaining CAPEX totals US\$269.3M and is summarized in the table below.

**Table 1-4: Sustaining CAPEX Summary**

<b>Sustaining CAPEX</b>	<b>Cost \$M USD</b>
Sustaining UG Development & Definition Drilling	\$172.4
Sustaining Mine Equipment & Rebuilds	\$26.9
Indirect Costs (10%)	\$19.9
Contingency applied to Equipment Purchases/Rebuilds (15%)	\$7.0
Contingency applied to UG Dev't and Drilling (25%)	\$43.1
<b>Total Sustaining CAPEX</b>	<b>\$269.3</b>

Operating cost averages \$272.11 per tonne mined and is summarized in the table below.

**Table 1-5: Operating Cost Summary**

Mining & Backfilling OPEX	\$114.70	US\$ / metric tonne of mined production
Crushing & Ore Sorting OPEX	\$7.00	US\$ / metric tonne of mined production
Surface Road Haulage to Barge Dock OPEX	\$11.16	US\$ / metric tonne of shipped production
Barging to Deepwater Port, Storage, and Transloading	\$39.67	US\$ / metric tonne of shipped production
Bulk Freighter Vessel Transport to Overseas Processor	\$95.00	US\$ / metric tonne of shipped production
Overhead G&A (staff, environmental, insurance, etc)	\$13.7	US \$ annually (millions) – fixed cost
<b>LOM Overall Average Operating Cost</b>	<b>\$272.11</b>	US\$ / metric tonne of mined ore

Closure costs are estimated at \$10.5M, with equipment salvage value of \$4M.

## 1.8 Summary - Economic Analysis

The economic analysis utilized a Base Case gold price of US\$3,200/oz based on the January 2026 consensus analyst forecast for the long-term real gold price, rounded to the nearest \$50/oz. The analysis was based on the PEA mine plan which showed 1.05M ounces shipped and a variable gold payability which averaged 85% based on the shipment grades.

In addition to the capital and operating costs shown in the subsection above, the project will incur \$134M in royalties and \$340M in federal, state, and local tax payments using the base case gold price.

Under the base case gold price, total after-tax cashflows are \$1,008M. After-tax Net Present Value at a 5% discount rate (NPV<sub>5</sub>) is \$721M USD and after-tax internal rate of return (IRR) is 56%. After-tax payback occurs after 1.3 years of production.

The project economics are most sensitive to gold price and mined grade. The ore sorter serves as an economic enhancement but is not necessary for achieving positive economics at the base case gold price.

In addition to the base case, a Spot Price “Upside” scenario was evaluated at a gold price of \$5,000/oz, the approximate current spot price as of the effective date of this report. Under this scenario, after-tax NPV<sub>5</sub> is \$1,557M USD and after-tax IRR is 91% with a 0.8 year after-tax payback period.

## 1.9 Summary - Conclusions & Recommendations

This PEA proposes a selective underground mine utilizing an offsite-processing strategy. The study results are positive, showing an after-tax Net Present Value at a 5% discount rate (NPV<sub>5</sub>) of \$721M USD and an after-tax internal rate of return (IRR) of 56% at a base case gold price assumption of \$3,200.

The QP concludes that New Amalga Project is viable, demonstrating a robust mine configuration centered on a low-impact, off-site processing strategy. The following are assessments regarding the project’s viability and risk profile:

### 1.9.0 *Technical and Operational Viability*

- **Mining Methods:** The use of conventional selective mining is appropriate for the deposit size and aligns with the skills of the local Juneau workforce. The relatively shallow nature of the mineralization allows for decline access rather than a complex shaft system, reducing operational risk.
- **Geotechnical & Hydrogeological:** While available geotechnical data supports the selected mining methods, hydrogeological conditions represent a significant uncertainty. Further investigation is required to quantify groundwater inflows and design mitigation strategies.
- **Workforce:** The project’s proximity to Juneau provides a competitive advantage in recruitment and retention, eliminating the need for rotational camp facilities. Direct road access to the city will result in reduced logistics risk.

### 1.9.1 *Strategic Enhancements and Logistics*

- **Ore Sorting:** The planned use of sensor-based sorting improves grade and reduces transport costs, and is regarded as a project enhancement rather than a critical dependency.
- **Logistics Chain:** Trucking volumes are lower than comparable metal mining operations utilizing offsite processing. The project relies on a partnership with Goldbelt Incorporated for barge access and utilizes existing regional deepwater ports.
- **Market Strategy:** The QP notes a diversified offtake approach is being pursued to insulate the project from international trade volatility and tariff shifts.

### 1.9.2 *Environmental, Social, and Permitting*

- **Permitting:** By utilizing off-site processing, the project avoids the need for an onsite tailings storage facility and permanent surface waste rock dumps. This significantly reduces the environmental footprint and is expected to simplify the regulatory approval process. The project intends to utilize the FAST-41 federal permitting coordination program to facilitate timely regulatory reviews.
- **Social License:** Potential impacts on the Herbert Glacier hiking trail and local traffic are addressed through specific mitigations, including visual screening and the suspension of trucking during peak recreational periods (summertime weekends and holidays).

### 1.9.3 *Recommendations*

The QPs have outlined a set of recommended work packages including:

- Future Exploration Programs
- Geotechnical and Hydrogeological Investigation (including drilling)
- Additional Ore Sorting and Metallurgy Testwork, Deleterious Element Modelling
- Mine Plan Definition Drilling
- Pre-Feasibility Study (PFS) work
- Environmental Studies and Permitting

These work packages will mitigate project-specific risks and prepare for future, more detailed phases of study as well as the regulatory approval process.

## 2 INTRODUCTION (Item 2)

### 2.1 Terms of Reference and Purpose of the Report

This technical report was commissioned by Mr. Ian Klassen, President, Grande Portage Resources Ltd. (GPG or “Grande Portage”) to develop a Preliminary Economic Assessment (PEA) for the New Amalga Gold Project (formerly known as the Herbert Gold Property) in Southeast Alaska. Grande Portage Resources Ltd. is a TSX-V listed company (symbol: GPG).

In September 2024 the company formally adopted the “New Amalga” name for the property and the project, a homage to the historic Amalga mining camp located nearby which was active in the early 1900’s. In this report, “New Amalga” is utilized in place of the previous “Herbert Gold Project” and “Herbert Gold Property” nomenclature except when referring to specific titles of existing technical reports or other documents. In all cases, “New Amalga” and “Herbert Gold” refer to the same property.

This PEA, the first developed for the project, utilizes the mineral resource estimate previously published with the NI 43-101 document “Technical Report on the Herbert Gold Property” with an effective date of July 17, 2024. This document is available on SEDAR at <https://www.sedarplus.ca/>. No updates were made to the previously-published mineral resources in conjunction with this PEA as no additional drilling, trenching, or exploration sampling has been conducted since publication.

The preliminary economic assessment described in this report was prepared in accordance the with Canada National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101), as was the previously-published mineral resource utilized as the basis for the PEA.

This PEA demonstrates a conceptual mine development plan which is considered by Grande Portage as meeting the requirements of a PEA under NI 43-101. It is important to note that all design work is conceptual at the PEA stage and that significant additional studies, data collection programs, and engineering work will be necessary prior to any decision to proceed with mine development.

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

### 2.2 Effective Date

The effective date of the Mineral Resource estimate is July 17, 2024. The effective date of the Technical Report is February 11, 2026. There were no material changes to the information regarding the Project between the effective date and the signature dates for the Technical Report. Data used for the resource estimate were taken from drilling at the New Amalga Property through October 2023.

## 2.3 Sources of Information

This report makes use of all relevant information provided by GPG and other information gathered by the authors. This report is based upon data and information compiled by the authors from personal site inspections, published geological assessments and maps, raw data and technical reports by geologists and/or engineers (some independent and some in the employ of GPG). These sources of information are presented throughout this report. The authors have no reason to doubt the reliability of the information provided by GPG.

## 2.4 Units of Measure

Unless otherwise stated, all measurements included in this report are in metric units and currencies are expressed in 2026 US dollars.

## 2.5 Summary of Qualified Persons

A list of qualified persons (QPs) for each section of the report is shown below.

**Table 2-1: List of Qualified Persons**

<b>Report Section</b>	<b>Qualified Person</b>
<b>1.0 – Summary</b> <i>(except for subsections below)</i>	Kyle Mehalek, PE (OreLogic LLC)
<i>1.3 – Summary - Geology, Mineralization, Exploration &amp; Mineral Resource Estimate</i>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<i>1.6 – Summary - Environmental and Social Impact</i>	Jack DiMarchi, P.Geo. (Core Geoscience LLC)
<i>1.7 – Summary – Capital and Operating Costs</i>	Sterling Watson, P.Eng. (RESPEC Inc.)
<b>2.0 – Introduction</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>3.0 – Reliance on Other Experts</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>4.0 – Property Description and Location</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>5.0 – Accessibility, Climate, Local Resources, Infrastructure and Physiography</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>6.0 – History</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>7.0 – Geological Setting &amp; Mineralization</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>8.0 – Deposit Types</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>9.0 – Exploration</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>10.0 – Drilling</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>11.0 – Sample Preparation, Analysis, and Security</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>12.0 – Data Verification</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)

<b>13.0 – Mineral Processing and Metallurgical Testing</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>14.0 – Mineral Resource Estimate</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>15.0 – Mineral Reserve Estimate</b>	n/a
<b>16.0 – Mining Methods (except for subsections below)</b>	Kyle Mehalek, PE (OreLogic LLC)
16.2 – Geotechnical Factors	Bruce Murphy, P.Eng. (SRK Consulting Canada Inc.)
16.3 – Hydrogeological Factors	Dan Mackie, P.Geo. (SRK Consulting Canada Inc.)
<b>17.0 – Recovery Methods</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>18.0 – Project Infrastructure</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>19.0 – Market Studies and Contracts</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>20.0 – Environmental Studies, Permitting and Social or Community Impact</b>	Jack DiMarchi, P.Geo. (Core Geoscience LLC)
<b>21.0 – Capital and Operating Costs</b>	Sterling Watson, P.Eng. (RESPEC Inc.)
<b>22.0 – Economic Analysis</b>	Kyle Mehalek, PE (OreLogic LLC)
<b>23.0 – Adjacent Properties</b>	David Webb, PhD, P.Geo. (DRW Geological Consultants)
<b>24.0 – Other Relevant Data and Information</b>	n/a
<b>25.0 – Interpretation and Conclusions</b>	(varies by subsection below)
25.1 – Geology and Exploration	David Webb, PhD, P.Geo. (DRW Geological Consultants)
25.2 – Project Development	Kyle Mehalek, PE (OreLogic LLC)
<b>26.0 – Recommendations (except for subsections below)</b>	Kyle Mehalek, PE (OreLogic LLC)
26.1 – Future Exploration Programs	David Webb, PhD, P.Geo. (DRW Geological Consultants)
26.6 – Environmental Studies & Permitting	Jack DiMarchi, CPG, PG (Core Geoscience LLC)
<b>27.0 – References</b>	n/a

## 2.6 QP Site Inspection

Dr. Webb visited the New Amalga property from February 26 to 28, 2018 and conducted a low-level helicopter overflight (high snow pack at this time of year) seeing the general physical environment, observing two quartz veins with alteration and visited the Goat Vein and environment. A second visit on July 31 to August 3 2021 allowed samples to be collected and mineralization observed in the field and in diamond drill core. Selected core was reviewed and the sampling methods and security protocols were observed. A third visit on November 11, 2025 included a review of the surface terrain where mine infrastructure is planned as well as an inspection of vein outcroppings on surface in the deposit area.

Mr. Mehalek has visited the New Amalga property on multiple occasions (including January 9, 2025, March 18, 2025, June 10-12, 2025, and November 11, 2025) to inspect potential locations for developing surface infrastructure and to coordinate environmental fieldwork and data collection.

Mr. DiMarchi visited the New Amalga property on November 11, 2025 which included a review of the surface terrain where mine infrastructure is planned as well as an inspection of vein outcroppings on surface in the deposit area.

Mr. Watson visited the New Amalga property on November 11, 2025 which included a review of the surface terrain where mine infrastructure is planned as well as an inspection of vein outcroppings on surface in the deposit area.

Mr. Mackie and Mr. Murphy have not visited the New Amalga property, however their delegate (Alida Hartzenberg of SRK Consulting Canada Inc.) visited the property on November 11, 2025 which included a review of the surface terrain where mine infrastructure is planned as well as an inspection of vein outcroppings on surface in the deposit area. This also included collecting structural geology data to support geotechnical evaluation.

### **3 RELIANCE ON OTHER EXPERTS (Item 3)**

The QPs have relied upon, and believe there is a reasonable basis for this reliance on, information provided by GPG regarding mineral tenure, surface rights, ownership details, and royalty agreements. This information is consistent with the results of an on-line search of the property status by utilizing the Alaska Mapper Program. (<https://mapper.dnr.alaska.gov/>)

For compiling the economic analysis, the QPs have relied upon indicative metal payabilities and offtake terms provided by a major third-party concentrate trading firm who has reviewed the characteristics and marketability of the New Amalga material. Chapter 19 (Market Studies and Contracts) also relies on this information along with a second marketability study conducted by H Okumura Consulting Ltd.

The QPs are not aware of any material fact or material change with respect to the subject matter of this technical report that is not presented in this report, which the omission to disclose would make this report misleading.

## 4 PROPERTY LOCATION AND DESCRIPTION (Item 4)

### 4.1 Area and Location

The New Amalga Property is situated in UTM Zone 8 between 516,600m and 521,000 East, 6,485,200m and 6,488,700m North (NAD 83 Alaska) in southeastern Alaska approximately 32 kilometers north of Juneau (Fig. 1). The project lies entirely within the Juneau 1:250,000 map sheet, and within the Juneau C-3 and C-2 1:63,000 quadrangles.

Elevations on the property range from 40m to 1,200m above mean sea level. The property comprises 101 Federal mineral claims and 64 Federal millsite claims registered under the legal names listed in Table 1. The aggregate area of the claims is approximately 970 hectares (2400 acres). The claims are situated within Townships 38S and 39S and Range 65E of the Copper River Meridian.

Annual fees of USD\$33,000 are payable to the Alaska Bureau of Lands for claim fees. This amount has been paid in full and good standing to September 2026. GPG intends to pay these fees in the coming years.

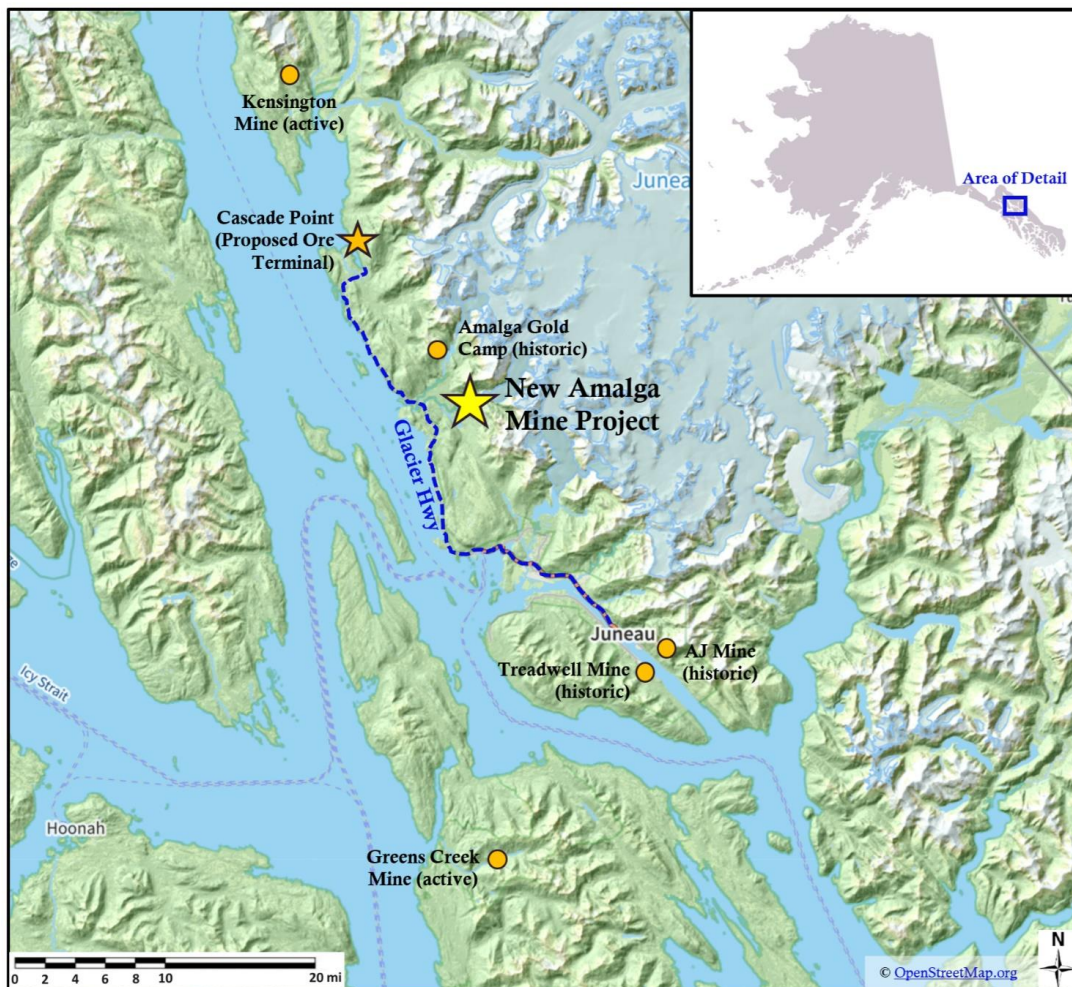


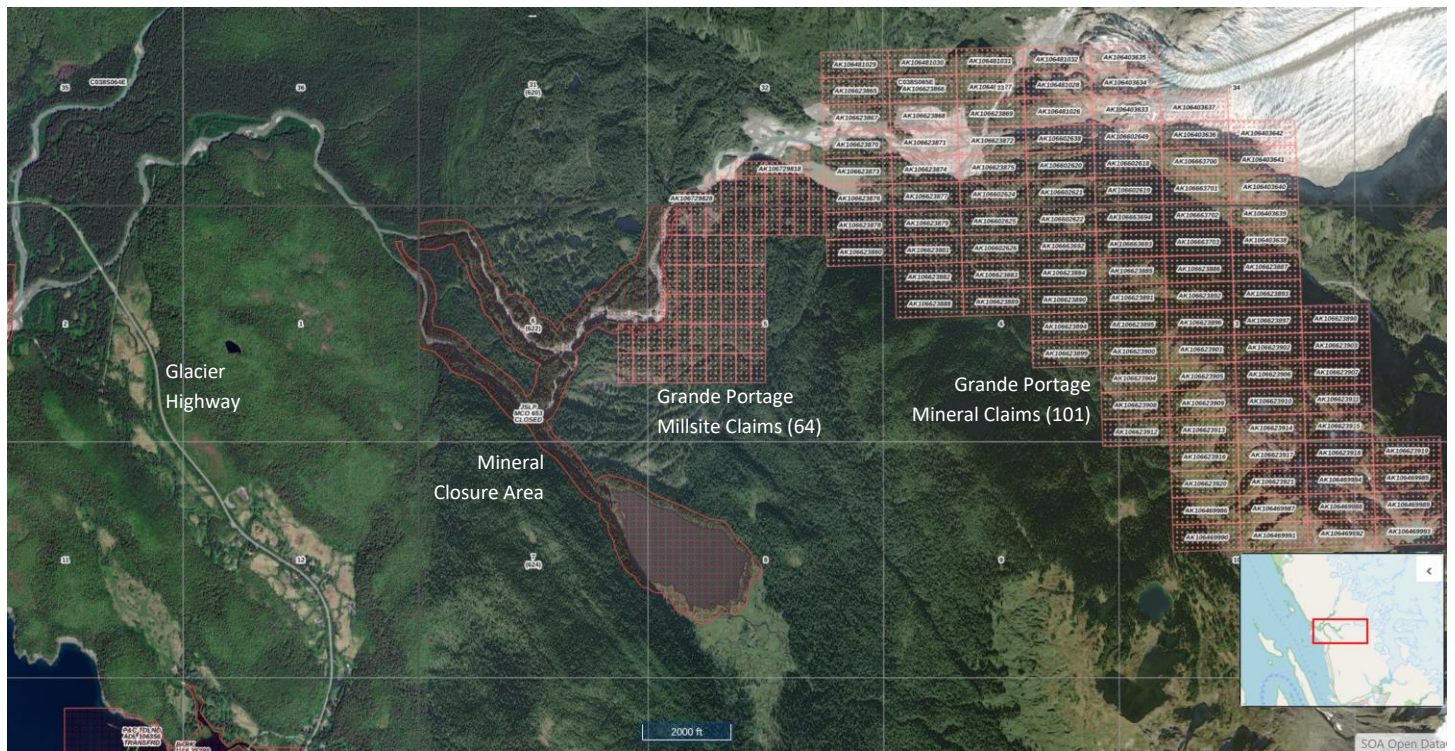
Figure 4-1: Map Indicating location of the New Amalga Project

## 4.2 Claims and Ownership

The New Amalga Gold Property consists of five groups of federal claims. The table below lists the currently active claims at the effective date.

The central 17 minerals claims were the original claims acquired by Juneau Exploration and Development Inc. (“JEDI”) from Echo Bay Exploration Inc in 1997 (see section “6.0 HISTORY” for further details). Subsequently Quaterra Resources Ltd. (QR) and JEDI signed a mining lease agreement in April 2007, at which time 67 additional mineral claims were staked and an area of interest around the 17 core claims agreed upon. A set of 7 mineral claims were added by QR in February 2008, and GPG added 10 mineral claims in August 2022 bringing the current total to 101 active mineral claims. There is no distinction between the claims within the agreements and all claims lie within the proscribed area of interest.

In May 2025 a set of 64 “millsite” (non-mineral) claims were staked to secure potential areas anticipated to be utilized for development of surface infrastructure for a future mining operation. Some of the individual millsite claim boundaries partially overlap an adjacent Mineral Closure Area. The overlapping portion is excluded from the effective claim area.



**Figure 4-2: New Amalga Property Claim Map, sourced from the AlaskaMapper website of the State of Alaska Dept of Natural Resources**

Table 4-1: New Amalga Property Claim Status

Claim Name	Serial Number	Claim Type	Date of Location	Status	Claimant
HERBERT # 1	AK106602618	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 2	AK106602619	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 3	AK106602620	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 4	AK106602621	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 5	AK106602622	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 7	AK106602624	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 8	AK106602625	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 9	AK106602626	MINERAL	8/15/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 21 WITNESS	AK106602638	MINERAL	8/19/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT # 32	AK106602649	MINERAL	8/19/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT #33	AK106663692	MINERAL	9/16/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT #34	AK106663693	MINERAL	9/16/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT #35	AK106663694	MINERAL	9/16/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT #41	AK106663700	MINERAL	9/16/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT #42	AK106663701	MINERAL	9/16/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT #43	AK106663702	MINERAL	9/16/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT #44	AK106663703	MINERAL	9/16/1986	ACTIVE	JUNEAU EXPLORATION AND DEVELOPMENT INC
HERBERT 1	AK106623865	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 2	AK106623866	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 3	AK106623867	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 4	AK106623868	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 5	AK106623869	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 6	AK106623870	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 7	AK106623871	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 8	AK106623872	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 9	AK106623873	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 10	AK106623874	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 11	AK106623875	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 12	AK106623876	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 13	AK106623877	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 14	AK106623878	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 15	AK106623879	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 16	AK106623880	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 17	AK106623881	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 18	AK106623882	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 19	AK106623883	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 20	AK106623884	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 21	AK106623885	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 22	AK106623886	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 23	AK106623887	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 24	AK106623888	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 25	AK106623889	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 26	AK106623890	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 27	AK106623891	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 28	AK106623892	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 29	AK106623893	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 30	AK106623894	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 31	AK106623895	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 32	AK106623896	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 33	AK106623897	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 34	AK106623898	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 35	AK106623899	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 36	AK106623900	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 37	AK106623901	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 38	AK106623902	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 39	AK106623903	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC

HERBERT 40	AK106623904	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 41	AK106623905	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 42	AK106623906	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 43	AK106623907	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 44	AK106623908	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 45	AK106623909	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 46	AK106623910	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 47	AK106623911	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 48	AK106623912	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 49	AK106623913	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 50	AK106623914	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 51	AK106623915	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 52	AK106623916	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 53	AK106623917	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 54	AK106623918	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 55	AK106623919	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 56	AK106623920	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 57	AK106623921	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 58	AK106469984	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 59	AK106469985	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 60	AK106469986	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 61	AK106469987	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 62	AK106469988	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 63	AK106469989	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 64	AK106469990	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 65	AK106469991	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 66	AK106469992	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 67	AK106469993	MINERAL	4/18/2007	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 68	AK106481026	MINERAL	2/5/2008	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 69	AK106481027	MINERAL	2/5/2008	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 70	AK106481028	MINERAL	2/5/2008	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 71	AK106481029	MINERAL	2/5/2008	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 72	AK106481030	MINERAL	2/5/2008	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 73	AK106481031	MINERAL	2/5/2008	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 74	AK106481032	MINERAL	2/5/2008	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 75	AK106403633	MINERAL	6/23/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 76	AK106403634	MINERAL	6/23/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 77	AK106403635	MINERAL	6/23/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 78	AK106403636	MINERAL	7/15/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 79	AK106403637	MINERAL	7/15/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 80	AK106403638	MINERAL	7/15/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 81	AK106403639	MINERAL	7/15/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 82	AK106403640	MINERAL	7/15/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 83	AK106403641	MINERAL	7/15/2022	ACTIVE	GPG ALASKA RESOURCES INC
HERBERT 84	AK106403642	MINERAL	7/15/2022	ACTIVE	GPG ALASKA RESOURCES INC
NAF 01	AK106729817	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 02	AK106729818	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 03	AK106729819	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 04	AK106729820	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 05	AK106729821	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 06	AK106729822	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 07	AK106729823	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 08	AK106729824	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 09	AK106729825	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 10	AK106729826	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 11	AK106729827	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 12	AK106729828	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 13	AK106729829	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 14	AK106729830	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 15	AK106729831	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 16	AK106729832	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 17	AK106729833	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 18	AK106729834	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC

NAF 19	AK106729835	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 20	AK106729836	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 21	AK106729837	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 22	AK106729838	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 23	AK106729839	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 24	AK106729840	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 25	AK106729841	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 26	AK106729842	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 27	AK106729843	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 28	AK106729844	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 29	AK106729845	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 30	AK106729846	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 31	AK106729847	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 32	AK106729848	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 33	AK106729849	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 34	AK106729850	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 35	AK106729851	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 36	AK106729852	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 37	AK106729853	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 38	AK106729854	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 39	AK106729855	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 40	AK106729856	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 41	AK106729857	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 42	AK106729858	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 43	AK106729859	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 44	AK106729860	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 45	AK106729861	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 46	AK106729862	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 47	AK106729863	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 48	AK106729864	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 49	AK106729865	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 50	AK106729866	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 51	AK106729867	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 52	AK106729868	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 53	AK106729869	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 54	AK106729870	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 55	AK106729871	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 56	AK106729872	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 57	AK106729873	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 58	AK106729874	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 59	AK106729875	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 60	AK106729876	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 61	AK106729877	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 62	AK106729878	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 63	AK106729879	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC
NAF 64	AK106729880	MILLSITE	5/2/2025	ACTIVE	GPG ALASKA RESOURCES INC

\*Note: "NAF" in claim names is an acronym for "New Amalga Facilities"

The original 17 claims by Echo Bay makes no mention of an underlying royalty interest in these claims and they were sold unencumbered by JEDI.

The Mining Lease signed by JEDI and QR has an effective date of November 1, 2007. The lease includes a sliding scale Net Smelter Return on production up to five percent (5%) when the price of gold exceeds \$601 per troy ounce, and a minimum annual advance production royalty of up to a maximum of \$30,000 payable to JEDI after the tenth anniversary of the effective date.

On June 16, 2010 GPG optioned the property from QR. The option agreement granted the right to earn 65% of the property if:

- GPR spent at least \$750,000 before June 15, 2011 to earn 51%
- GPR spent and additional \$500,000 before June 15, 2012 to earn the full 65% interest

GPR has fulfilled both of these obligations and is fully vested at the 65% ownership interest.

On October 24, 2011 GPR and QR signed a Joint Venture Agreement outlining the collective responsibilities between the JV participants. Funding is on a pro-rata basis, with standard dilution applying in the event either partner declines to participate.

On July 14, 2016 GPG announced an Acquisition Agreement had been signed whereby the Company issued to QR 1,182,331 common shares and pay QR the sum of US\$250,000 upon either: (a) delivery of a feasibility report establishing that the Property can be profitably placed into commercial production, or (b) the change of control of the Company or the sale of the Property. The Acquisition Agreement also includes anti-dilution provisions, whereby QR will be issued additional common shares for no additional consideration, upon the Company's completion of equity financings to raise up to the next \$1.0 million only, so that QR's equity interest in the Company will not be less than 9% of the then total issued common shares on a non-diluted basis. Finally, QR had been granted a right to participate in any future equity financings of the Company over the next \$1.0 million, in order to maintain its equity interest in the Company at its then current equity interest in the Company on a non-diluted basis. This right has expired.

### **4.3 Environmental Liabilities**

There are no known environmental liabilities associated with this property.

### **4.4 Other Significant Risks and Factors**

The author knows of no other significant risks or factors that may affect title, access or the right or ability to perform work on the New Amalga Property.

### **4.5 Exploration Permits**

The property is entirely on Federal lands of the Tongass National Forest administered by the U.S. Forest Service (USFS). The area has a land use designation as semi-remote recreation with a minerals overlay. Forest lands within this designation are open to minerals exploration and development, and guidelines allow reasonable access according to the provisions of an approved Plan of Operations. The original mineral claims pre-date the Tongass National Forest "Roadless Rule" and the project is therefore exempt from its provisions.

Exploration on the property has proceeded under approved annual US Forest Service (USFS) Plans of Operations since 2009. At the effective date of this report, the New Amalga Plan of Operations for 2026 has been approved by USFS. A City & Borough of Juneau exploration permit has also previously been obtained for exploration activities. Grande Portage intends to renew the City & Borough of Juneau exploration permit as necessary for future work.

The project also operates under Temporary Water Use Authorizations (TWUA) from State of Alaska Department of Natural Resources (ADNR) that authorize the consumptive use of surface waters to facilitate exploration drilling. A TWUA application is currently pending with ADNR with approval anticipated in advance of the 2026 drilling program.

## **5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPY (Item 5)**

The New Amalga Property is located within the Juneau Recording District, approximately 32 km northwest of downtown Juneau, Alaska, along the eastern shore of Lynn Canal. The City and Borough of Juneau is a unified municipality located on the Gastineau Channel in the panhandle of the U.S. state of Alaska and the 2nd largest city in the United States by area. It has been the capital of Alaska since 1906, when the government of the then-District of Alaska was moved from Sitka as dictated by the U.S. Congress in 1900.

Juneau is not directly accessible by road from the rest of North America, although there are road connections to several areas immediately adjacent to the city. Primary access to the city is by air and sea. Cars and trucks are transported to and from Juneau by barge or the Alaska Marine Highway ferry system. Goods are transported to Juneau by multiple barge companies and primarily transit through Seattle and other United States Pacific coast ports.

Juneau International Airport serves the city and borough of Juneau. Alaska Airlines provides year-round commercial passenger jet flights, while Delta Airlines provides summer-season flights. Seattle and Anchorage are the typical connecting hubs for flights departing Juneau. Several local and regional carriers offer scheduled flights on smaller aircraft to villages in Southeast Alaska. Some air carriers provide U.S. mail service.

Juneau is a regional mining center supporting active mining operations, with the nearby Greens Creek polymetallic mine and the Kensington Gold Mine located within the borough. A large portion of the labour force for both operations resides in the Juneau area along with significant vendor support and maintenance facilities for mining equipment. Other nearby communities including Haines and Skagway add to the potential workforce base.

Access to the property is currently by helicopter from Juneau but the main public paved highway (Glacier Highway or Route 7) extending from Juneau to Berners Bay passes only 5.5 km west of the property, where it crosses the Herbert River.

The New Amalga property lies on the western flank of the Coast Range Mountains. Terrain varies from moderate to rugged within the project area as shown in the photograph below, ranging in elevation from 40 meters to 1200 meters above sea level. The Herbert Glacier terminates at the eastern edge of the claim block. Its rapid retreat in the past 30 years is responsible for the recent exposure of large areas of bare rock at low elevations. Bedrock exposure produced by this retreat is transitory, as rapid vegetation growth is advancing at a similar

rate. Vegetation in the area ranges from emergent Sitka Spruce and Western Hemlock forest to dense alder brush to bare rock.



**Figure 5-1: Photograph of New Amalga Property showing terrain above the resource area**

Juneau features a humid continental climate though just short of being subarctic. The city has a climate that is milder than its latitude may suggest, due to the influence of the Pacific Ocean. Winters are moist and long, but only slightly cold by Alaskan standards: the average low temperature is 23 °F (-5 °C) in January, and highs are frequently above freezing. Spring, summer, and fall are cool to mild, with highs peaking in July at 65 °F (18.3 °C). Snowfall averages 86.8 inches (220 cm) and occurs chiefly from November to March. Precipitation falls on an average 230 days per year, averaging 62.5 inches (1,590 mm) at the airport (1981–2010 normals), but ranging from 55 to 90 inches (1,400 to 2,290 mm), depending on location.[9] The spring months are the driest while September and October are the wettest months.

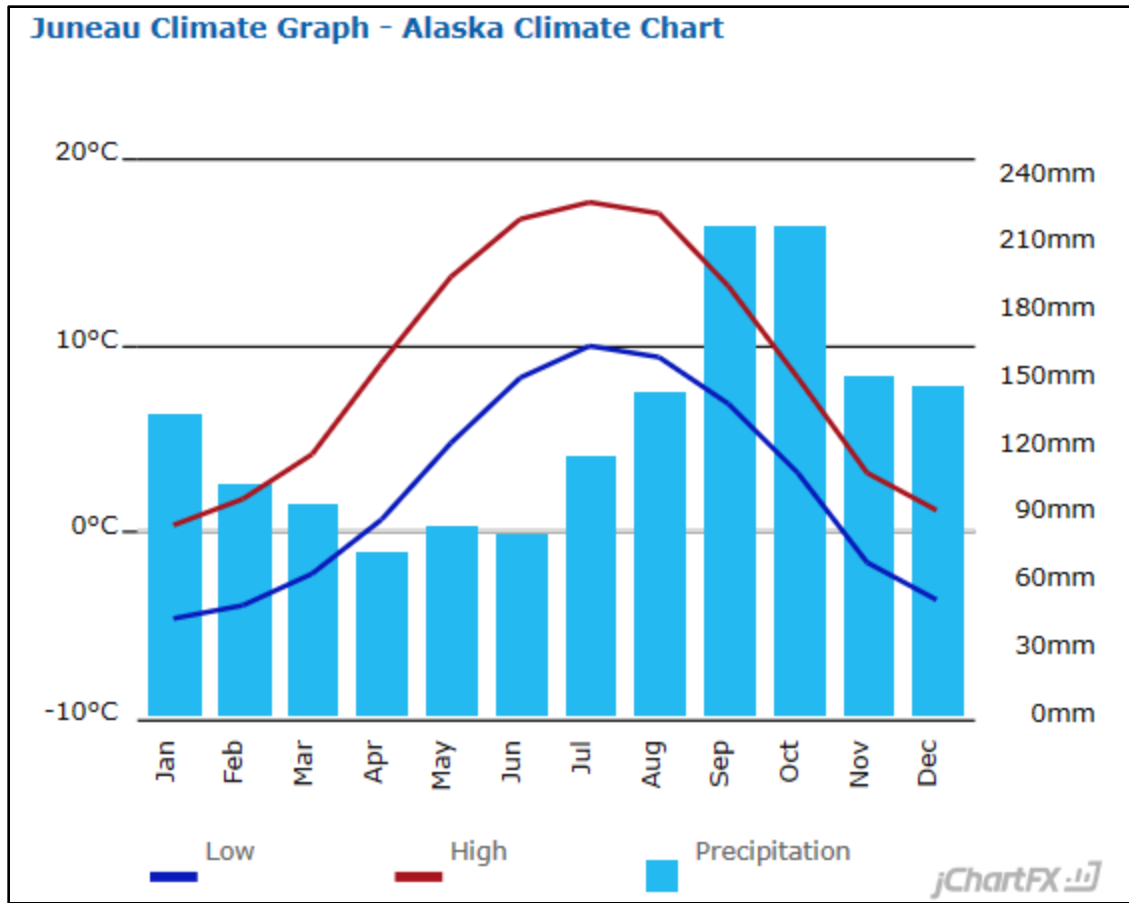


Figure 5-2: Graph of Juneau climate data including average monthly precipitation and temperature

## 6 HISTORY (Item 6)

The Juneau Gold Belt hosts numerous high-grade gold deposits that were produced by several mines historically from 1883 until the closure of the AJ Mine in 1943, and then resuming in 2011 with the opening of the Kensington Mine.

The eponymous Amalga Gold Camp, located appx 6km northwest of the New Amalga project, was a significant historical production hub from 1904-1915 producing tens of thousands of ounces of gold from lode deposits via 8,000m of underground workings.

Historical exploration of the Herbert / New Amalga property was hampered by the previous cover of the Herbert Glacier for much of the last century. The face of the glacier has receded by nearly 4km since the early 1900's, resulting in additional bedrock exposure.

Two named prospects at high-elevation unglaciated rock outcroppings in the area (St. Louis and Summit) were identified in 1889 and a 22-foot exploration shaft was sunk (Barnett and Miller, 2003). Modern interest in the project area began in 1986 when claims were staked to cover several obvious quartz veins. At this time Houston Oil and Minerals discovered the main gold-bearing quartz veins in outcrops recently exposed by the retreating ice. They drill-tested these prospects with eight BQ-size holes totaling 1,100 m, with encouraging assay results. There was additional shallow "Winky" drilling with as much as 230 m completed from 11 holes. The precious metal holdings of Houston Oil and Minerals subsequently came into ownership of Echo Bay Minerals.

In 1997, a group of three local prospectors (d.b.a. JEDI – "Juneau Exploration and Development Inc") purchased the core Herbert claims from Echo Bay Minerals as part of its divestiture of Alaskan holdings. Quaterra Resources subsequently signed a mining lease with JEDI effective November 2007. In June 2010 Grande Portage optioned the property from Quaterra Resources and a joint venture was established in 2011. Grande Portage subsequently acquired full ownership of the property in 2016. See section "4.3 Claims and Ownership" for a description of claims staked under each party and details of project ownership changes.

A field program in 2007 resulted in the collection of 299 rock, soil, and stream sediment samples and the initiation of a property wide geology map. Additional core drilling took place during 2010, 2011, 2012, 2017, 2018, 2020, 2021, 2022 and 2023 as well as intermittent trenching, channel sampling and surface mapping. Surface water quality sampling was performed in the project area in 2010, 2011, 2012 and then every year starting in 2020 to present. Mine planning work and additional environmental studies were begun in 2024.

## 7 GEOLOGICAL SETTING AND MINERALIZATION (Item 7)

### 7.1 Regional Geology

The New Amalga Property is situated in close proximity to the Coastal Shear Zone – a major crustal dislocation defined by northwest striking penetrative foliation. This structure parallels the boundary between the Gravina belt to the west and the Taku terrane to the east.

The Gravina belt comprises Upper Jurassic to Mid-Cretaceous marine argillite and greywacke, interbedded andesite to basaltic volcanic and volcanoclastic rocks, and plutons ranging from quartz diorite to peridotite (Gehrels and Berg, 1992 and 1994). The Taku terrane differs from the Gravina belt by having an older Permian to Triassic aged basement consisting of marbles, phyllites, pillowed basalts, and flysch-related rocks, which are overlain by Upper Jurassic to Mid-Cretaceous greywackes and, likely, related to similar aged rocks in the Gravina belt. Metamorphic grade ranges from greenschist to amphibolite facies and generally increases from west to east. Regional metamorphism and deformation, including the Coastal Shear Zone, are broadly linked to emplacement of multiple intrusive rocks in the Coast Mountains with isotopic ages ranging from 10 to 55 Ma (Gehrels and Berg, 1994).

### 7.2 Property Geology

Published regional geologic mapping indicates that New Amalga Gold project is largely hosted in Lower Cretaceous to Permian marine units (KPsV) intruded by Lower Tertiary to Upper Cretaceous intrusions (TKIsp). To date the majority of the mapping and drilling has been within a quartz diorite stock or sill that hosts the mineralized veins. Although there is no independent mapping or geochronology evidence in support, it seems reasonable to correlate the quartz-diorite stock with regional map unit TKt and a belt of deformed metasedimentary rocks on the western edge of the claim block with map unit KPsV. Many drill holes from the western-most drill pads exited the diorite into strongly foliated metasedimentary rocks confirming the strongly tectonized contact between the two units.

The New Amalga deposit consists of, at present, five principal and parallel sets of east-northeast-trending quartz veins, two associated splays and one cross vein hosted in quartz-diorite. The veins consistently dip steeply to the north with a minor NE trending vein set splaying off or intersecting the main vein set. Vein thicknesses range from several meters to decimeters and within the host structures occasionally several generations of veining can be observed. This leads to variable mineralized thicknesses noted both at the surface and in drill intercepts with mineralized widths up to 8 m true thickness occasionally encountered, but importantly even if vein thicknesses are variable, drilling at present shows consistent down-dip continuity of the host structures. Descriptions of closely adjacent prospects suggest that the quartz-diorite host is a unique feature to the New Amalga Gold Project as the other prospects are all metasedimentary-hosted.

The mineralogy of the veins is dominantly quartz with lesser carbonate, arsenopyrite, pyrite, galena, sphalerite, scheelite and occasionally visible gold. Visible gold tends to occur associated with galena in the veins. Vein textures commonly show shearing, grain-size reduction and structural offsets indicating mineralization was

continuous with deformation. Alteration extends as much as several meters into the wallrock adjacent to the veining consisting of sericite, chlorite and carbonate-altered quartz diorite. As a result of the preferential erosion of the alteration selvages, steep walled canyons typically mark the locations of the veins on the project. These gullies are easily visible on aerial photos and provide a convenient prospecting tool.

### 7.2.0 Mineralization

Gold mineralization is associated with sulphide-bearing quartz veins that are constrained to structures transecting lithologies, including the predominant host rock, quartz diorite. Minor gold values have been obtained in schistose rocks, generally adjacent to quartz diorite units. These quartz veins are generally east-west +/- striking and occupy recessively weathering domains within the quartz diorite.

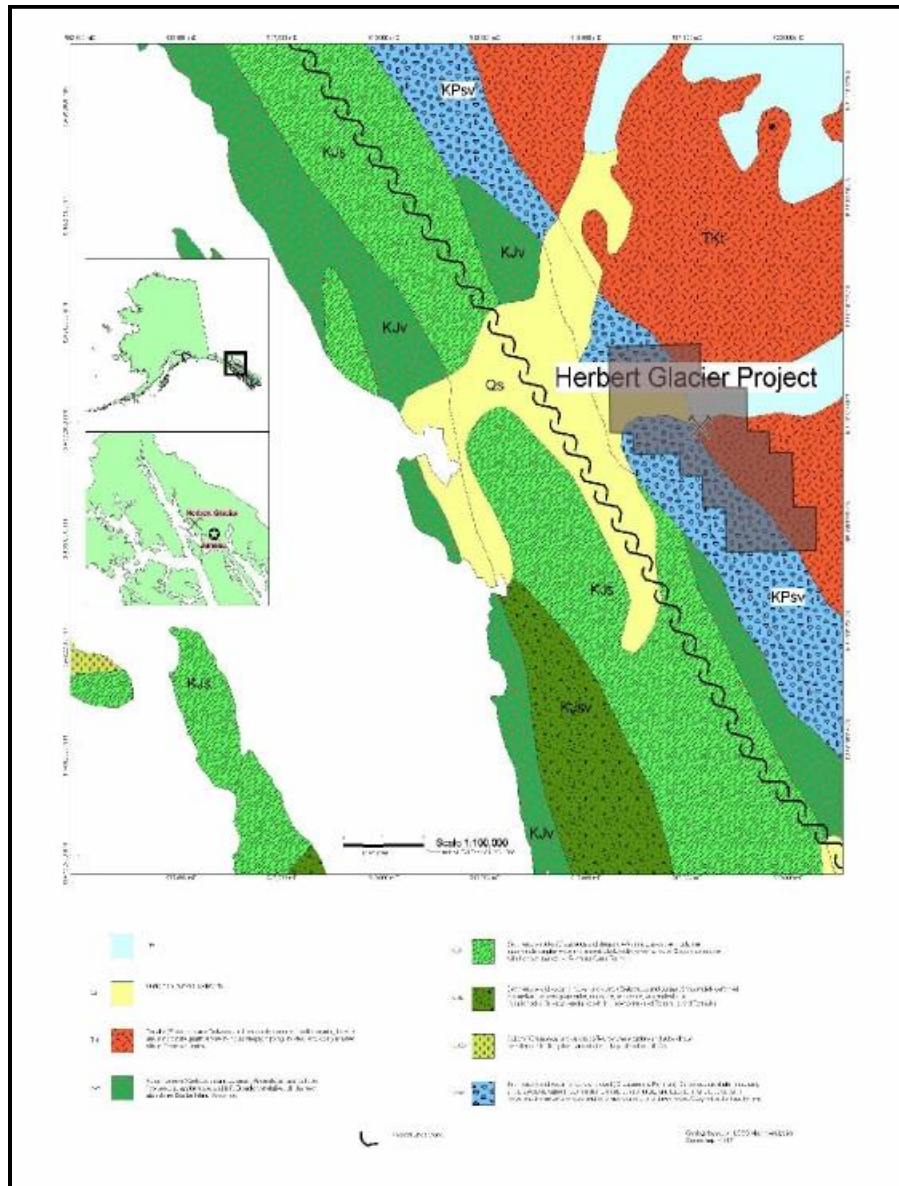


Figure 7-1: Local Geology of New Amalga Property Area



**Figure 7-2: Photo of the Goat Vein structure (purple line), viewed to the east (C. Hale, 2018)**

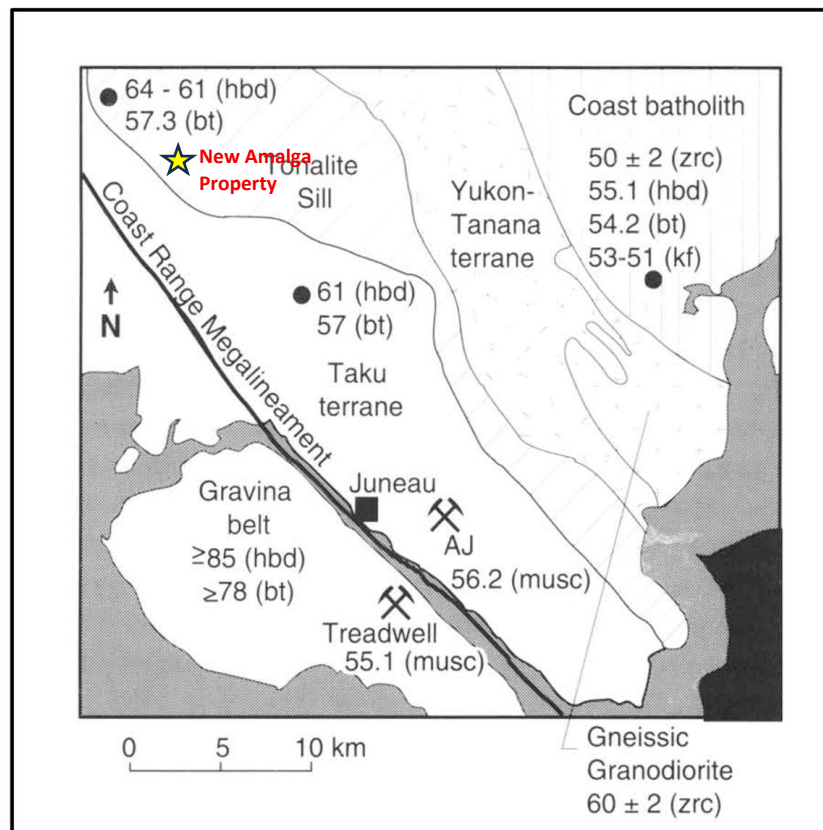


**Figure 7-3: Crew cutting a conventional channel sample on the Goat Vein (C. Hale, 2018)**

## 8 DEPOSIT TYPES (Item 8)

The Juneau District hosts a variety of mesothermal gold deposits hosted within metamorphosed sedimentary rocks (schists) and associated intrusions within structurally controlled settings. These appear to be related to the large Coast Range Megalineament.

The Juneau Gold Belt (JGB) has been Alaska's largest lode gold producer, yielding approximately 7.0 million ounces of gold, largely from the Alaska-Juneau and Treadwell mines. An equal amount of gold reserves are estimated to be still present within the Alaska-Juneau and Kensington mines (Swainbank *et al.*, 1991). Deposits of the JGB are located on either side and within a few kilometers of a major crustal structure termed the Coast Range Megalineament (**Error! Reference source not found.**). Auriferous veins show a strong spatial association with the relatively competent igneous bodies of varied composition: These rocks are, however, much older than the veining (Goldfarb *et al.*, 1993). The veins are also associated with greenschist facies rocks of an inverted metamorphic gradient of up to 8 km in thickness (Himmelberg *et al.*, 1991).



**Figure 8-1: Location of New Amalga Property relative to Coast Range Megalineament**

Gold-veins along 200 km of the Coast Range Megalineament were emplaced between 56 – 55 Ma, near the end of a 60 m.y. period of orogenic activity (Goldfarb *et al.*, 1991b). Relaxation along this shear zone, during a shift from orthogonal to more oblique convergence and resulting strike-slip motion, is hypothesized as having led to increased permeability and widespread fluid migration. A belt of tonalitic plutons were intruded approximately 5 km east of the megalineament between 68-61 Ma (Barker *et al.*, 1986; WOOD ET AL., 1991).

## 9 EXPLORATION (Item 9)

Exploration on the property consists of a property-scale rock chip, stream silt, and soil sampling program started in 2007 and continued to a lesser degree during the 2010 and 2011 drilling programs. Two hundred and ninety-nine (299) samples collected and assayed in 2007 are recorded in the property database. Samples have been collected from 50% of the project area. There has been no systematic grid sampling program, which is appropriate based on the exposure level and the narrow, high-grade targets sought. A high-resolution aerial photograph covers the entire claim block and a detailed 5 m spacing contour map has been prepared in a digital format over 12.5% of the claim area.

A hand-drafted geologic map centered on the drill targets at an approximate scale of 1:10,000 has been compiled onto the 5 m spacing contour map. The high-resolution aerial photograph is particularly useful on account of the large areas of rock exposure and the association of veining with pronounced linear features, making it a valuable prospecting tool.

The 2007 sampling results show that all the major vein structures have been covered by multiple surface samples on the claim block. The majority of the anomalous gold samples are located on the northern portion of the claim block on the Main, Deep Trench, and Goat veins. South of this area the number of anomalous gold samples decreases, where only a single sample out of a population of 112 returned a measured value above 5 ppm Au. This area with low surface gold values correspond to that portion of the claim block south of the 6487400 Northing, comprising approximately half the area of the claim block.

The rock chip program was successful in identifying veins with anomalous gold values. Exposure limitations results in non-uniform sampling making it difficult to apply the results to quantitative resource modeling. In 2011 a small channel sampling program was started across surface exposed veins. Four trenches (A through D) totaling 19.72 m across the Deep Trench Vein were collected using a portable rock saw. The method consisted two parallel cuts approximately 3 cm deep and 6 cm wide and sample lengths on the order of 0.5 to 1.5 m long. The samples collected approximated a drill core rock volume and typical sample length. This is a valuable exploration tool precisely because it standardizes the sampling process and was incorporated into the solid resource model. It was because of this standardized sampling of the trenches that it was decided by DRW to incorporate the trench results into the resource model.

Substantially all work completed in 2012 consisted of diamond drilling with minor field mapping and sampling.

In 2018 a LiDAR survey was completed by Quantum Spatial covering 1,826 hectares (4,512 acres) delivering 1 m Bare Earth (DEM) Highest Hit Surface Model (DSM), and Intensity images. Deliverables included 0.5m contours, DSM and a DTM.

## 10 DRILLING (Item 10)

In **2010** Grande Portage commenced a drilling campaign on the previously identified targets. The 2010 drilling program comprised 16 NQ diamond drill holes totalling 2,600 meters. The best intercept was from hole DS 10C-1 from 119.29 to 120.9 grading 12.9 gpt gold.

In **2011** an additional 30 NQ diamond drill holes totaling 5,181 m were drilled. Results were encouraging and are highlighted by:

- DDH 11E-2 from 137.1 – 152.37m returned 35.52 gpt gold over a width of 15.93m (true width of 8.76m)
- DDH 11E-1 from 107.0 – 115.82 graded 12.8 gpt gold over a trued width of 6.97m

In addition a total of 19.72m of hand-held rock saw channel samples from four trenches across the Deep Trench Vein outcrop trace were collected. The highest value returned (Trench A) a weighted average of 6.48 gpt gold over 6.13 meters.

During the **2012** exploration campaign, 62 holes totaling 8805.03 meters were completed. That does not include three failed holes with the small drill which total up to 29.87 meters. The large drill recovered NQ diameter core and the small obtained BQ diameter core. In addition, 23 BQ holes (300 series) were drilled.

Many high-grade intersections were obtained from several of the veins. These results are highlighted by hole 326B2, drilled on the western Deep Trench vein, intersected rich mineralization consisting of 11.58 metres (6.14 metres true thickness) of 24.37 grams per tonne gold (0.712 ounces per ton)

In **2017** a drill program consisted of 12 NQ diamond drill holes totaling 3,709 metres from four drill pads. A total of 493 core assays were collected. Core was flown either to the nearby road for truck transport to the logging facility, or to the airport where it was picked up and trucked to the logging facility.

In **2018** a drill program consisted of 15 NQ drill holes totaling 4,751.1 m and 2 PQ drillholes totaling 121.0m from two drill pads and two sawn channel cuts totaling 2.1 m.

In **2020** a drill program consisted of 22 NQ drill holes totaling 8,397.9 m from four drill pads.

In **2021** 20 NQ diamond drill holes totaling 8,151.6 m were completed from five drill pads.

In **2022** 5 NQ diamond drill holes totaling 3,936.1 m were completed from one drill pad.

In **2023** 9 NQ drill holes totaling 3,523.8 m were completed from three drill pads.

All drillhole locations are shown on the table below.

**Table 10-1: All drill hole locations in NAD 83 Z.8, azimuth, dip and total depth (in metres)**

dh_id	Easting	Northing	Elev__m	az	dip	td__m
88H-19	518061.3	6487876	49	170	-75	112.78

88H-18	518111	6487880	65	170	-85	144.48
88H-17	518164	6487911	93	170	-70	144.17
88H-16	518236	6487880	111	170	-45	60.4
88H-15	518298	6487892	135	170	-80	138.99
88H-14	518366.1	6487932	130	170	-75	138.99
88H-13	518443.2	6487906	181	170	-75	96.93
88H-12	518550	6487891	198	170	-80	60.05
88H-11	518468.8	6487906	189	170	-65	114.91
88H-10	518494.8	6487900	191	170	-75	92.05
88H-9	517934.2	6487803	43	170	-45	56.69
88H-8	517989.1	6487836	43	170	-45	60.05
88H-7	518055	6487832	45	170	-45	34.75
88H-6	518083	6487861	47	170	-45	65.23
88H-5	518145	6487875	70	170	-45	88.09
88H-4	518211.6	6487871	92	170	-45	59.44
88H-3	518264.9	6487861	123	170	-45	42.67
88H-2	518332	6487876	133	170	-45	53.34
88H-1	518391	6487878	143	170	-45	42.98
326D	518157.5	6487688	124.44	222	-57	92.35
326C	518158.5	6487687	124.7	190.5	-45	92.35
326B2	518158.7	6487688	124.71	162	-61.5	117.04
326B	518159.3	6487688	124.85	162.5	-61	91.44
326A	518159.6	6487687	124.63	161	-41	73.76
315F	518093.9	6487678	69.82	335	-44	46.63
315E	518094.4	6487678	69.77	302	-62	88.39
315D	518094.1	6487678	69.59	303	-42	61.87
315C	518093.2	6487676	69.9	211	-45	95.4
315B	518095	6487675	69.92	175	-43	114
315A	518096.2	6487677	70.26	127	-44	100.58
312B	518213.9	6487685	127.22	204	-45	73.15
312A	518214	6487685	127.19	180	-45	60.96
311D	518279.9	6487683	129.79	154	-63	76.81
311C	518280.2	6487683	129.84	155	-42	55.17
311B	518277.2	6487684	130.19	206	-60	74.37
311A	518277.3	6487684	130.46	206	-41	54.86
310B	518246.7	6487677	122.73	188	-59	77.42
310A	518246.6	6487677	122.84	186	-44	61.87
309D	518312	6487685	146.11	140	-45	54.86
309C	518311.1	6487684	146.22	183	-70	94.18
309B	518311.1	6487684	146.22	182	-63	83.21
309A	518311.5	6487683	145.84	180	-42.5	67.06
120-9	518456	6487941	183.53	203	-54	145.69
120-8	518455.9	6487941	183.5	201	-43	200.25
120-7	518457.8	6487941	183.62	146	-67	136.86

120-6	518457.9	6487941	183.61	147	-58	142.95
120-5	518458	6487941	183.64	147	-43	173.13
120-4	518457.4	6487941	183.55	177	-81	231.34
120-3	518457.4	6487941	183.54	175	-68	174.96
120-2	518457.4	6487941	183.53	173	-58	127.73
120-11	518456.1	6487941	183.38	203	-70	179.53
120-10	518456	6487941	183.53	202	-63	167.34
120-1	518457.5	6487941	183.58	173	-47	352.96
12J-7	518115.7	6488102	60.52	219	-64	152.4
12J-6	518115.3	6488102	60.47	224	-43	154.53
12J-5	518117.1	6488101	60.66	131	-71.5	182.58
12J-4	518117.4	6488101	60.65	122	-43	121.01
12J-3	518117.2	6488101	60.66	135	-63	152.1
12J-2	518117	6488101	60.64	180	-74.5	142.95
12J-1	518117	6488100	60.69	180	-63	118.87
12H-1	518440.2	6487732	227.48	181	-42	303.89
12G-6	518330.5	6487736	150	150	-68	202.39
12G-5	518330.7	6487735	149.98	158	-60	148.74
12G-4	518330.9	6487735	149.98	158	-47	138.07
12G-3	518330.1	6487736	150	182	-57	371.75
12G-2	518329.9	6487736	149.99	213	-63	213.06
12G-1	518329.5	6487735	149.99	213	-55	185.32
12F-5	518088.4	6487703	67.27	220	-43	128.93
12F-4	518091.2	6487703	66.94	178	-62	160.93
12F-3	518091.3	6487702	66.82	177	-53	157.37
12F-2	518092.4	6487704	67.35	133	-68	197.91
12F-1	518092.6	6487703	67.48	132	-56	158.19
11J-1	518117.2	6488101	60.55	170	-45	121.62
11I-7	518007	6487878	44.2	208	-80	243.84
11I-6	518007.9	6487879	44.2	115	-70	210.01
11I-5	518007.3	6487879	44.2	115	-45	161.24
11I-4	518005.8	6487877	44.24	208	-65	171.3
11I-3	518005	6487877	44.24	208	-45	131.06
11I-2	518006.3	6487878	44.24	170	-75	182.88
11I-1	518006.3	6487876	44.8	170	-45	388.95
11G-8	518332	6487736	150.5	125	-61	197.82
11G-7	518332.2	6487736	150.5	125	-45	164.9
11G-6	518331.2	6487736	150.26	180	-73	231.65
11G-5	518331.3	6487736	150.27	180	-63	155.45
11G-4	518331.3	6487734	150.72	180	-45	121.92
11G-3	518330.1	6487735	151.17	210	-69	145.69
11G-2	518329.4	6487735	149.93	210	-45	152.4
11G-1	518329.4	6487735	149.97	227	-57	261.82
11F-3	518090	6487702	67	180	-70	179.53

11F-2	518090	6487701	67	180	-45	72.85
11F-1	518091.5	6487702	67	145	-45	124.66
11D-3	518530.7	6487933	184.52	135	-52	116.74
11D-2	518527.5	6487932	184.58	234	-69	173.13
11D-1	518527.1	6487932	184.58	235	-45	160.63
11C-3	518186	6487920	102.38	143	-52	175.56
11C-2	518184.9	6487920	102.38	178	-63.5	189.89
11C-1	518183.7	6487921	102.11	226	-54	197.51
10D-3	518527.5	6487932	184.58	233	-67	99.36
10D-2	518529.5	6487933	186	170	-82	158.5
10D-1	518529	6487932	184.55	170	-73	135.94
10C-2	518184.2	6487921	102.2	220	-54	101.19
10C-1	518185.2	6487920	102.2	170	-45	134.11
10B-3	518781.3	6487675	333.63	150	-45	98.7
10B-2	518779.5	6487675	334.21	210	-75	231.34
10B-1	518779	6487673	332.87	210	-45	228.6
10A-7	518358.5	6487951	126.3	200	-70	198.4
10A-6	518357.9	6487950	126.3	200	-50	173.7
10A-5	518359.4	6487951	126.29	170	-65	183.5
10A-4	518359.4	6487950	126.39	170	-45	341.38
10A-3	518359.8	6487952	126.3	140	-85	45.72
10A-2	518360.6	6487951	126.3	140	-65	200.25
10A-1	518360.9	6487951	126.3	140	-45	152.25
12E-1	518203	6487728	135.59	180	-51	153.62
11E-1	518203.5	6487728	135.69	185	-46	164.28
10E-1	518204.6	6487729	135.68	210	-45	117.04
12E-2	518203	6487728	135.66	182	-65	216.16
11E-2	518203.5	6487728	136.2	185	-62	161.24
12E-3	518201.8	6487728	135.59	215	-40	189.89
11E-3	518203.5	6487728	136.2	190	-72	231.34
12E-4	518202	6487728	135.57	215	-52	189.89
11E-4	518201.6	6487728	136.2	220	-49	152.4
12E-5	518202.2	6487728	135.58	204	-49	167.03
11E-5	518204.6	6487729	135.68	150	-49	138.68
12E-6	518202.2	6487728	135.55	206	-60	197.51
12E-7	518202.4	6487728	135.57	163	-41	157.58
12E-8	518202.3	6487728	135.57	163	-56	166.09
12E-9	518202.2	6487728	135.59	163	-69	203.91
17K-1	518019	6488115	73	215	-45	173.736
17K-2	518019	6488115	73	215	-73	257.4341
17K-3	518019	6488115	73	165	-45	180.594
17K-4	518019	6488115	73	165	-75	214.5792
17L-1	518180	6488150	70	130	-45	192.024
17L-2	518180	6488150	70	130	-75	272.1864

17L-3	518180	6488150	70	170	-45	429.1584
17L-4	518180	6488150	70	170	-80	232.5624
17U-1	518421	6488011	132	165	-50	502.4628
17U-2	518421	6488011	132	165	-78	288.036
17Y-1	518265	6487893	115	180	-55	449.58
17Y-2	518265	6487893	115	145	-63	516.636
18S-1	518273	6487682	141	155	-50	54.6
18S-2	518273	6487682	141	155	-65	66.4
18M-1	518130	6488262	85	335	-45	193.5
18M-2	518130	6488262	85	21	-45	199.3
18M-3	518130	6488262	85	116	-49	327.7
18M-4	518130	6488262	85	116	-70	356.6
18M-5	518130	6488262	85	116	-81	418.8
18M-6	518130	6488262	85	127	-45	286.1
18M-7	518130	6488262	85	127	-61	327.1
18M-8	518130	6488262	85	171	-45	546.5
18M-9	518130	6488262	85	171	-61	297.8
18M-10	518130	6488262	85	171	-77	388.9
18M-11	518130	6488262	85	171	-82	428.2
18M-12	518130	6488262	85	200	-55	454.2
18M-13	518130	6488262	85	200	-67	405.4
20T-1	518363.0	6488196.0	145.0	168.0	-45	5.2
20T-2	518363.0	6488196.0	145.0	168.0	-63	83.5
20T-2B	518363.0	6488196.0	145.0	168.0	-53	406.9
20T-3	518363.0	6488196.0	145.0	168.0	-70	538.9
20T-4	518363.0	6488196.0	145.0	168.0	-87	373.7
20T-5	518363.0	6488196.0	145.0	122.0	-45	231.3
20T-6	518363.0	6488196.0	145.0	134.0	-41	468.8
20T-7	518363.0	6488196.0	145.0	134.0	-58	513.3
20T-8	518363.0	6488196.0	145.0	191.0	-55	510.5
20T-9	518363.0	6488196.0	145.0	191.0	-42	463.0
20T-10	518363.0	6488196.0	145.0	338.0	-45	314.9
20T-11	518363.0	6488196.0	145.0	134.0	-74	557.3
20T-12	518363.0	6488196.0	145.0	156.0	-58	488.1
20U-1	518418.0	6488009.0	128.0	184.0	-43	491.6
20U-2	518418.0	6488009.0	128.0	166.0	-57	598.6
20U-3	518418.0	6488009.0	128.0	166.0	-64	311.8
20U-4	518418.0	6488009.0	128.0	112.0	-49	311.5
20H-1	518441.0	6487736.0	228.0	130.0	-45	192.6
20H-2	518441.0	6487736.0	228.0	130.0	-67	223.7
20H-3	518441.0	6487736.0	228.0	170.0	-45	494.4
20Y-1	518262.0	6487898.0	122.0	173.0	-45	357.2
20Y-2	518262.0	6487898.0	122.0	160.0	-62	460.9
21P-1	518414	6488282	141	185	-75	397.5

21P-1a	518414	6488282	141	185	-75	427.9
21P-2	518414	6488282	141	130	-73	394.4
21P-3	518414	6488282	141	141	-43	423.2
21P-4	518414	6488282	141	141	-63	455.1
21X-1	518210	6488100	67	180	-68	440.1
21X-2	518210	6488100	67	180	-80	484.6
21W-1	518170	6487980	111	200	-61	342.6
21W-2x	518170	6487980	111	160	-59	35.1
21W-2	518170	6487980	111	160	-59	256.5
21Z-1	518075	6488205	77	193	-50	573.5
21Z-2	518075	6488205	77	230	-45	412.1
21Z-3	518075	6488205	77	230	-65	355.1
21Z-4	518075	6488205	77	173	-64	285.3
21Q-1	518582	6488175	122	150	-45	383.9
21Q-2	518582	6488175	122	150	-59	433.1
21Q-3	518582	6488175	122	150	-70	547.1
21Q-4	518582	6488175	122	150	-81	663.5
21Q-5	518582	6488175	122	200	-45	393.2
21Q-6	518582	6488175	122	200	-62	447.8
22AB-1	518422	6488499	102	200	-62	498.7
22AB-2	518422	6488499	102	204	-74	852.2
22AB-3	518422	6488499	102	195	-48	826.8
22AB-4	518422	6488499	102	183	-63	839.4
22AB-5	518422	6488499	102	162	-55	919.0
23M-1	518130	6488262	82	141.5	0	351.1
23M-2	518130	6488262	82	162	0	351.4
23M-3	518130	6488262	82	199	0	351.4
23M-4	518130	6488262	82	130	-52	357.5
23P-1	518414	6488282	141	178	0	334.0
23P-2	518414	6488282	141	178	-75	376.1
23P-3	518414	6488282	141	145	0	494.7
23P-4	518414	6488282	141	135.5	0	321.0
23BB-1	518620	6488345	166	201	0	586.4

In addition, a series of short channel samples have been cut across the veins where possible. These have been treated as horizontal drill holes in this report and include:

**Table 10-2: Location of surface channel samples**

dh_id	easting	northing	elev__m	az	dip	td__m
GC1	518266	6488064	76	175	0	2
GC2	518261	6488063	76	175	0	2
DTV1	518415	6487656	186	175	0	1
DTV2	518415	6487655	186	175	0	2

DTV3	518415	6487657	186	175	0	1
DTV4	518415	6487658	186	175	0	1
MVHW1	518312	6487858	76	175	0	1
MVHW2	518312	6487857	76	175	0	1
MVHW3	518312	6487859	76	175	0	1
MV1	518517	6487864	110	175	0	2
MV2	518517	6487865	110	175	0	1
MV3	518517	6487864	110	175	0	1
MV4	518517	6487865	110	175	0	2
MVHW4	518172	6487832	74	175	0	2
MVHW5	518172	6487833	74	175	0	1
MV5	518175	6487817	85	175	0	1
MV6	518175	6487816	85	175	0	1
MV7	518175	6487816	85	175	0	2
MV8	518251	6487824	85	175	0	2
MV9	518251	6487825	85	175	0	2
DTV5	518150	6487643	94	175	0	2
NV1	518157	6488350	90.9	175	0	1
NV2	518157	6488350	90.9	175	0	1
NV3	518174	6488347	90.9	175	0	1
NV4	518174	6488347	90.9	175	0	1
EV1	518563	6487379	292	175	0	1
EV2	518563	6487379	292	175	0	1
EV3	518563	6487379	292	175	0	1
EV4	518563	6487379	292	175	0	1
EV5	518563	6487379	292	175	0	1
EV6	518563	6487379	292	175	0	1
Trnch_D	518190	6487651	111	170	-3	4.51
Trnch_C	518174	6487650	105	170	-1	4.58
Trnch_B	518160	6487649	99	170	-3	4.5
Trnch_A	518149.5	6487648	91.6	170	-3	6.13

All drill holes were designed to intersect the quartz veins as close to perpendicular as possible but given the fan-nature of the drilling as constrained by pad locations, these intercepts ranged from close to 90 degrees to as shallow as 30 degrees.

# 11 SAMPLE PREPARATION, ANALYSIS AND SECURITY (Item 11)

## 11.1 Sample Preparation

- **Transportation:** Core was slung by helicopter in supersacks to either the secure Coastal Helicopter hanger area where it was received or to a staging area beside the highway 5 km west of the Project.
- Core was laid out on logging tables in the warehouse by crew or when the tables were full, stored on pallets in the front open area inside.
- **Initial Processing:** Geotech crew converted all marker blocks in boxes into metric numbers, straightened and arranged the core to approximate original bedrock alignment and cleaned the core in preparation for photographing.
- Geotechnical information was gathered at this point. Core recovery, RQD measurements and rock competency determinations were noted.
- Geologists marked the core and boxes for intervals that were sampled and placed the numbered sample tag at the start of the interval. The tags were stapled at the start of the interval to be sampled so the number is clearly visible in the photographs. Tags were reserved and removed from the sequence in the boxes at this point and blanks and standards were inserted. Sample tickets have two tear-off tags; one was placed in the corebox and one was placed inside the sample bag.
  - Standards were inserted at the rate of 5% or one for every 20 samples.
  - Blanks were used at the same rate in general except that they were inserted after high grade intercepts were expected or noted.
- **Photographing:** Photos of each box were taken by the geotechnician with the label board clearly and accurately marked for hole number, box number and footage. Photos were given to the project geologist on SD card for renaming files and storing in master computer.
- The core was logged by geologist after photographing.
- **Sampling:** After the geologist confirmed that the hole or part of the hole was through being logged, the geotech crew saws/splits the sample intervals.
  - The splitter determines how best to cut the core so both halves are equally mineralized and also maintain the structural integrity of the remaining half so future inspection is most meaningful.
  - The sample intervals are sawn and bagged with plastic bags used inside of cloth bags for highly broken, powdered, gougey, crumbly, or clay-rich samples or just canvas bags for competent intervals. Sample tags for that interval are placed inside the bag with the sample and the sample number was written on the outside of the bag in permanent marker.
  - The sample saw was kept clean with care taken after cutting samples from a known high grade mineralized zone.
- **Bagging and Shipping:** Samples were placed inside the secure warehouse in the area reserved for shipment preparation.

- After the hole was finished being sampled, the sample transmittal forms were filled out and the individual samples were aggregated in larger rice bags, labeled for shipment and in 2021 these were delivered to Bureau Veritas Laboratories for preparation. The prepared samples were shipped by commercial carrier to Bureau Veritas's analytical facilities in Richmond, B.C. BVI is independent of the company and is ISO 9001:2015 certified. In 2022 and 2023 the samples were prepared similarly by sent to ALS Canada Ltd. in North Vancouver facilities using conventional preparation techniques and analyzed using AU-SCR21, AU-AA25, AU-AA25D, Au-ICP21 for gold with screened metallic analyses for samples where visible gold was noted. ME-OG62 was used as a four-acid digestion for ore grade metals, AS-OG62 was a four-acid digestion for high-grade arsenic, ME-MS41 and ME-ICP61 techniques were used to determine additional element concentrations. Blanks and standards were inserted in the field as well as in the laboratory with all checks reporting acceptable results. ALS is independent of the Company and certified ISO-17025.

The author's opinion is that the sample preparation, security and analytical procedures are appropriate for this project.

## 11.2 Security

Core logging facilities and core storage containers were locked at all times when not under direct supervision and observation by Company employees. Special care was taken to keep core in order so that no mistakes made in number recordation, notes, sequences, bag labeling, photographing, etc. Communication between Coastal Helicopters, drillers, and Company personnel were maintained during transport. Time for core storage at Coastal Helicopters hanger was kept to a minimum.

Sample shipments to the BVI prep lab in Juneau or to ALS Canada Ltd. were made for each hole as soon as the samples are cut and bagged.

## 11.3 Sample Analyses

### 11.3.0 Preparation Procedures

The samples are entered into the Laboratory Information Management System (LIMS), weighed, dried and crushed to ensure that greater than 70% pass a 2mm sieve. A 250g split of the crushed material is then pulverized to greater than 85% passing a 75µm sieve. At random intervals and at the start of each shift QC testing is completed on both crushed and pulverized material to ensure that the above specifications are met.

### 11.3.1 Analytical Procedures

**AQ370** - Aqua regia digestion Ore Grade ICP analysis:

1g sample split is digested with a modified Aqua Regia solution of equal parts concentrated HCl, HNO<sub>3</sub> and DI H<sub>2</sub>O for one hour in a hot water bath. Sample is made up to volume with dilute HCl in class A volumetric flasks.

**MA300** - HF-HNO<sub>3</sub>-HClO<sub>4</sub> acid digestion:

Prepared sample is digested to complete dryness with an acid solution of (2:2:1:1) H<sub>2</sub>O-HF-HClO<sub>4</sub>-HNO<sub>3</sub>. 50% HCl is added to the residue and heated using a mixing hot block. After cooling the solutions are transferred to test-tubes and brought to volume using dilute HCl. Sample splits of 0.25g are analyzed.

**FA430** - Precious Metals by Lead Collection Fire Assay

30 or 50g of prepared sample is custom-blended with fire-assay fluxes, PbO litharge and a silver inquart. Firing the charge at 050°C liberates Ag, Au and PGEs that report to the molten Pb-metal phase. After cooling the Pb button is recovered, placed in a cupel and fired at 950°C to render a Ag, Au and PGEs dore bead. The bead is then either digested with nitric and hydrochloric acids for instrumentation determination or weighed and parted with nitric acid to dissolve Ag leaving gold which is weighed directly. Ag is determined by difference of the dore bead from the gold in gravimetric analysis.

**FS600** - Metallic Screen Fire Assay

Prepared samples of 500g samples are screened through 150 mesh (106 µm) screens producing 2 sample fractions for analysis. The plus fraction is analyzed in its entirety by fire assay with gravimetric finish and reported as +Au. The minus fraction is analyzed by fire assay with AA or ICP finish either once or in duplicate at 30 or 50g charge weight depending on client request and reported as -Au. If values exceed 10ppm in the minus fraction the minus fraction may also need to be analyzed with gravimetric finish. Gold values of both fractions are reported along with a total gold content of the sample. (Alternative screen sizes / weights available upon request) Fire assay is performed by custom-blending samples with fire-assay fluxes, PbO litharge and a Ag inquart. Firing the charge at 1050°C liberates Ag ± Au ± PGEs that report to the molten Pb-metal phase. After cooling the Pb button is recovered, placed in a cupel and fired at 950°C to render a Ag ± Au ± PGEs dore bead. The bead is digested for ICP analysis or weighed and parted in ACS grade HNO<sub>3</sub> to dissolve Ag leaving a Au sponge. Au is weighed for Gravimetric determination; ACS grade HCl is added dissolving the Au ± PGE sponge for Instrument determination.

**LF100** - Lithogeochemical Whole Rock Fusion

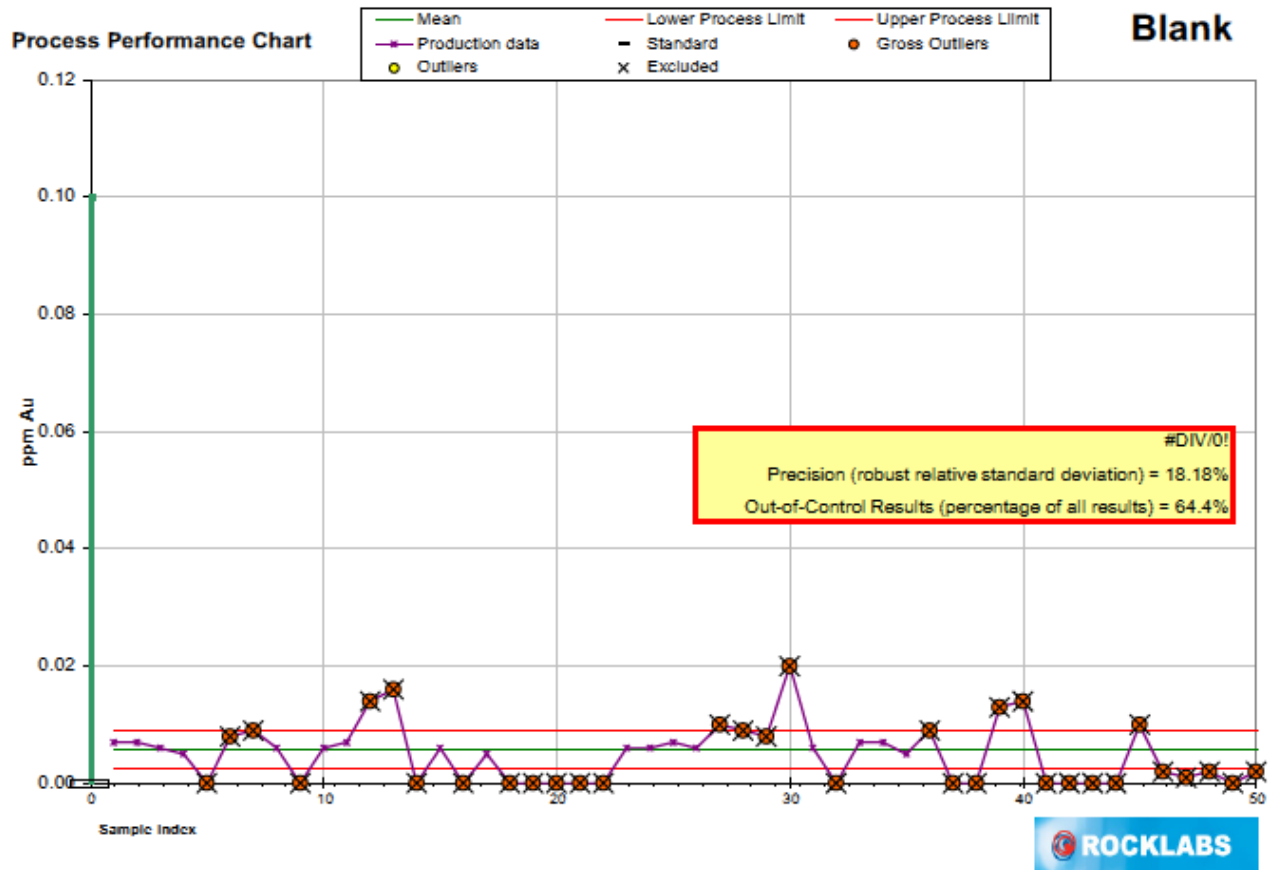
Prepared sample is mixed with LiBO<sub>2</sub>/Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub> flux. Crucibles are fused in a furnace. The cooled bead is dissolved in ACS grade nitric acid and analyzed by ICP and/or ICP-MS. Loss on ignition (LOI) is determined by igniting a sample split then measuring the weight loss. Total Carbon and Sulphur may be included and is determined by the Leco method (TC000). The LF202 package includes an additional 14 elements from an aqua regia digestion AQ200 to provide Au and volatile elements which do not report as part of the LF200 package.

**Au-ICP21** Gold by fire assay and AES with detections from 0.001 to 10.0 gpt on 30 gm sample

**ME-MS41** Multi-element aqua regia digestion with ICP Mass Spectrometry analysis. Variable detection limits.

## 12 DATA VERIFICATION (Item 12)

The author reviewed all analytical data collected by the Company, including the standards and blanks that were submitted. The Company uses marble chips from Home Depot for its blank material.



**Figure 12-1: Assays of blanks from 2020, 2021, 2022, 2023**

Fifty-nine blank samples were inserted into the sample stream. All yielded acceptable results except for one anomalous value at 0.020 gpt obtained in 2020. This is acceptable for a blank value as it is low enough value to not be of material concern in the author’s opinion. The Company should however consider using certified blanks in the future.

Seven sets of commercial standards were inserted into the sample stream during recent drilling years which combined with the series of blanks provides for a robust quality assurance and quality control program. All standards reported within expected values.

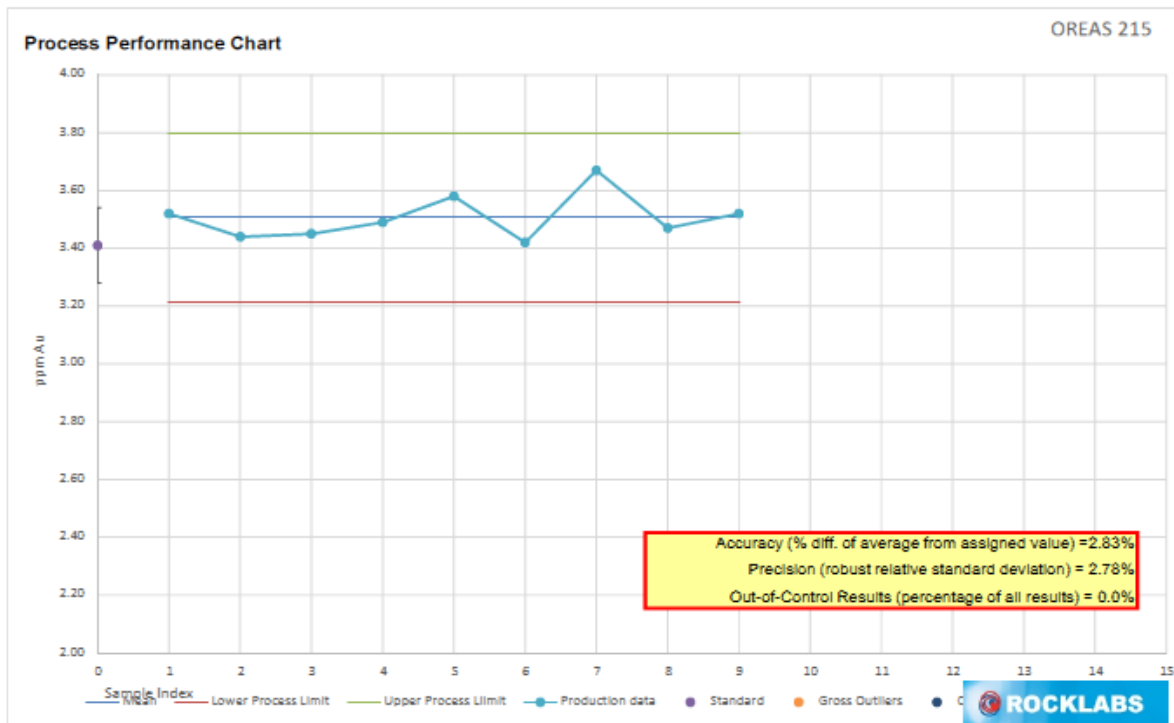


Figure 12-2: Assays of OREAS 215 standard

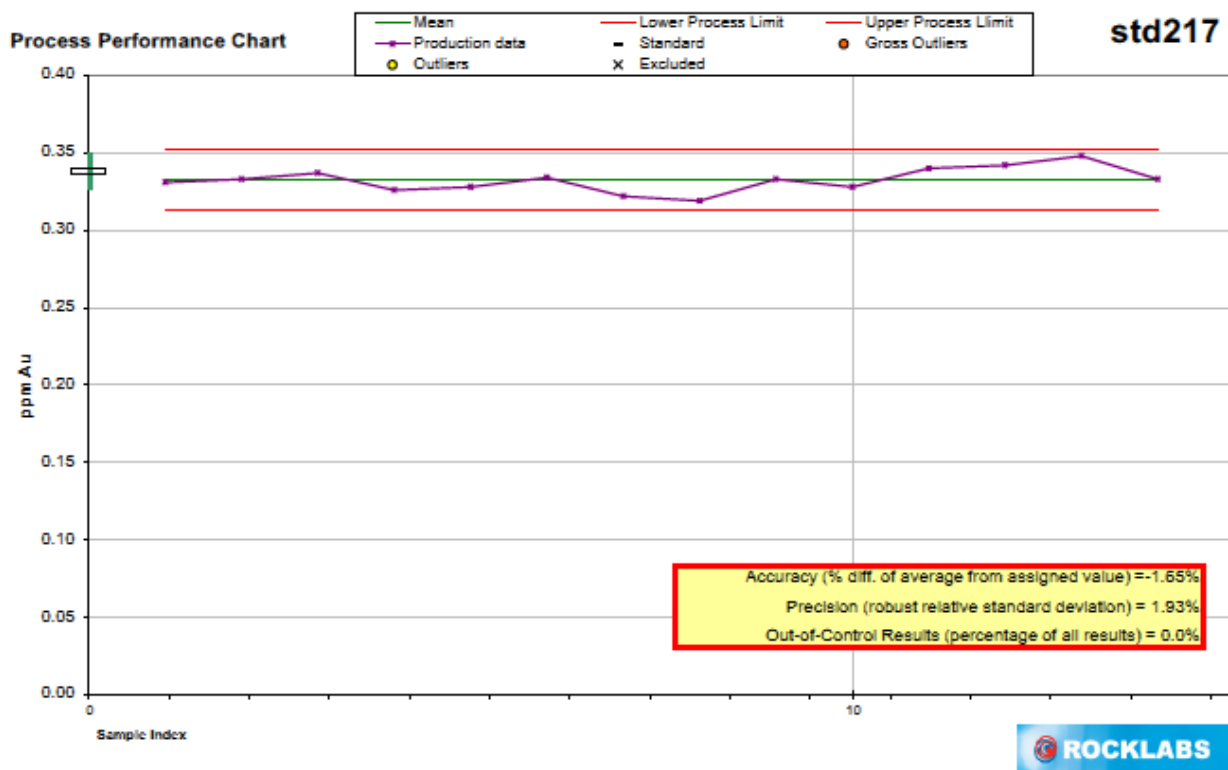


Figure 12-3: Historic Assays of OREAS 217 standard

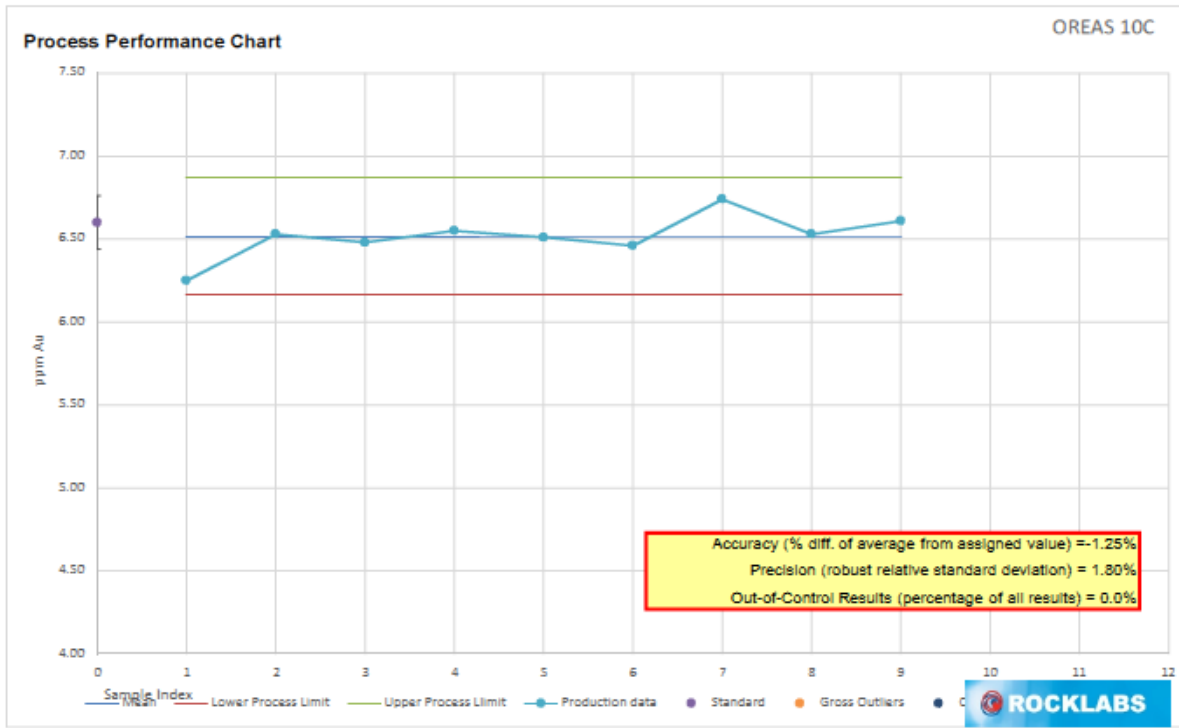


Figure 12-4: Assays of OREAS 10C standard from 2020

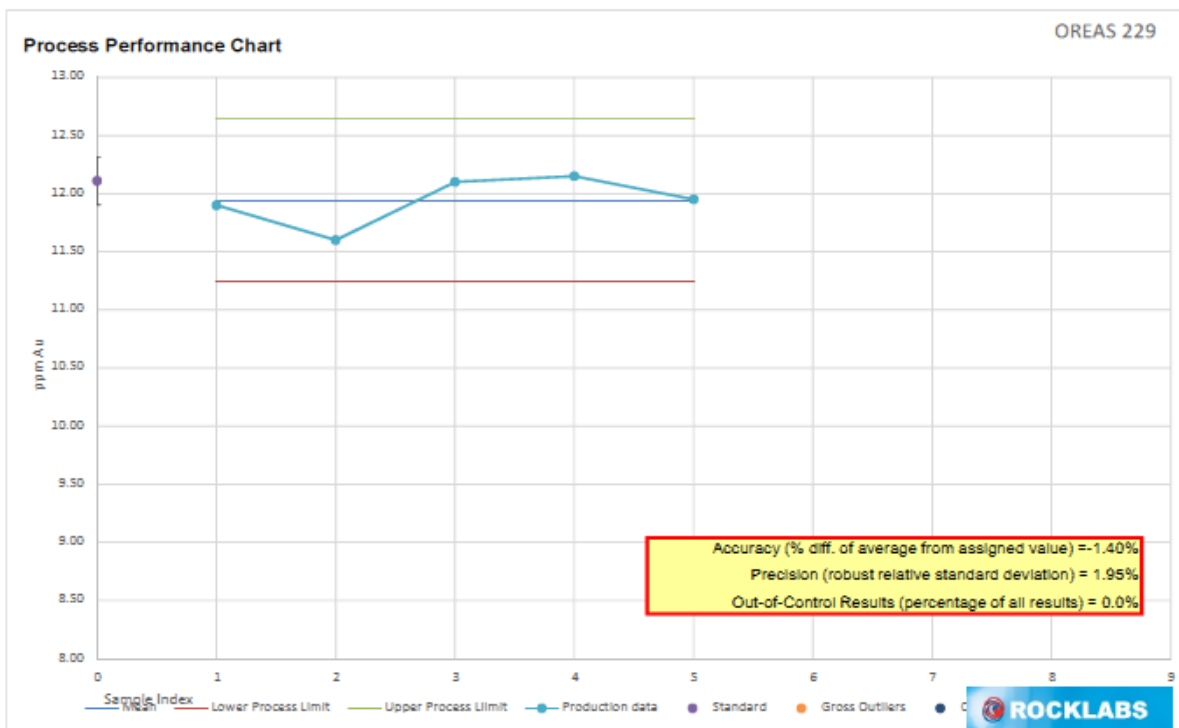


Figure 12-5: Assays of OREAS 229 standard

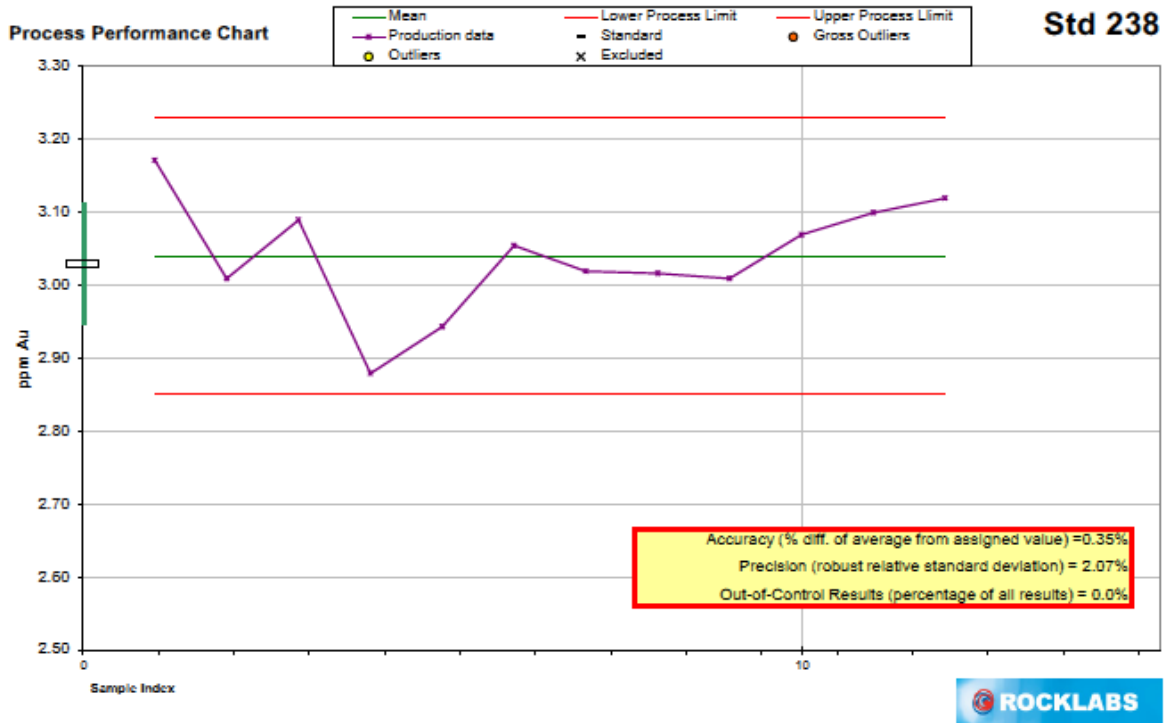


Figure 12-6: Assays of OREAS 238 standard from 2020, 2021, 2022, 2023

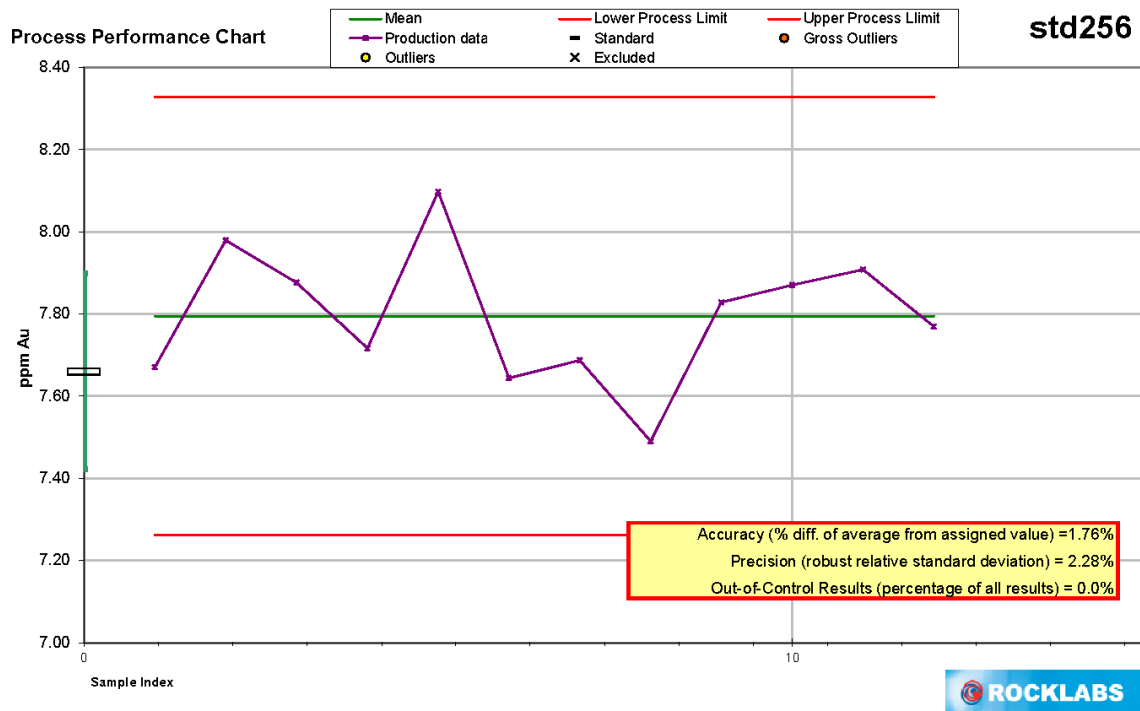
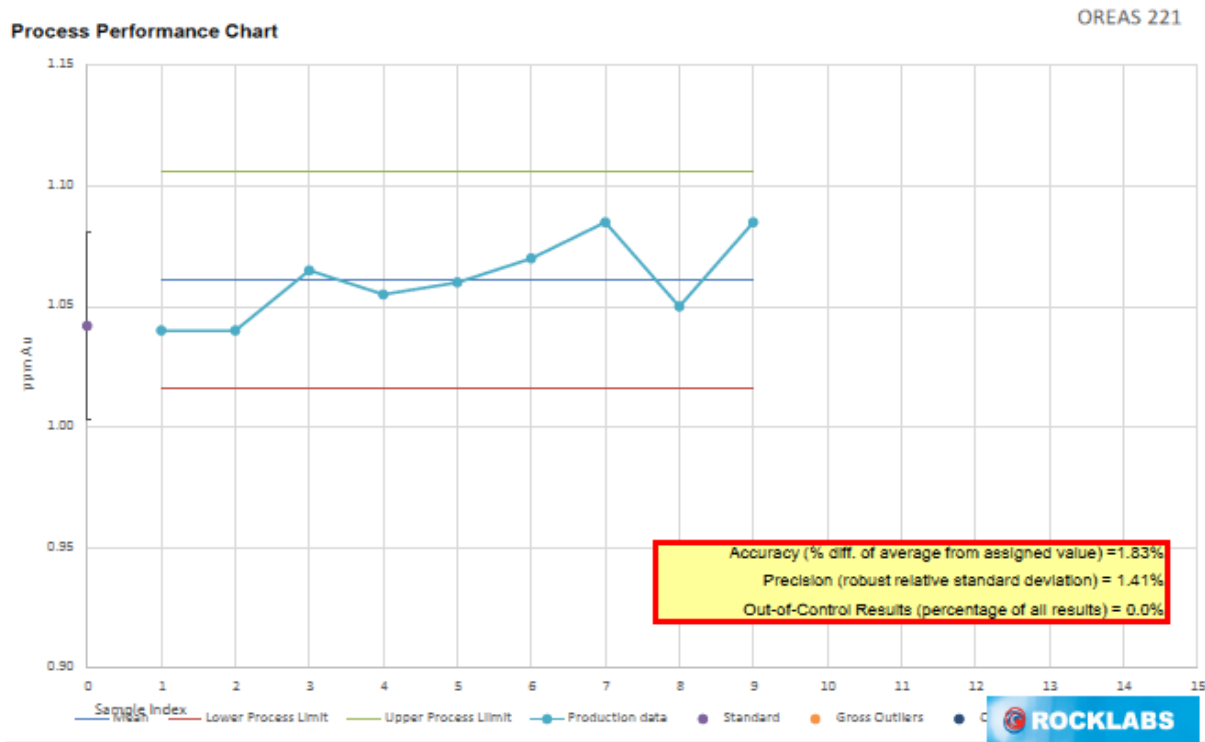


Figure 12-7: Assays of OREAS 256 standard from 2020



**Figure 12-8: Assays of OREAS 221 standard**

The standards run by the Company all returned acceptable values from two certified independent laboratories and confirm that their QA/QC work is appropriate for this project in the author’s opinion. Additional high-grade standard should be considered for future work.

The author believes that the data is accurate for the purposes of this report.

## 13 MINERAL PROCESSING AND METALLURGICAL TESTING (Item 13)

### 13.1 2010 Comminution and Cyanidation Testwork

In 2010 a sample prepared from cannibalized drill core was tested for “Bond Ball Grindability” and gold recoveries. The results cite a value of 15.7 kw/hr/tonne for Bond ball mill work index (WI) and combined gold and silver recoveries of 91% and 78% respectively using gravity concentration and cyanidation of the concentrate and tails (G&T Metallurgical Services Ltd, 2011). The report recommends further metallurgical testing to understand the large consumption of sodium cyanide in the process. Though the metallurgical study consisted of representative material from the core, the material collected was uniformly from relatively low-grade material (appx 2.9 g/t Au) recovered from the 2010 drilling campaign and did not include the high-grade with visible gold drilled during the 2011 season.

### 13.2 2018 Comminution, Flotation, Gravity, and Cyanidation Testwork

In 2018, two samples were selected to determine the recoverability of gold using either whole-ore cyanidation as well as gravity plus flotation of the gravity tails at Bureau Veritas Commodities Canada Ltd’s Metallurgical Division in Richmond B.C. (“BVI”). BVI is an ISO/IEC 17025:2005 accredited laboratory and is independent of the Company.

The presence of coarse free gold caused persistent scatters in gold head assay on the two test samples. Gold grades from direct fire-assay varied in a wide range from 92.6 to 167g/t in sample 54524, and from 19.5 to 34.1 in sample 339807.

Comminution Bond ball mill work index testing of representative splits from the two test samples indicated moderately hard comminution characteristics (Bond ball mill work index of 14.3-14.7 kwh/tonne) of the test samples with respect to breakage in ball mills.

Preliminary metallurgical testing showed that both test samples responded well to whole-ore cyanidation and gravity+flotation process options. The response to each process option at a grind size of P80 105 µm are presented in the table below.

**Table 13-1: Summary of Metallurgical Recoveries from 2018 Testwork**

Sample ID	Whole-ore Cyanidation		Gravity+Flotation	
	Au Recovery, %	Ag Recovery, %	Au Recovery, %	Ag Recovery, %
54524	99.6	94.4	99.5	98.7
339807	98.4	81.5	97.7	90.6
<b>Average</b>	<b>99.0</b>	<b>87.9</b>	<b>98.6</b>	<b>94.7</b>

The samples were collected from the Goat Vein in sawn channel cuts and the Deep Trench Vein by PQ drilling in areas where high-grade gold values had been obtained in previous sampling.

**Table 13-2: Assay Head Grades of Metallurgical Samples from 2018 Testwork**

Analyte	Unit	54524		339807	
		Cut 1	Cut 2	Cut 1	Cut 2
Au	g/mt	115.42	140.99	34.14	19.50
Au	g/mt	167.06	92.60	-	-
<b>Au average</b>	<b>g/mt</b>	<b>129.02</b>		<b>26.82</b>	
Ag	PPM	68	-	33	-
Stot	%	1.11	-	0.73	-
Hg	ppm	1.34	-	2.27	-

**Table 13-3: Bond Work Index of Metallurgical Samples from 2018 Testwork**

Sample ID	Bond ball mill work index, kWh/tonne
54524	14.3
339807	14.7

**Table 13-4: Whole-Ore Cyanidation Performance from 2018 Testwork**

Test No	Sample ID	Grind P80 µm	NaCN g/L	Measured Head		Calculated Head		72 hours Recovery		Residue		Consumption (kg/t)	
				Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
C1	54524	101	2.0	129.02	68	125.24	71.2	99.6	94.4	0.49	4.0	2.38	0.18
C2	339807	104	2.0	26.82	33	21.93	37.8	98.4	81.5	0.35	7.0	3.08	0.44

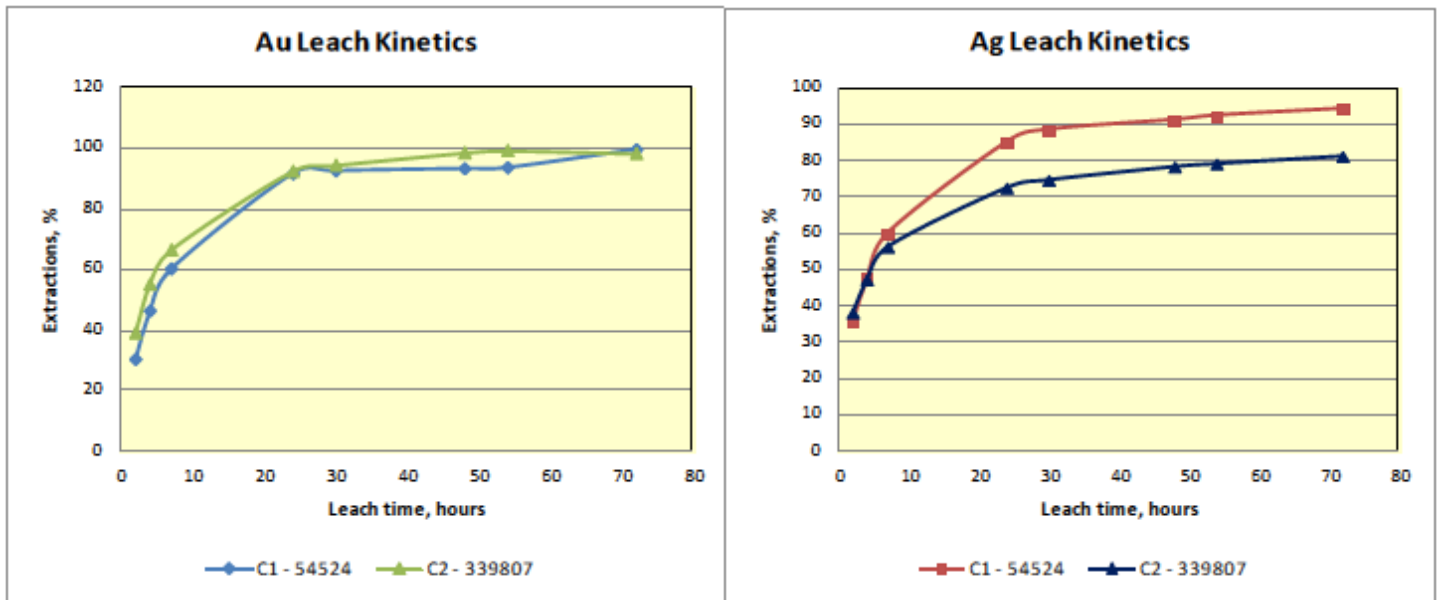


Figure 13-1: Gold and Silver Leach Kinetics from 2018 Testwork

Table 13-5: Gravity and Flotation Response from 2018 Testwork

Sample ID	Test No	P80 Size (µm)	Gold Grade, g/t Au				Gold Recovery, %		Overall Recovery	
			Meas. Head	Calc. Head	Gravity	Flotation	Gravity	Flotation	Mass, %	Au, %
					Conc.	Conc.	Conc.	Conc.		
58524	GF1	150	129.02	105.07	66057	321.8	58.3	40.6	13.3	98.9
	GF2	105	129.02	105.05	45458	318.0	55.9	43.7	14.5	99.5
339807	GF3	150	26.82	24.76	5839	159.0	30.2	67.2	10.6	97.4
	GF4	105	26.82	21.65	5516	144.4	27.6	70.2	10.6	97.7
<b>Summary for Silver</b>										
Sample ID	Test No	P80 Size (µm)	Silver Grade, g/t Ag				Silver Recovery, %		Overall Recovery	
			Meas. Head	Calc. Head	Gravity	Flotation	Gravity	Flotation	Mass, %	Ag, %
					Conc.	Conc.	Conc.	Conc.		
58524	GF1	150	68	69	40691	225	54.5	43.0	13.3	97.5
	GF2	105	68	66	26515	217	51.5	47.2	14.5	98.7
339807	GF3	150	33	42	4397	321	13.4	80.1	10.6	93.6
	GF4	105	33	38	4205	284	12.0	78.6	10.6	90.6

**Table 13-6: Selected Analysis of Flotation Concentrate from 2018 Testwork**

Analyte	Unit	54524		339807	
		GF 1 Conc	GF 2 Conc	GF 3 Conc	GF 4 Conc
Au	g/t	321.8	318.0	159.0	144.4
Ag	ppm	225	217	321	284
Stot	%	8.44	8.08	6.19	5.61
As	%	11.1	10.8	10.6	9.9
Hg	ppm	10.6	10.1	17.8	15.3

The samples show that excellent recoveries can be obtained by whole ore cyanidation or gravity plus flotation methods. The mineralization where tested was high-grade and may not represent average characteristics of the deposit.

### 13.3 2025 Sensor-Based Ore Sorting Testwork

In 2025 an initial test program was conducted to determine the amenability of the deposit to sensor-based ore sorting. The goal was to separate the gold-bearing sulphide quartz vein material from the non-gold-bearing wall rock (primarily quartz diorite) which will unavoidably become mixed with the vein material during mining. This dilution occurs due to blasting overbreak and when mining narrower vein areas which may be thinner than the minimum mining width.

Sensor-based ore sorting can utilize a variety of measurements to determine whether a particle is product or waste, including color, electromagnetic induction, laser, and x-ray analysis to assess elemental composition. The crushed rock is placed on a conveyor belt and then passed in front of the sensor, which rapidly analyzes the individual pieces of rock. When a piece of rock is identified as waste, a puff of compressed air redirects it to a “reject” bin. The remaining pieces of rock are sent to the accepted “product” stockpile.

Fine particles too small to effectively sort are typically combined with the “product” stockpile, since higher-grade material tends to produce more fines during blasting and crushing due to the higher sulphide content and brittle nature of the quartz vein rock.

Steinert US, a major manufacturer of sensor-based ore sorting equipment, was selected for the testwork. A series of reference samples sourced from crushed drill core (3cm topsize) were analyzed by the sorter machine, reflecting New Amalga deposit material of various categories including “high grade ore” (>15 g/t), “mid grade ore” (5-15 g/t), “low grade ore” (1-5 g/t), and “waste” (<1 g/t).

This allowed the sorter to learn the characteristics of each type of material in order to generate a sorting algorithm. Each of these reference samples were sourced from multiple drill holes at various locations within the deposit in order to capture any spatial variability in the rock characteristics.

After the sorting algorithm was developed, a separate composite sample was fed into the sorter machine. This composite was sourced from multiple drill holes in various areas of the deposit distinct from the reference

samples. It included approximately 55% wall rock and 45% vein rock, reflecting potential waste dilution within run-of-mine material to simulate mining an area of vein narrower than the minimum mechanized mining width.

In addition to the “product” material, three splits of “reject” material were generated from sorting the sample at progressively increasing level of selectivity, reflecting operation of the machine at various degrees of sorting criteria. All material was then assayed at SGS-Lakefield.

All three “reject” splits returned assays below the resource cutoff grade, and were classified as waste, indicating that the highest level of sorter selectivity is appropriate. In total the sorter rejected 57% of the feed material, compared with the approximately 55% wall rock content of the composite sample.

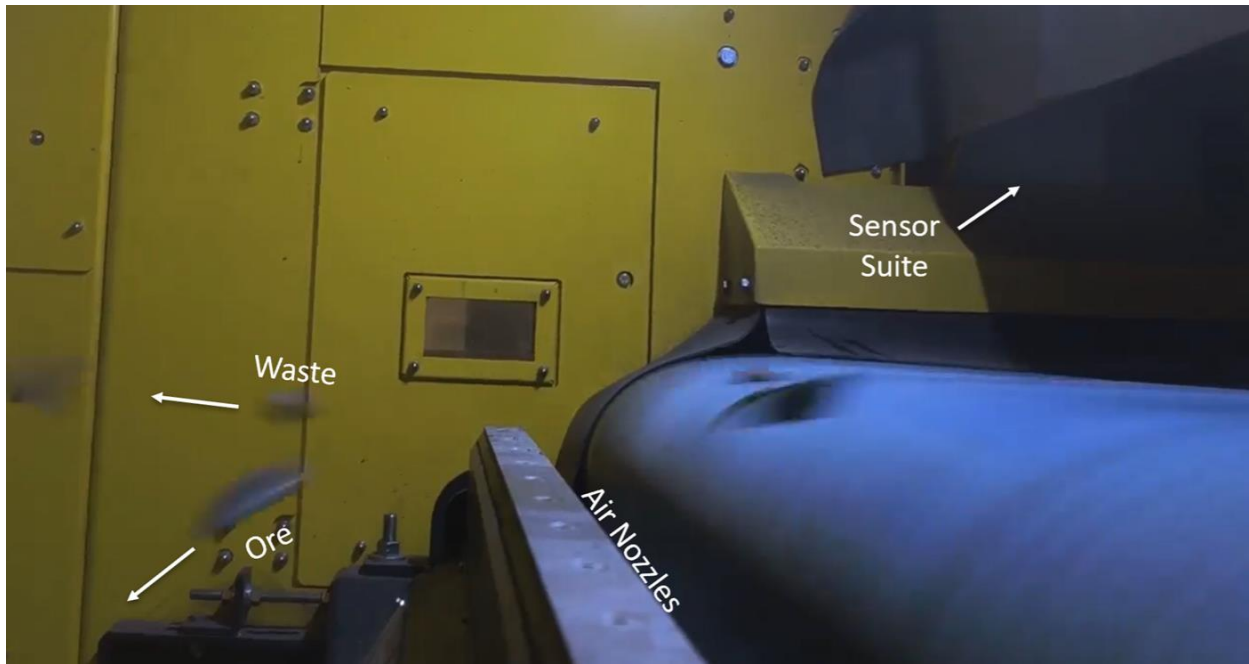
Additionally, all material was screened before assay to collect unsortable fines (<1cm), which were assayed separately. This confirmed that the fines contained a high degree of gold mineralization and are appropriate to combine with the “product” sample. A full table of results is shown below.

**Table 13-7: Summary of Ore Sorter Feed, Overall Reject, and Overall Product from 2025 Testwork**

	<b>Unsorted Feed</b>	<b>Sorter Reject</b>	<b>Sorted Product</b>
<b>Mass (kg)</b>	64.8 kg	37.2 kg	27.6 kg
<b>% Mass Distribution</b>	100%	57%	43%
<b>Gold Grade (g/t)</b>	5.9 g/t	0.6 g/t	12.9 g/t
<b>% Gold Distribution</b>	100%	6%	94%

**Table 13-8: Details of Each Reject Split versus Sorted Product and Fines Product from 2025 Testwork**

	<b>Reject #1</b>	<b>Reject #2</b>	<b>Reject #3</b>	<b>Sorted Product</b>	<b>Unsortable Fines</b>
<b>Mass (kg)</b>	12.2	13.1	11.9	22.6	5.0
<b>Au (g/t)</b>	0.48	1.09	0.30	12.9	13.1
	<b>Overall Waste Rejected</b>			<b>Overall Product</b>	
<b>Mass (kg)</b>	37.2			27.6	
<b>Au (g/t)</b>	0.64			12.94	



**Figure 13-2: Image of New Amalga material being tested in Steinert Ore Sorter during 2025 Testwork**

## 14 MINERAL RESOURCE ESTIMATES (Item 14)

### 14.1 Resource Estimation Procedures

All reference to distance, tonnes, and grade are in SI units of metres (m), tonnes (t), and grams per tonne (gpt). All references to ounces will be troy ounces which are 31.1035 grams. North on the accompanying diagrams will be UTM grid north which is 0.38° east of true north at Juneau, Alaska.

A total of 310 diamond drill holes, 35 trenches with sawn channel cuts or continuous chip samples on the New Amalga Property. Four thousand nine hundred seventy-three (4,973) ICP gold assays, 135 gold assays with gravimetric finish, 1,117 screened metallic gold assays and 3,554 ICP multi-element (33 element) analyses were considered. The author reviewed the data with the view to produce an updated resource estimate. A resource had been published for this property dated May 28, 2011, completed by Garth D Kirkham, P.Geo of Kirkham Geosystems Ltd. and later in April 2013 an updated resource was published by Dupre, D.G., and Webb, D.R. In July 12, 2018 an updated Mineral Resource was published by Webb, D.R. This work supersedes and replaces these reports.

All quartz vein intercepts were sampled, as well as the wall rock on either side of each vein. A total of 4,973 assay intervals for gold with values greater than detection limits have been obtained. A total of 1,210 unassayed intervals were considered to be zero grade for resource estimation purposes.

The nineteen 1986 - 1988 diamond drill holes were assessed statistically by ANOVA techniques as no core exists for direct validation. The drillholes constitute 12% of the drill hole (plus four trench) database and 5% of the total meters included. Other pertinent statistics are shown below.

**Table 14-1: Selected statistics for gold assays from 1988 drill holes**

	1988 DDH	Full Data
Assays >0	223	3,301
Range	0 – 142.7	0-432.9
Mean	2.05	2.87
Median	0.29	0.25
Standard Dev	10.56	17.96

Student T tests (2 sided, T=0.127) and Fisher F tests, two ANOVA tests used to consider whether sample populations are similar confirm that the 1988 drilling is part of the overall population at the >99<sup>th</sup> percentile. The author has no reason to suspect that the data is other than presented.

The database was validated and corrected as needed. The following sections detail the procedures, methods and strategies employed in creating the resource estimate for the New Amalga Project.

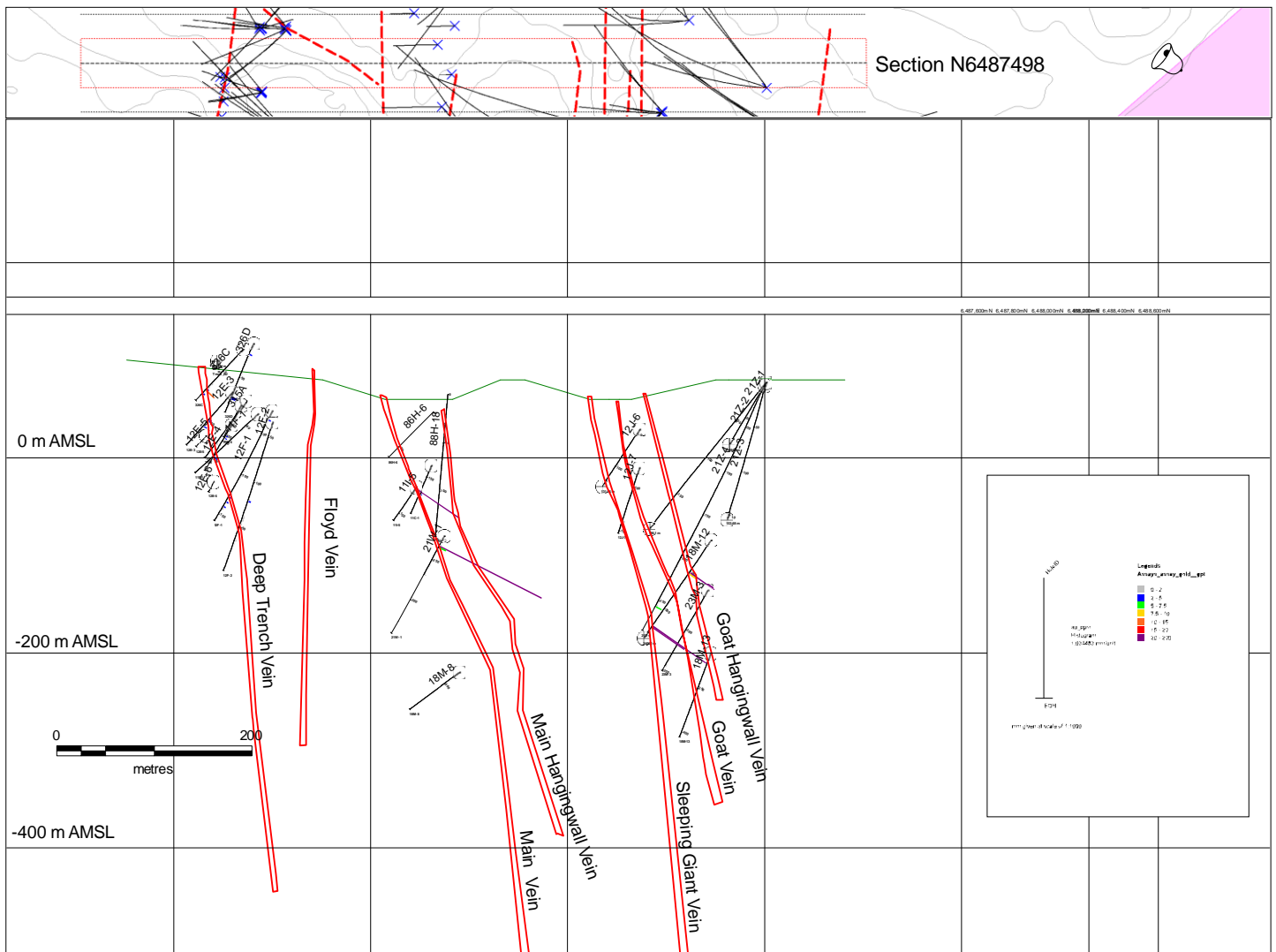
#### 14.1.0 Solid Model Construction

A series of cross sections generally spaced 20 m apart were developed for each of nine different zones where correlations between trends identified in gold assays, alteration zones, and multi-element data appears to exist

down-dip on section and between sections. These correlations were corrected and modified as supported by surface mapping and geology.

MapInfo’s 3D solid generation routine was used to construct three dimensional models from the sections. These were examined and adjusted to conform to geology and all analytical data where necessary.

Some areas provided multiple options for correlations that were permissible by geology and sample geochemistry. The correlation that best matched surface geology was selected. The Deep Trench vein was remarkable in the extreme simplicity and consistency in a very planar orientation of the correlations.



**Figure 14-1: Typical east facing cross section showing vein correlations with drill hole traces on a 200 m grid**

### 14.1.1 Assay Database

The database consists of 211 diamond drillholes and 36 trenches and sawn channel cuts (total 47,051.6 m). Nineteen diamond drillholes were completed by a previous operator in 1986 and 1988 (total 1,607.0m) (Van Wyck and Burnett, 2012). In 2010 and 2011 forty-six additional diamond drillholes were completed with collar and downhole surveys. Thirty-nine drillholes were completed in 2012. This and the four trenches (total

19.7m) provided the database for the previous resource estimate which only used the 2010 and 2011 drill-holes due to uncertainty in the location of the collars and data quality (Van Wyck and Burnett, 2012). Twelve diamond drillholes totaling 3,709 m were completed in 2017. Surveys were not completed on all drill holes, however these were the shorter holes (<100m). An additional 13 drill holes and two sawn channel cuts were completed in 2018 with survey data. Twenty-two drill holes in 2020 add another 8,397.9 m of core. In 2021 there was 8,151.6 m of drilling in 20 drill holes, in 2022 there was 3,936.1 m drilled in five drill holes, and in 2023 there was 3,523.8 m drilled in nine drill holes. All data are considered by the author accurate for the purposes of this report

The logs were reviewed and selected assays compared to the raw data sheets. Minor from/to errors had been previously identified by the author, largely due to imperial/metric conversions. The author corrected these. Some survey data was found to be corrupted, and traced back to a bad survey instrument. These were corrected by applying a constant drift of +3 degrees azimuth and +3 degrees inclination over 100 m as determined from the balance of the surveyed data. The collars, survey, and assay database has been verified and is considered appropriate for the purposes of this report.

All unsampled drill hole intervals were assigned -9 grade to facilitate resource calculations. Metallic or screened assays were used in all instances where they were available (1,083 samples). All other assays are standard one assay ton results reported using ICP finish or where over limit (>10 gpt) are reported using gravimetric finish.

#### 14.1.1.1 Univariate Statistics

The univariate statistics for the entire database is shown below:

**Table 14-2: Univariate statistics for the entire database**

Field	au_ppm	ag_ppm	as_ppm	pb_ppm	zn_ppm	w_ppm
CountValid	4973	3755	4972	4743	4688	4379
Minimum	0.0005	0.2	2.5	0.33	1	2
Maximum	432.88	4010	153000	31800	31200	6790
Mean	2.533	3.475	4140.122	150.978	133.582	80.409
Median	0.2	0.5	1315.5	15	103	20
Range	432.879	4009.8	152997	31799	31199	6788
SD	16.515	66.470	7925.178	987.9806127	578.500	334.877

The data was composited into 1.5 m lengths down hole with all unassayed, trace, or less than detection level samples given a negative value and treated as zero grade during the compositing procedure.

**Table 14-3: Univariate statistics for 1.5 m composites of veins as described**

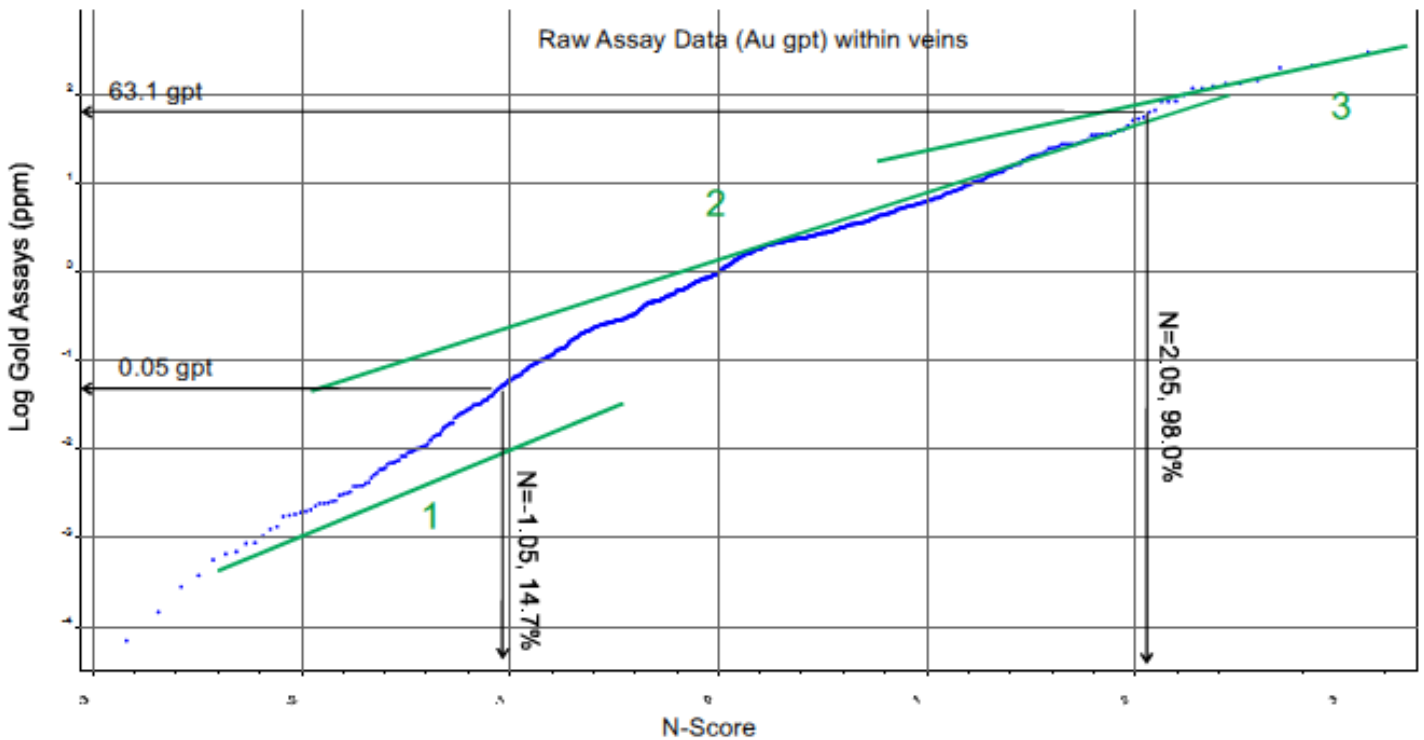
Field	au_ppm	ag_ppm	as_ppm	pb_ppm	zn_ppm	w_ppm
CountValid	1296	1296	1296	1296	1296	1296
Minimum	0	0	0	0	0	0
Maximum	290	224	56692	9098.27	5490	2318.67
Mean	3.470	1.908	3024.89	158.46	79.66	38.23
Median	0.038	0.023	119.57	4.73	26.2	2.97

Range	290	224	56692	9098.27	5490	2318.67
SD	15.793	9.704	5806.52	705.67	278.34	149.09

**Table 14-4: Univariate statistics for all 1.5 x 8 x 8 m blocks within veins**

Field	Gold	Silver
Count_n	32340	32340
CountValid	32340	32340
Minimum	1.500	0
Maximum	237.223	159.374
Mean	7.448	4.766
Median	3.355	2.344
Range	235.722	159.374
SD	15.647	10.351

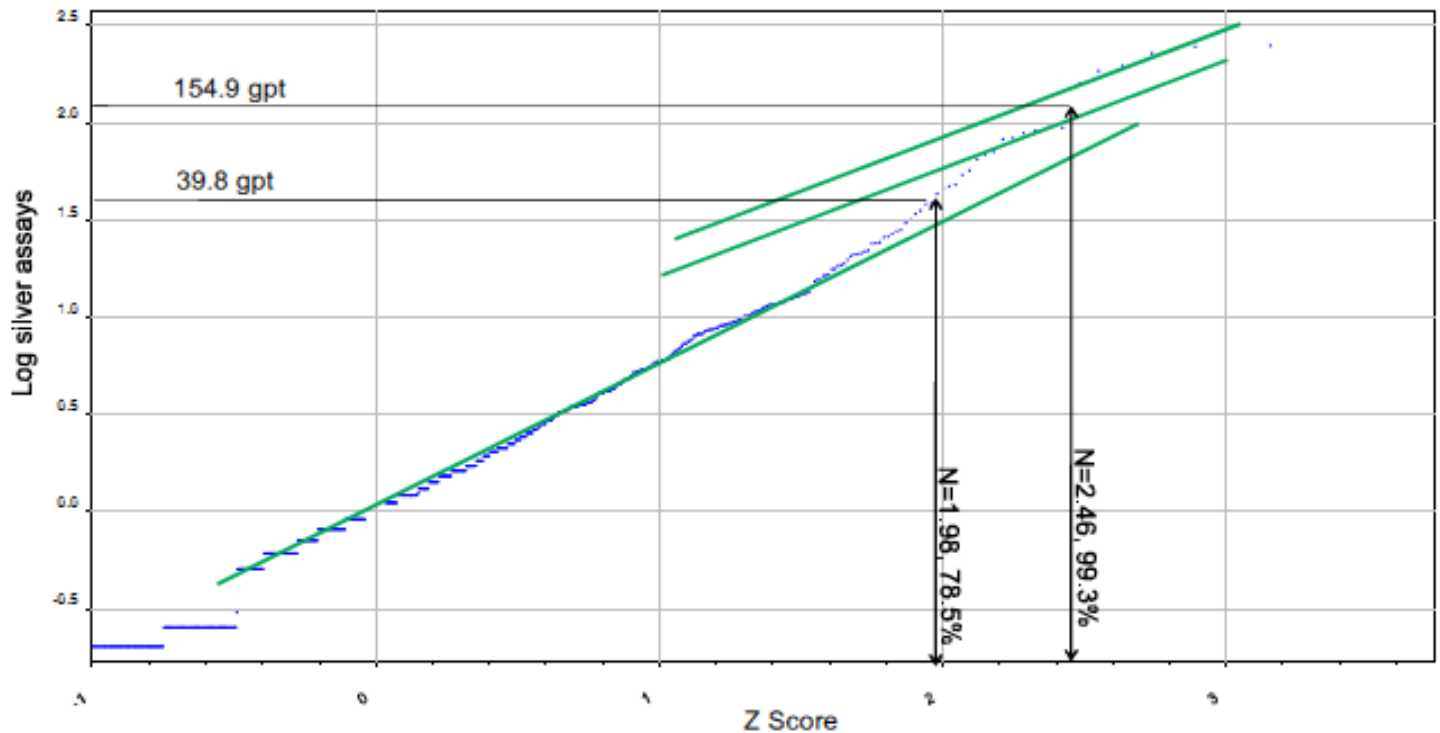
The log probability plot of the raw assay data shows three populations with the lowest representing about 15% of the population with an average grade <0.1 gpt, a middle representing the next 83% of the population with an average grade near 1.25 gpt and the top 2% of the data with an average grade near 8 gpt. There is no discernable outliers within the upper population.



**Figure 14-2: Log normal probability plot of the raw gold sample data**

The raw silver data shows a more complex distribution showing three populations. The lowest grade data represents 78% of the data with an average grade of 1 gpt. The balance of the samples average 6 gpt with the top 0.7% of the data averaging 10 gpt. Both of these higher grade populations appear to be truncated at the

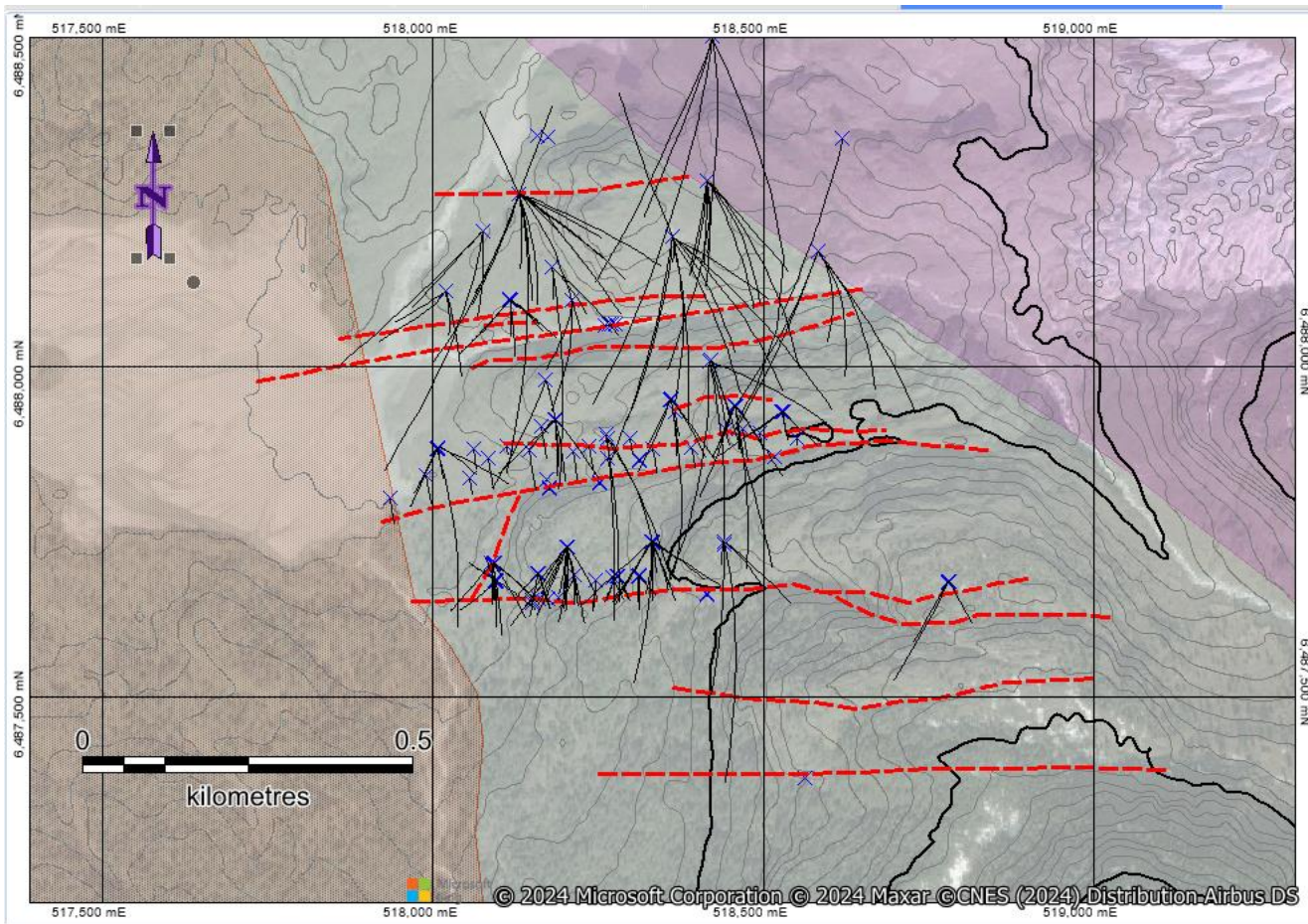
higher-grades, above 60 gpt in the larger group and above 250 gpt in the highest-grade population. It is not known what causes this as it is not seen in the gold assay data.



**Figure 14-3: Log Probability of the raw silver sample data**

### 14.1.2 Topography

The topographic relief is fairly steep with valleys incised east-west across a generally rising trend from 40m AMSL to 340m AMSL to the east and then more rapidly rising to >600m AMSL to the southeast. Mapping has shown that mineralization extends to surface in places and that in places these outcropping zones are constrained to topographic lows. A LiDAR survey completed in 2018 complete with DEM was used to create contours for presentation.



**Figure 14-4: Topography over drill area with known veins and LiDAR lineaments**

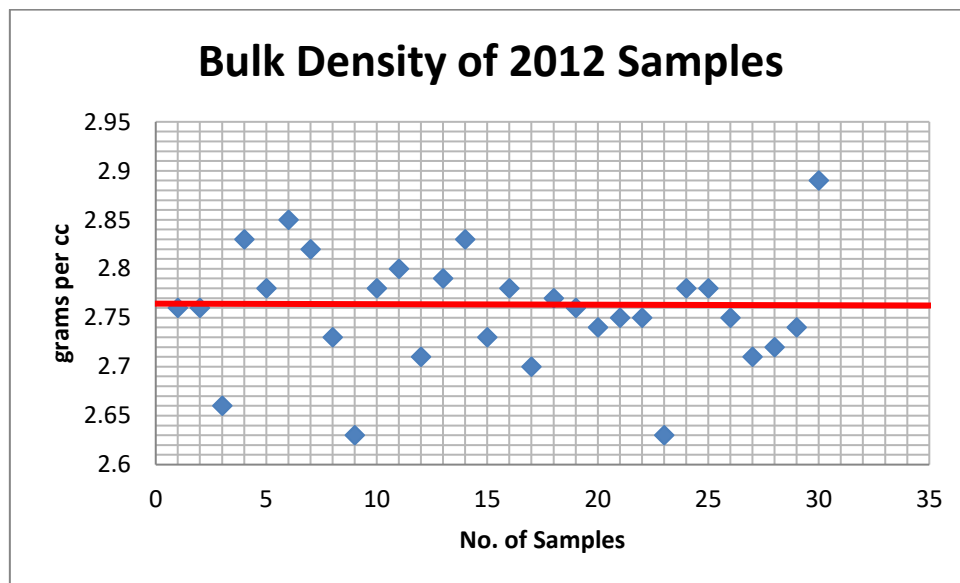
### 14.1.3 Density

A total of 30 mineralized samples from diamond drilling in 2012 were submitted for bulk density measurements to ALS for their determination using water immersion protocols (ALS OA-GRA09). The average density of 2.757 gm/cm<sup>3</sup> is used in all calculations.

**Table 14-5: Bulk density measurements on 30 mineralized intersections from the 2012 diamond drilling**

<b>SAMPLE</b>	<b>Recvd Wt.</b>	<b>B.D.</b>
<b>DESCRIPTION</b>	<b>Kg</b>	<b>g/cm3</b>
1023405	1.42	2.76
1023406	1.26	2.76
1023407	0.58	2.66
1023408	1.95	2.83
1023409	2.34	2.78
1023410	1.07	2.85
1023411	2.22	2.82
1023412	1.09	2.73
1023413	0.84	2.63

1023414	1.68	2.78
1023415	0.92	2.80
1023416	1.58	2.71
1023417	2.05	2.79
1023418	0.93	2.83
1023419	0.58	2.73
1023420	1.78	2.78
1023421	0.51	2.70
1023422	1.13	2.77
1023423	1.03	2.76
1023424	0.71	2.74
1023425	1.38	2.75
1023426	0.63	2.75
1023427	0.56	2.63
1023428	0.55	2.78
1023429	0.58	2.78
1023430	1.17	2.75
1023431	1.08	2.71
1023432	0.56	2.72
1023433	0.82	2.74
1023434	0.57	2.89
<b>Average</b>		<b>2.757</b>



**Figure 14-5: Density measurements on samples from New Amalga Gold Project**

Bulk density samples are consistent with what the author expects to see on this project.

### 14.1.4 Compositing

For compositing and resource purposes, metallic assay data were used whenever they existed. All other data used the 1 assay ton values (1 AT). Composites over the length of the drillholes were calculated to a maximum of 1.5m in order to provide interval-independent grades over lengths that compromise between grade delineation and dilution.

### 14.1.5 Treatment of High-grade outliers

High-grade outliers are defined as ones that appear to deviate markedly from other members of the sample in which it occurs (Grubbs, F.E., 1969).

A lognormal probability plot of the 1.5m composite data within the vein data shows a three populations. The lower population constitutes approximately 78.5% of the data and has an average grade of 1 gpt. The next population represent about 20.8% of the data and has an average grade of 4.5 gpt will the highest 0.7% of the population has an average grade of 6.3 gpt. There is no deviation from lognormal distributions until 225 gpt silver where an under-reporting of grade occurs.

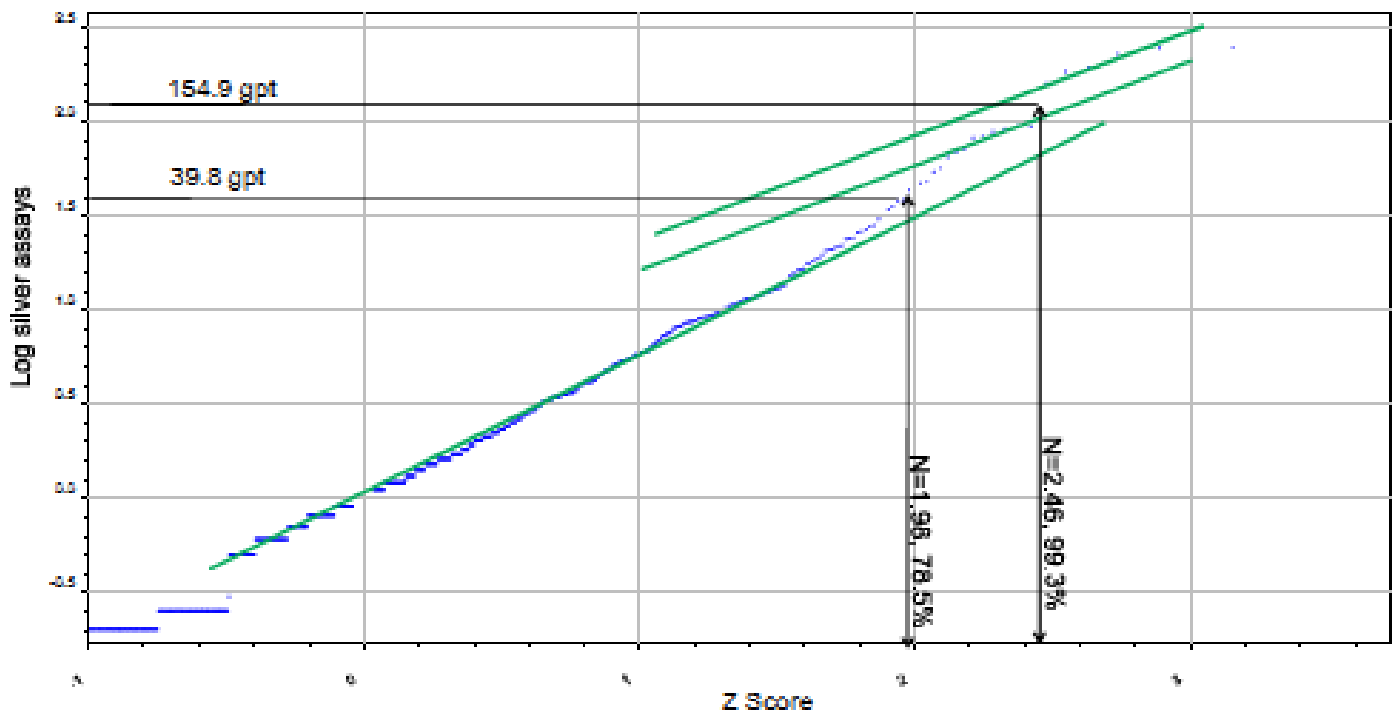


Figure 14-6: The uncut raw silver assay data (blue lines) shows three lognormal populations (green lines)

### 14.1.6 Variography

The low number of sample points provides no meaningful results from variography.

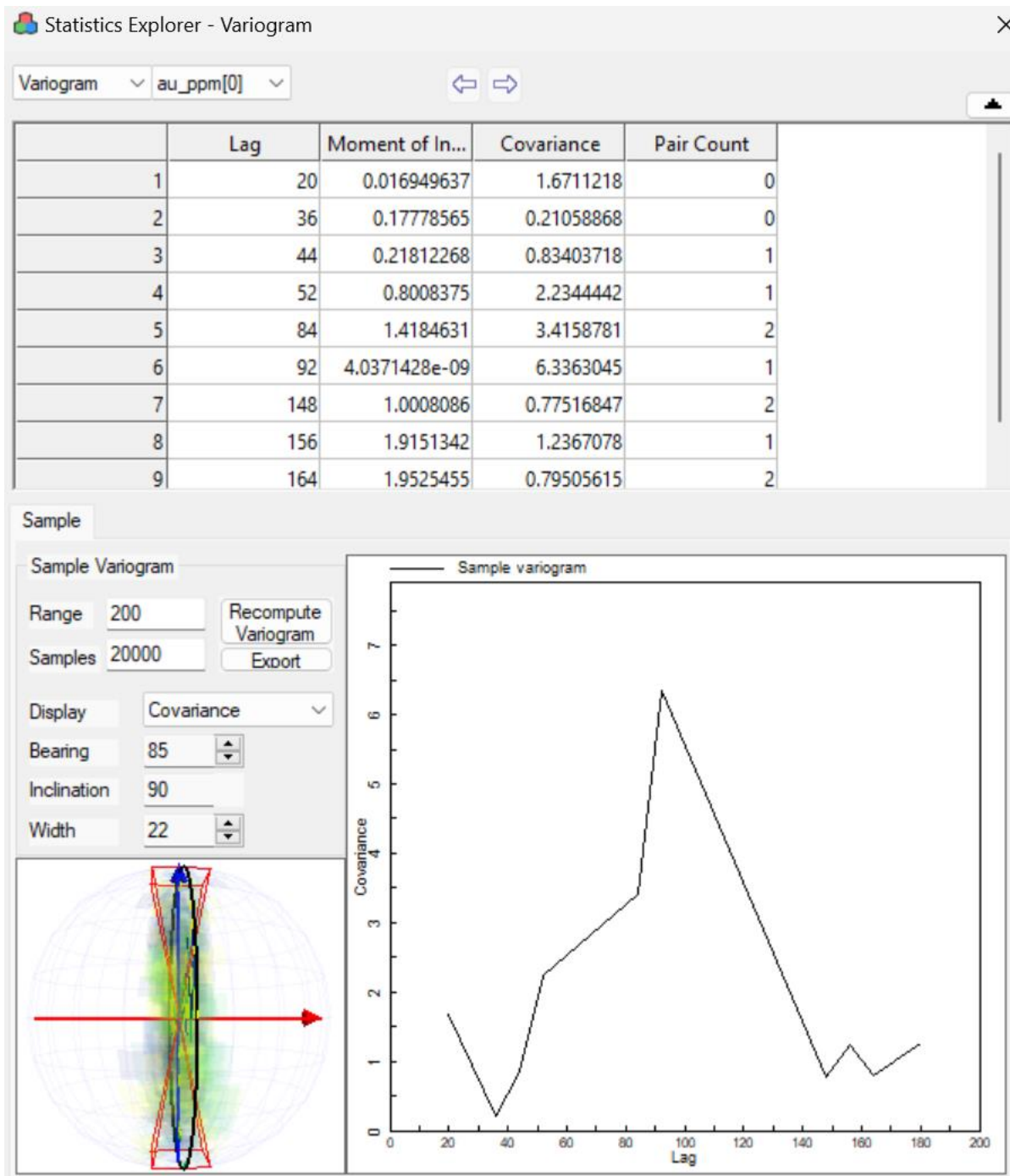


Figure 14-7: Variography of Deep Trench Vein with a poorly developed sill at 90 m

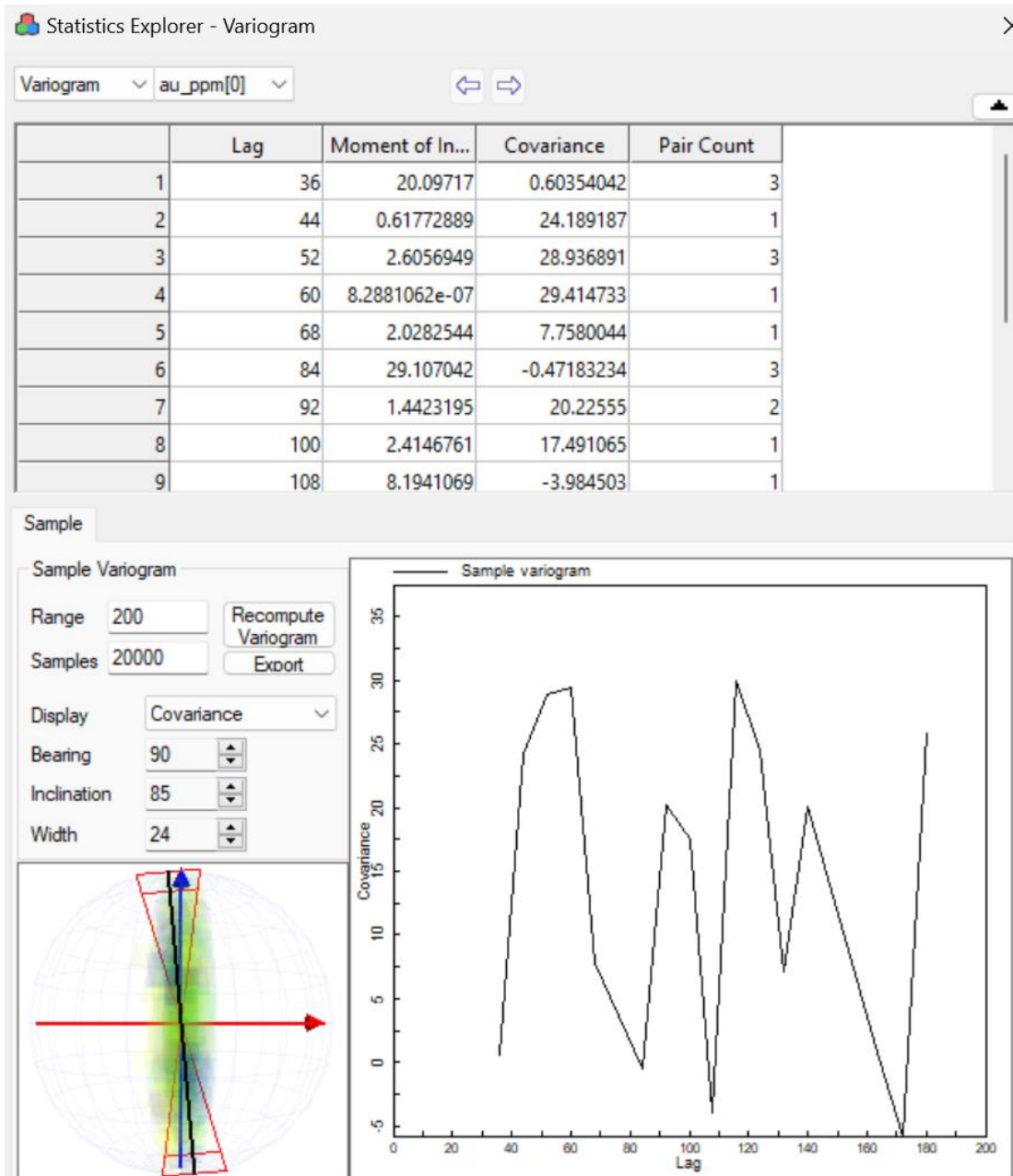
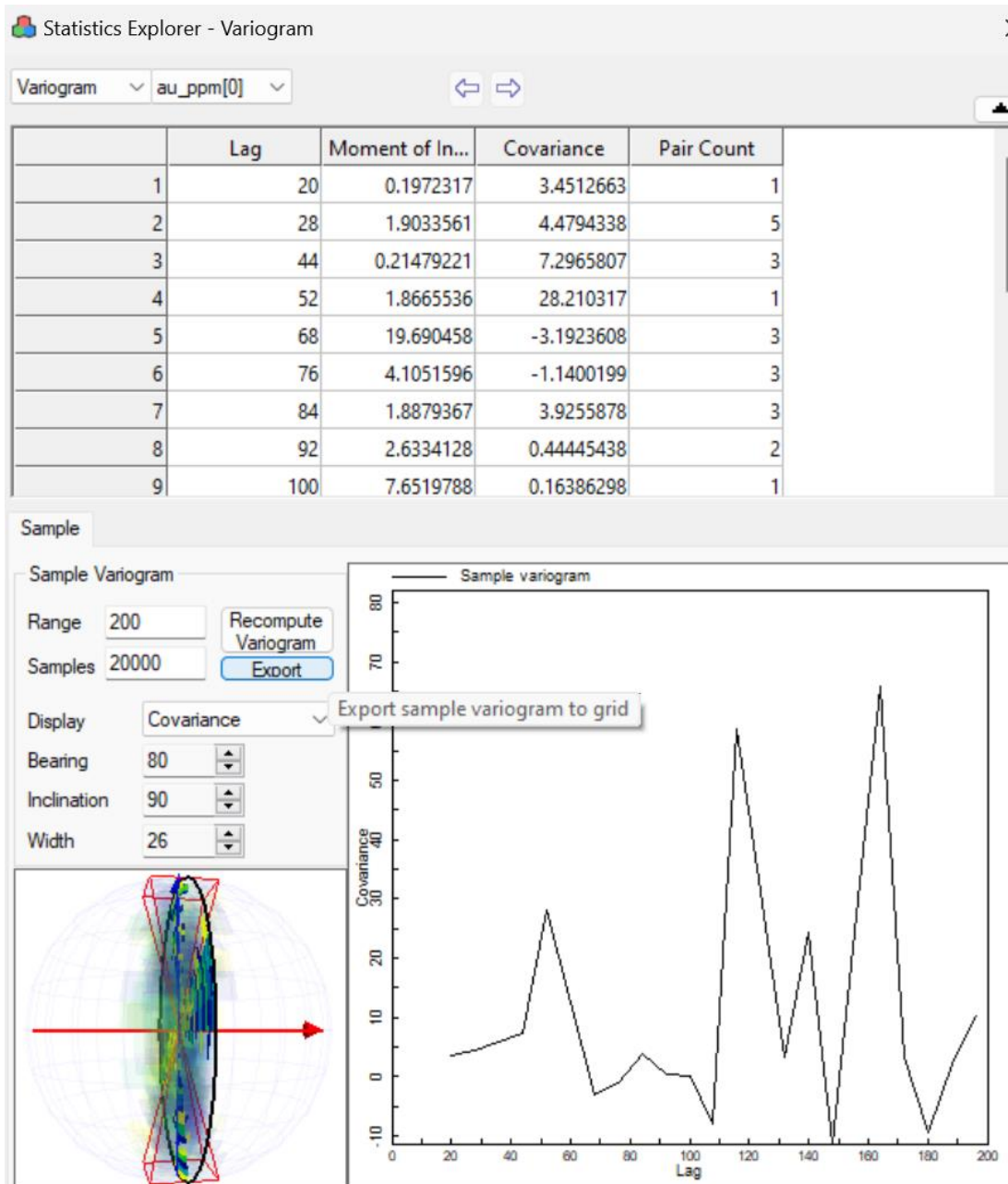


Figure 14-8: Variography for the Goat Main Vein with indeterminate results



**Figure 14-9: Variography of the Main Vein with a potential sill at 110 m**

### 14.1.7 Block Model Estimate

A series of tabular blocks 1.5 m x 8m x 8m were rotated into the plan of the vein for each of the nine veins.

Only composites with 50% or more of sub-blocks that lie within the solid were used in the estimation.

Blocks were constrained to surface topography, and by geology. Blocks west of the inclined sedimentary contact on the western side of the Main Vein and Deep Trench Vein were permitted.

### 14.1.8 Interpolation Method

The grades of each block were estimated using inverse distance squared methods. It was determined that there was insufficient data to estimate using variography. Estimation ranges of between 75 and 150m were tested and it was determined that 100m provided reasonable results. This is consistent with previous estimates.

### 14.1.9 Estimation Plans

A single pass search strategy was employed using the maximum supported ellipsoid size. An isotropic search ellipsoid was selected and a minimum of 2 and a maximum of 8 composites were allowed for each block, with no restrictions on the maximum from each drillhole due to the oblique nature of many of the intercepts.

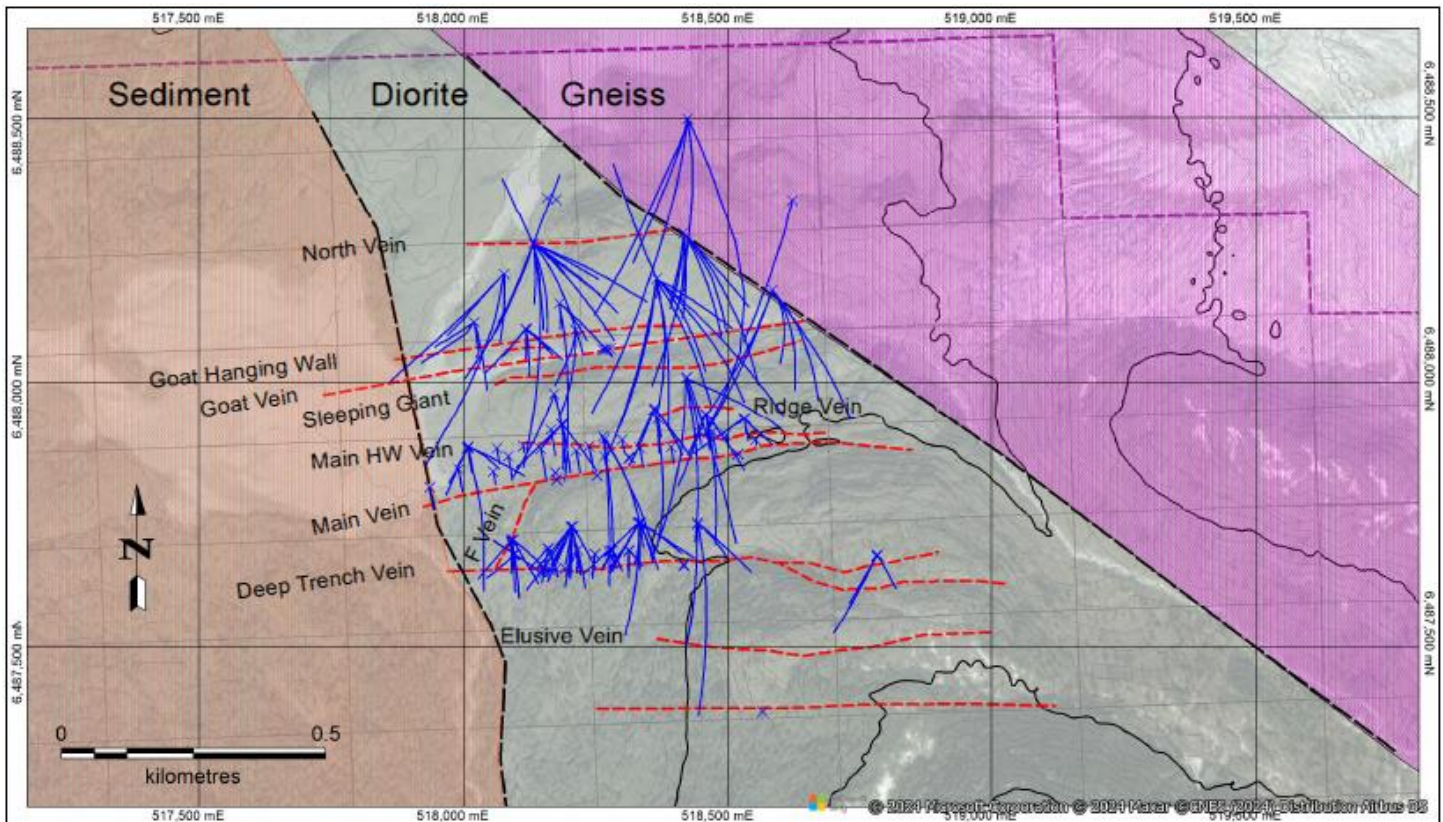
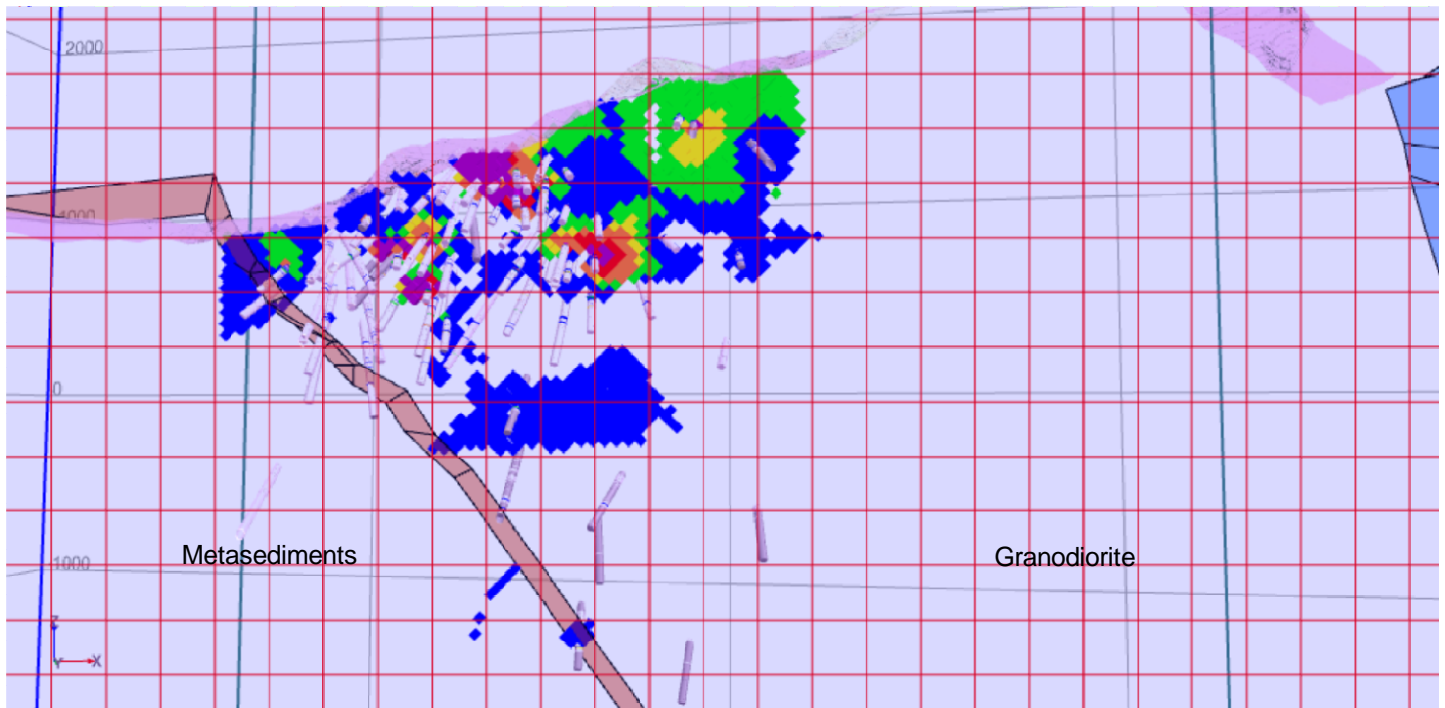


Figure 14-10: View of all of the vein solids, on general geology draped over topography, in NAD83 Z8

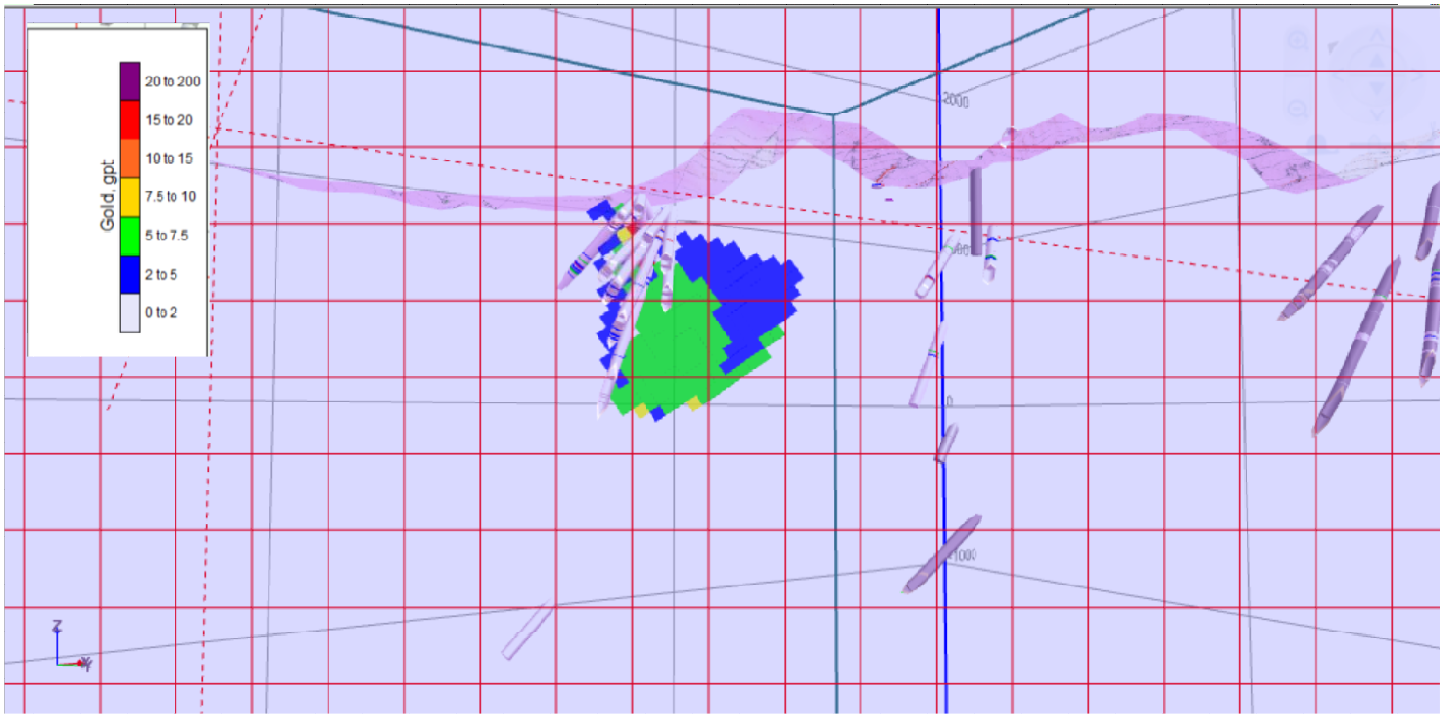
### 14.1.10 Validation of the Block Model

A graphical validation was done on the block model where cross sections, plans, and a 3D examination were conducted, testing intersections, solids and surface boundaries, and geology. Additional models were constructed removing selected drillholes to test for the robustness of the model. Each block appears to be well represented by the immediately adjoining composites as would be expected using the ID<sup>2</sup> method. An Ordinary Kriged estimate using the same parameters and an automatically generated default isotropic nugget with an anisotropic variogram was run on the Deep Trench Vein and Goat Vein as tests, providing similar results to ID<sup>2</sup>.

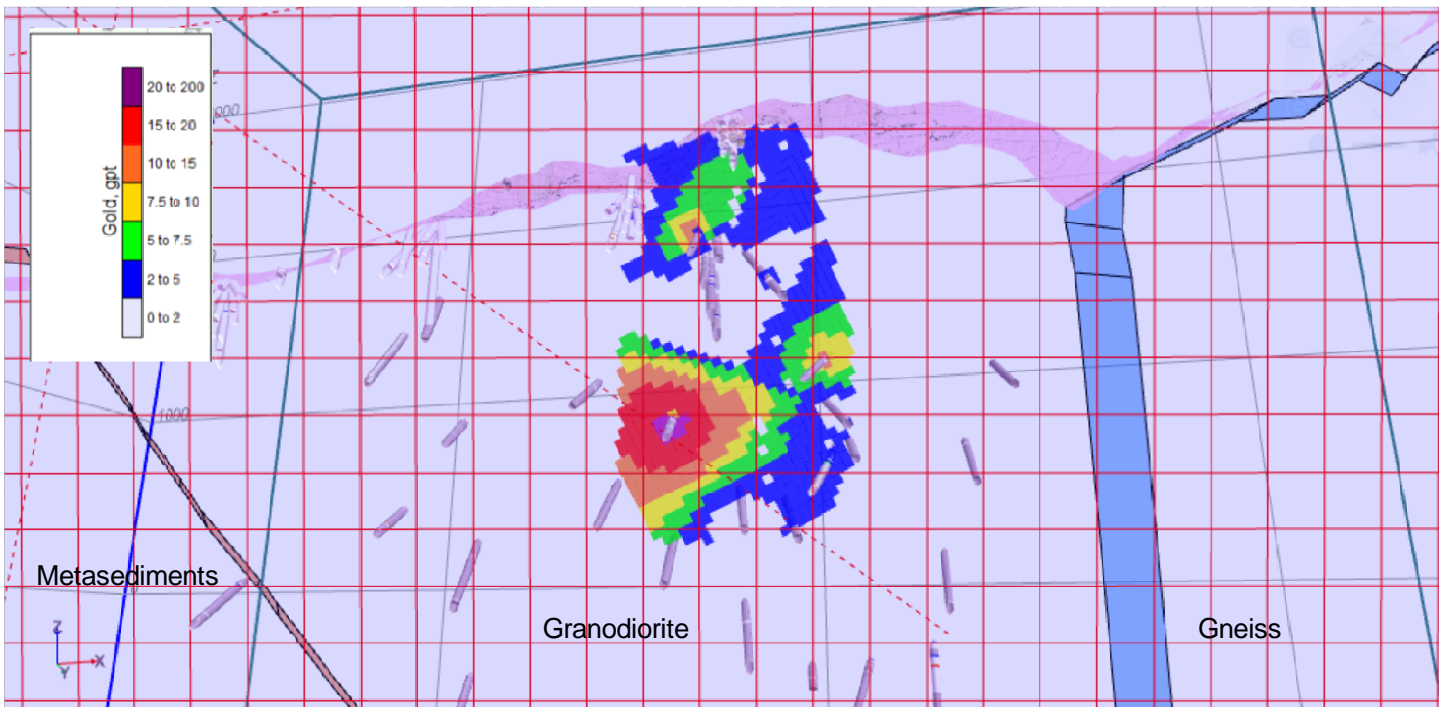
Longitudinal cross sections and cross section populated with the resource blocks for the Deep Trench Vein are shown below with 50 m grids (red) and drill hole traces are shown.



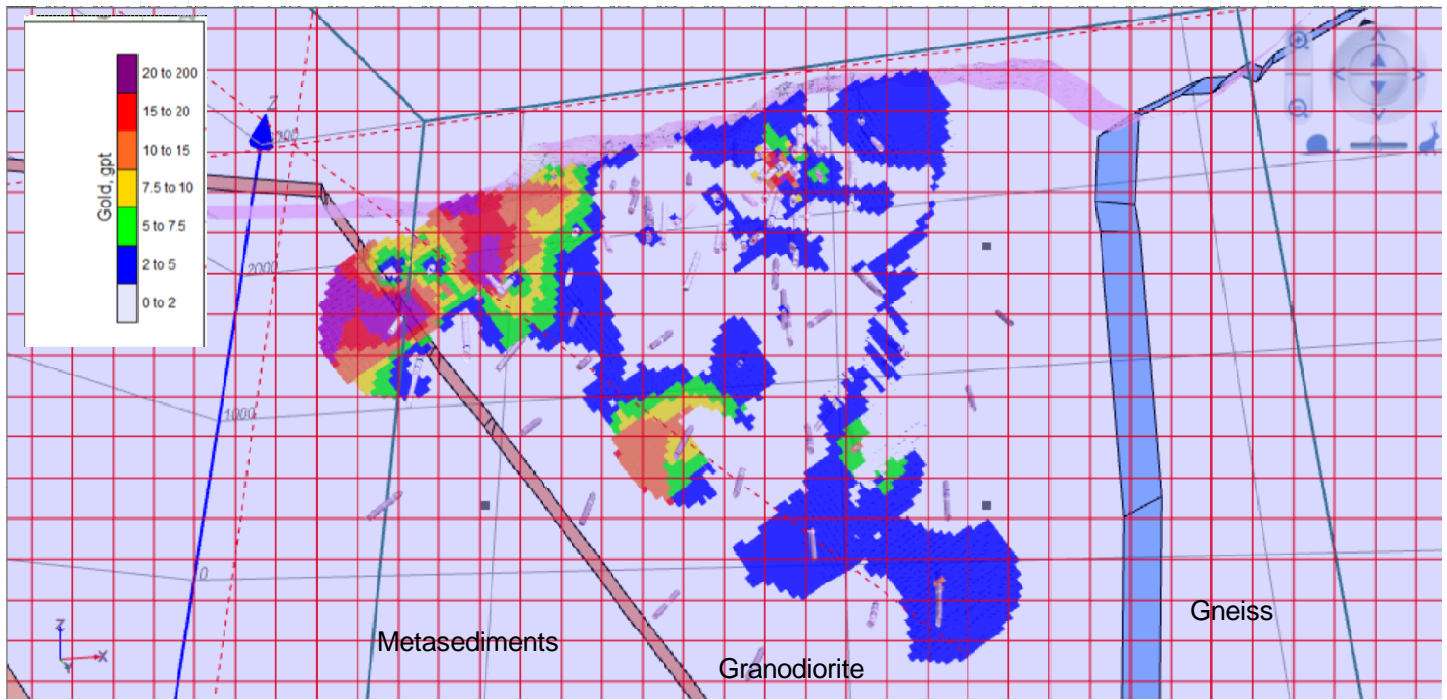
**Figure 14-11: North-facing inclined 60m thick longitudinal section showing resource blocks and drill hole segments of the Deep Trench Vein on 50m grid (red lines)**



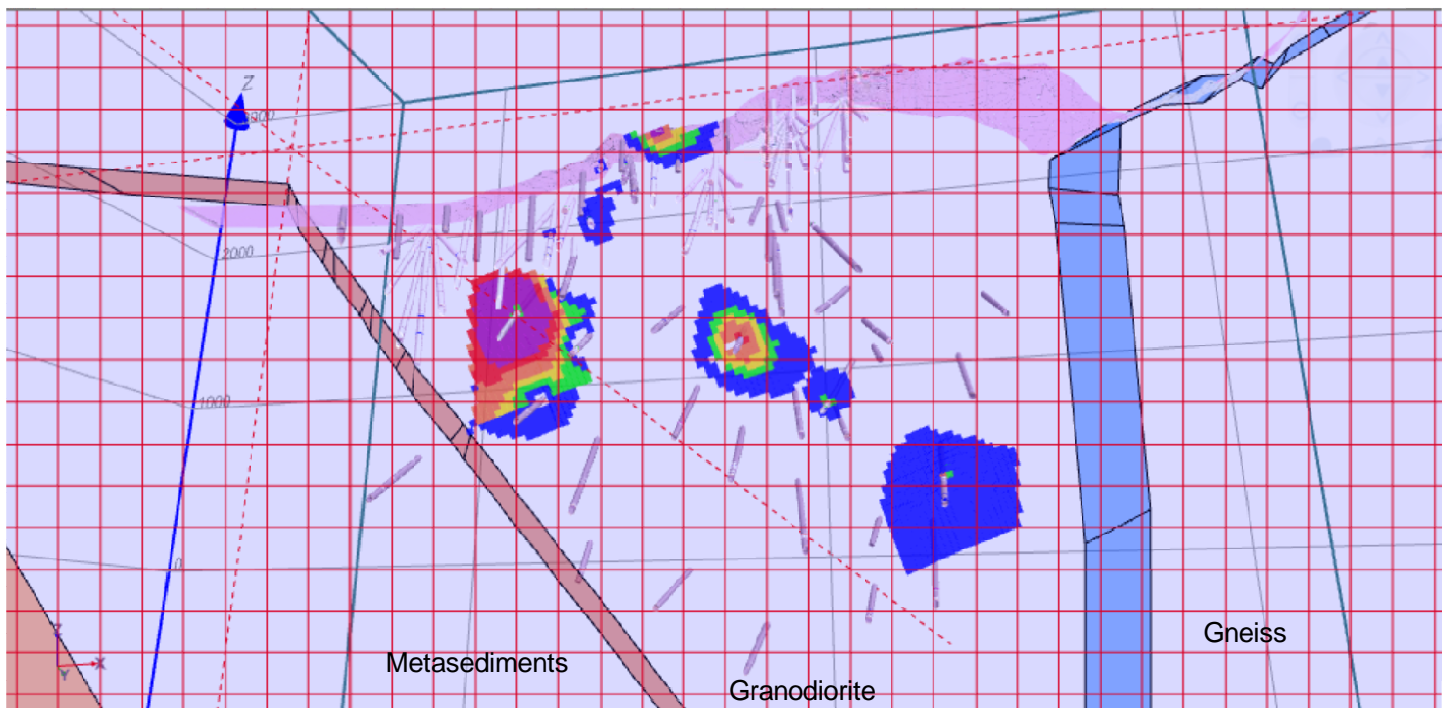
**Figure 14-12: North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments of the Floyd Vein on 50m grid (red lines)**



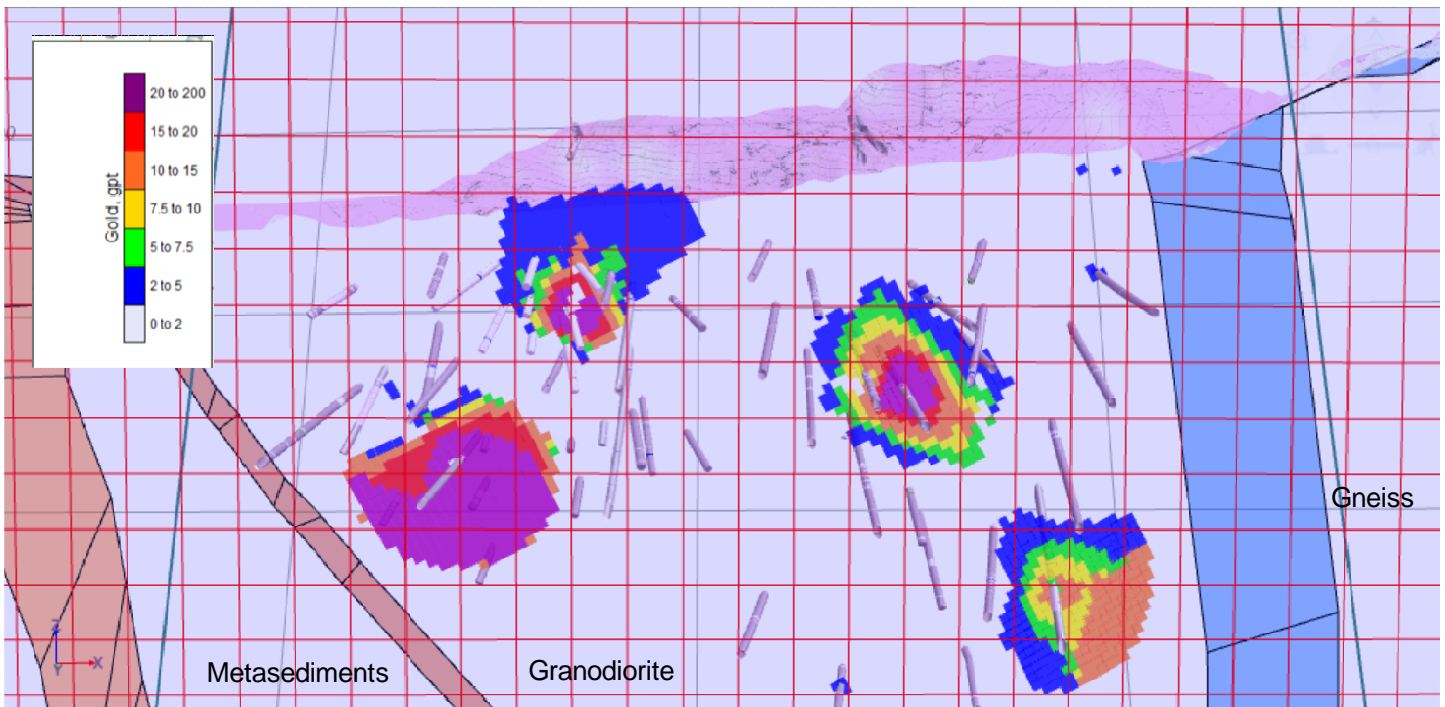
**Figure 14-13: North-facing inclined 50m thick longitudinal section of the Ridge Vein showing resource blocks and drill hole segments on 50m grid (red lines)**



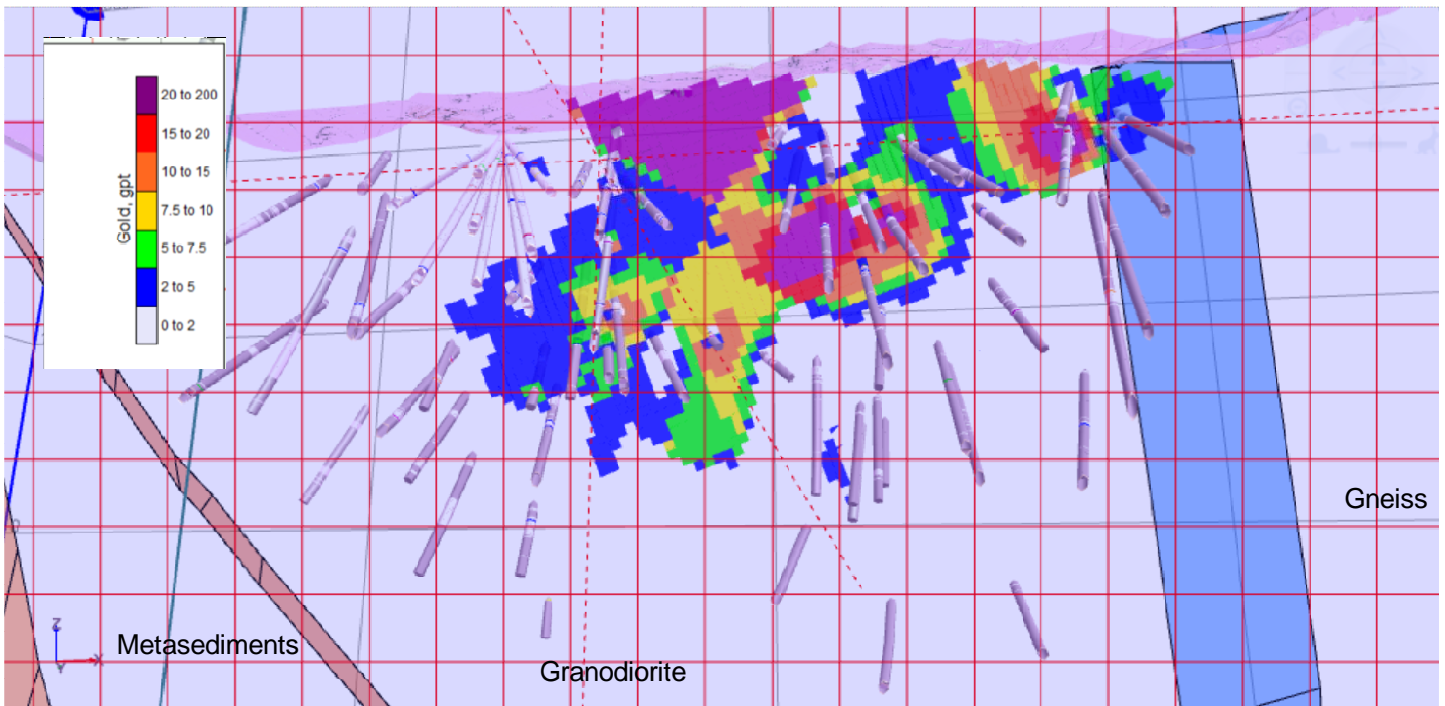
**Figure 14-14: North-facing inclined 60m thick longitudinal section of the Main Vein showing resource blocks and drill hole segments on 50m grid (red lines)**



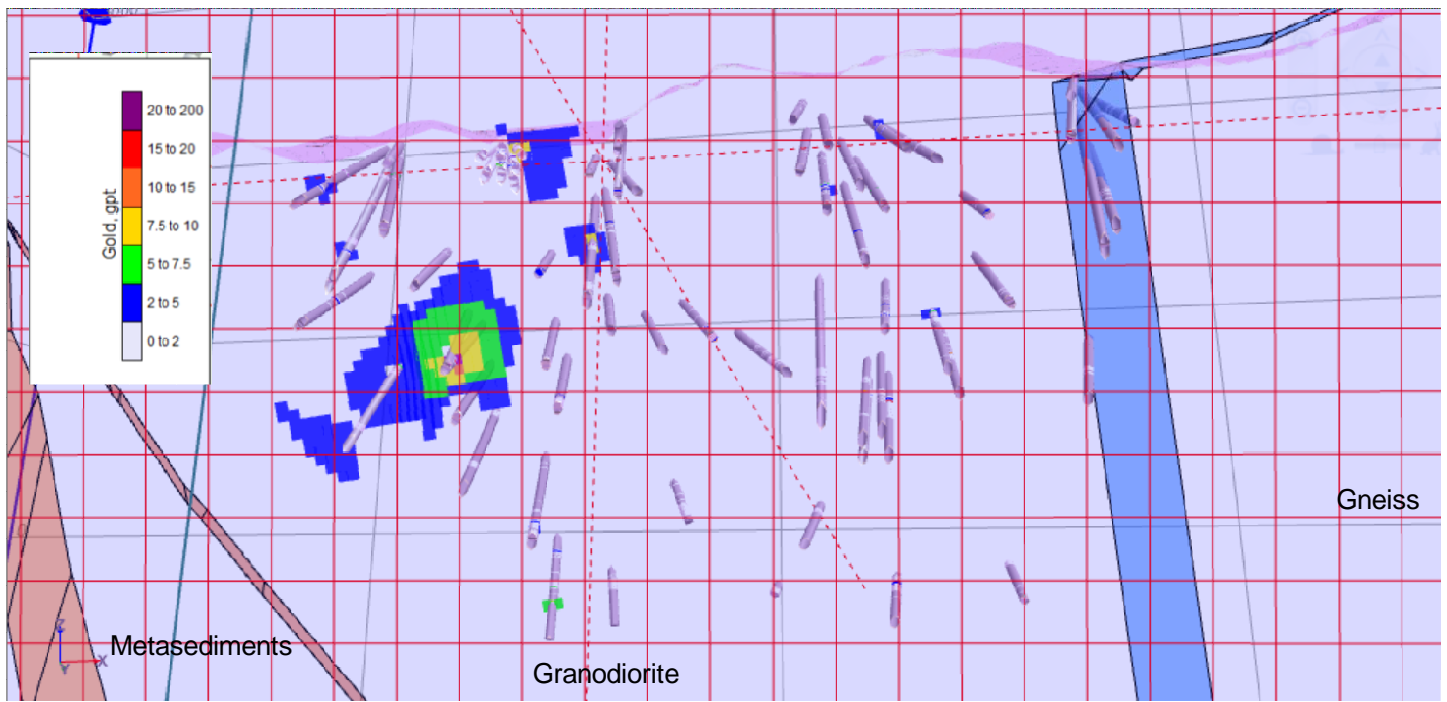
**Figure 14-15: North-facing inclined 60m thick longitudinal section of the Main Hangingwall Vein showing resource blocks and drill hole segments on 50m grid (red lines)**



**Figure 14-16: North-facing inclined 40m thick longitudinal section of the Sleeping Giant Vein showing resource blocks and drill hole segments on 50m grid (red lines)**



**Figure 14-17: North-facing inclined 60m thick longitudinal section of the Goat Vein showing resource blocks and drill hole segments on 50m grid (red lines)**



**Figure 14-18: North-facing inclined 40m thick longitudinal section of the Goat Hangingwall Vein showing resource blocks and drill hole segments on 50m grid (red lines)**

### 14.2 Resource Statement

Surface mapping, trenching and diamond drilling demonstrates continuity of mineralization on sections and between sections and enables three dimensional solids models to be constructed. Further modeling of the diamond drill and trench information within the solids enables the grade distribution to be estimated. An analysis of the resource blocks in the Main Vein and Deep Trench Vein reveals that many of the blocks are within 60m of composites, and these form cohesive, well-defined domains. It was decided to classify these blocks as Indicated Mineral Resources and the balance as Inferred Mineral Resources. The decision to use a 60 m cut off between Indicated and Inferred Mineral Resources is based upon a break in composite density near this point. All except less than 10% of these resource blocks classified as Indicate Mineral Resource achieve the maximum number of composites in their estimation. An US\$2,500 gold price is assumed to be reasonable for these resource estimation purposes.

**Table 14-6: Sensitivity Table showing Indicated Resource by cut-off grade, composites cut to 181 gpt**

Cut-off	Tonnes	Gold Oz	Silver Oz	Gold gpt	Silver gpt
1.5 gpt	6,204,000	1,536,100	971,600	7.70	4.87

2 gpt	5,654,000	1,505,500	946,900	8.28	5.21
2.5 gpt	<b>4,726,000</b>	<b>1,438,500</b>	<b>891,000</b>	<b>9.47</b>	<b>5.86</b>
3 gpt	3,931,000	1,368,400	834,600	10.83	6.60

The resource classification is presented on the tables below at various cut-offs. It is believed that for the location, geometry and grade distribution, it is reasonable to report the resource at the 2.5 gpt cut-off. All figures use a specific gravity of 2.757, tonnes are rounded to the nearest thousand and ounces are rounded to the nearest hundred.

**Table 14-6: Sensitivity Table showing Indicated Resource by cut-off grade, composites cut to 181 gpt**

Cut-off	Tonnes	Gold Oz	Silver Oz	Gold gpt	Silver gpt
1.5 gpt	6,204,000	1,536,100	971,600	7.70	4.87
2 gpt	5,654,000	1,505,500	946,900	8.28	5.21
2.5 gpt	<b>4,726,000</b>	<b>1,438,500</b>	<b>891,000</b>	<b>9.47</b>	<b>5.86</b>
3 gpt	3,931,000	1,368,400	834,600	10.83	6.60

**Table 14-7: Sensitivity Table showing Inferred Mineral Resource by cut-off grade, composites cut to 181 gpt**

Cut-off	Tonnes	Gold Oz	Silver Oz	Gold gpt	Silver gpt
1.5 gpt	3,357,000	610,200	465,900	5.65	4.32
2 gpt	2,383,000	556,400	428,300	7.26	5.59
2.5 gpt	<b>1,813,000</b>	<b>515,700</b>	<b>390,600</b>	<b>8.85</b>	<b>6.70</b>
3 gpt	1,562,000	493,300	368,400	9.82	7.33

**Table 14-8: Indicated Mineral Resource at 2.50 gpt cut-off, 181 gpt cap, by vein**

2.5 gpt Cutoff		Gold	Silver	Gold	Silver
Vein	Tonnes	Ounces	Ounces	Grade gpt	Grade gpt
Main Vein	1,439,000	296,840	238,100	6.42	5.15
Sleeping Giant	452,000	161,000	101,300	11.07	6.97

<b>Main Hanging Wall Vein</b>	486,000	148,500	94,200	9.51	6.03
<b>Ridge Vein</b>	286,000	91,900	36,300	9.99	3.95
<b>Goat HW Vein</b>	141,000	23,300	3,100	5.15	0.68
<b>Goat Vein</b>	1,140,000	541,400	346,700	14.78	9.46
<b>A Vein</b>	7,000	700	200	3.20	0.83
<b>F Vein</b>	44,000	7,000	1,700	4.93	1.19
<b>Deep Trench</b>	731,000	167,900	69,500	7.14	2.96
<b>Subtotal</b>	<b>4,726,000</b>	<b>1,438,500</b>	<b>891,000</b>	<b>9.47</b>	<b>5.86</b>

**Table 14-9: Inferred Mineral Resource at 2.50 gpt cut-Off, 181 gpt cap, by vein**

<b>2.5 gpt Cutoff</b>		<b>Gold</b>	<b>Silver</b>	<b>Gold</b>	<b>Silver</b>
<b>Vein</b>	<b>Tonnes</b>	<b>Ounces</b>	<b>Ounces</b>	<b>Grade gpt</b>	<b>Grade gpt</b>
<b>Main Vein</b>	650,000	210,500	181,700	10.08	8.70
<b>Sleeping Giant</b>	420,000	178,300	106,200	13.19	7.86
<b>Main Hanging Wall Vein</b>	291,000	48,300	64,100	5.16	6.85
<b>Ridge Vein</b>	91,000	28,700	5,700	9.77	1.93
<b>Goat HW Vein</b>	4,000	500	80	3.68	0.59
<b>Goat Vein</b>	256,000	35,100	27,600	4.26	3.35
<b>A Vein</b>	800	82	20	3.20	0.86
<b>F Vein</b>	44,000	7,400	1,700	5.20	1.17
<b>Deep Trench</b>	55,000	7,000	3,500	3.93	1.97
<b>Subtotal</b>	<b>1,813,000</b>	<b>516,000</b>	<b>390,600</b>	<b>8.85</b>	<b>6.70</b>

It is determined that there is a reasonable prospect of economic extraction under the declared conditions.

In accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resource and Mineral Reserves, adopted by the CIM Council, as amended; the classification of the resource is

as an Indicated Mineral Resource where blocks are within 60m of two composites, and as Inferred Mineral Resource where blocks are >60 m and <100m from two composites.

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The mineral resource estimates generally can be affected by environmental, permitting, taxation, socio-economic, marketing, political, metallurgical, mining and infrastructure issues. These issues are normal for any mine development project and clear paths exist to deal with each aspect. No specific issues have been identified that are considered to materially affect the economics of this project.

## **15 MINERAL RESERVE ESTIMATES (Item 15)**

This section does not apply to a Preliminary Economic Assessment. For a non-producing property, Mineral Reserves are only established by a Pre-Feasibility Study and/or Feasibility Study.

## 16 MINING METHODS (Item 16)

### 16.1 Mine Configuration

The New Amalga Gold Project is proposed to be developed as a “direct-shipping” operation. Mined material would be crushed and subjected to sensor-based ore sorting prior to shipment to an offsite third-party processing facility, without further concentration (see Sections 13, 17, 18 and 19). This has the benefit of reducing capital costs by avoiding construction of a concentrator (“mill”), which in turn greatly reduces the project’s environmental footprint (and facilitates permitting) by eliminating the need for an onsite tailings disposal facility. The mining criteria and design are therefore aligned with this project configuration.

The operation would utilize selective underground mining methods (longitudinal longhole open stoping and cut-and-fill), with backfill consisting of cemented rockfill (CRF) sourced from development waste rock.

### 16.2 Geotechnical Factors

The New Amalga Project is located within the Juneau Gold Belt, Alaska, and is characterized by mesothermal quartz-carbonate-gold-base metal veining hosted in metamorphic and intrusive rocks. The proposed mining method for the project is a combination of long-hole open stoping (LHOS) and cut-and-fill mining, depending on the geotechnical conditions of the rock mass.

The property contains seven veins, each with distinct characteristics in terms of dip, strike, and extent: five principal and parallel sets of east-northeast- trending quartz veins, and two associated splays and one cross vein hosted in quartz-diorite. The veins dip steeply ( $67^{\circ}$  to  $81^{\circ}$ ) to the north with strike lengths of 700 to 900 m (Figure 16-1), with minor NE trending vein set splaying off or intersecting the main vein set. Vein thicknesses range from several meters to decimeters and within the host structures occasionally several generations of veining can be observed. The veins extend from surface to maximum 735 m depth. Current mining plans propose stope mining to approximately 500 m depth.

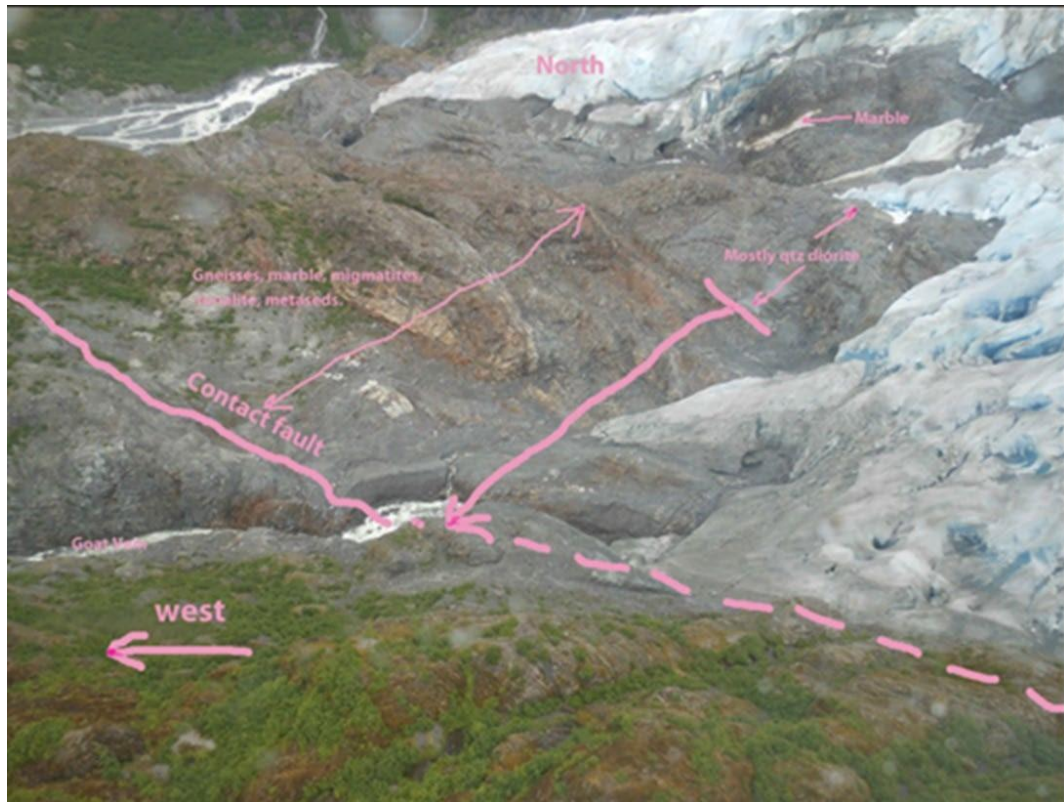


**Figure 16-1: Surface Exposure of the Main Vein Giving an Indication of the Rock Mass Conditions in the Footwall, Orebody and Hanging Wall**

### 16.2.0 *Structural Geology and Alteration*

A detailed structural evaluation for the mining areas at the New Amalga project has not yet been undertaken. There is a large structure in the mineralized area that crosses the veins called the Contact Fault (Figure 16-2). A review of the drill core photographs indicated and inferred that small scale fault structures exist that may reflect macro-scale faulting. Discontinuity types likely to exist include shear planes and jointing, most of these will likely be parallel to sub-parallel to the veins, with a possible associated orthogonal joint set. The vein parallel structures will likely impact hydrogeology aspects and the performance of some proposed stopping areas.

Alteration can extend up to several meters into the vein wall rock and consists of Sericite, Chlorite and Carbonate-Altered Quartz Diorite. Chlorite and Sericite are potentially associated with lower quality rock conditions seen in the veins to the south.

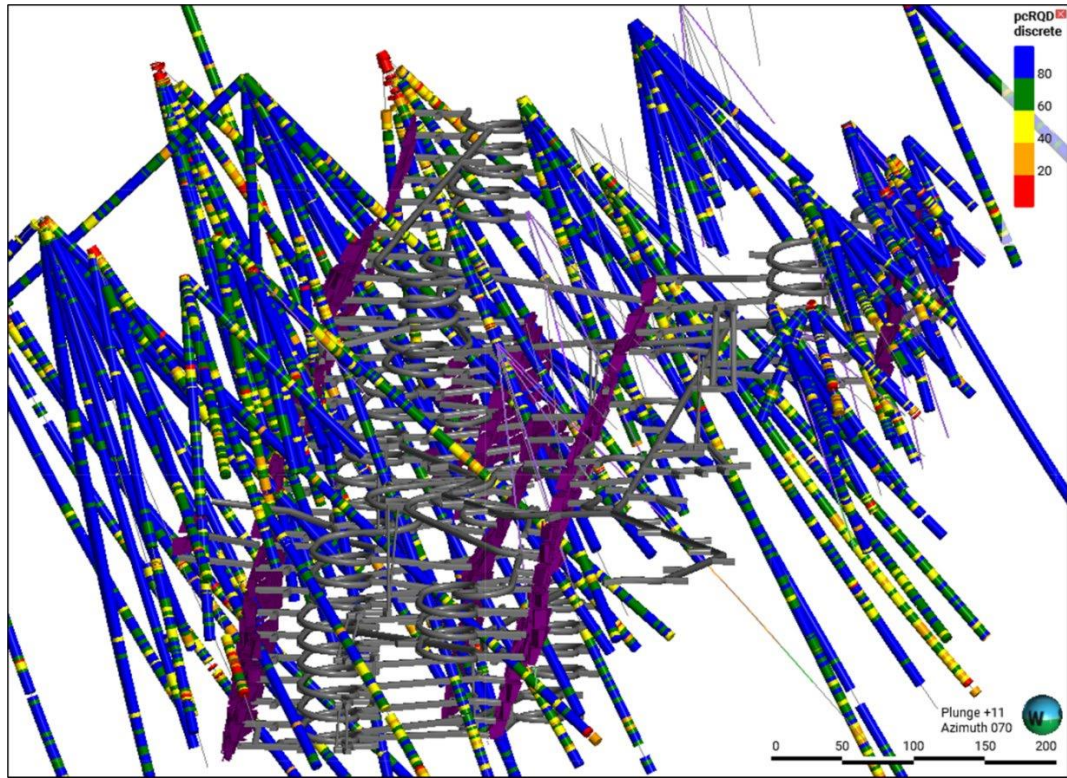


**Figure 16-2: Relationship of the Prominent Contact Fault to the Goat Vein Along Which Water is Flowing on Surface Where Preferential Erosion of the Alteration Selvages is Occurring**

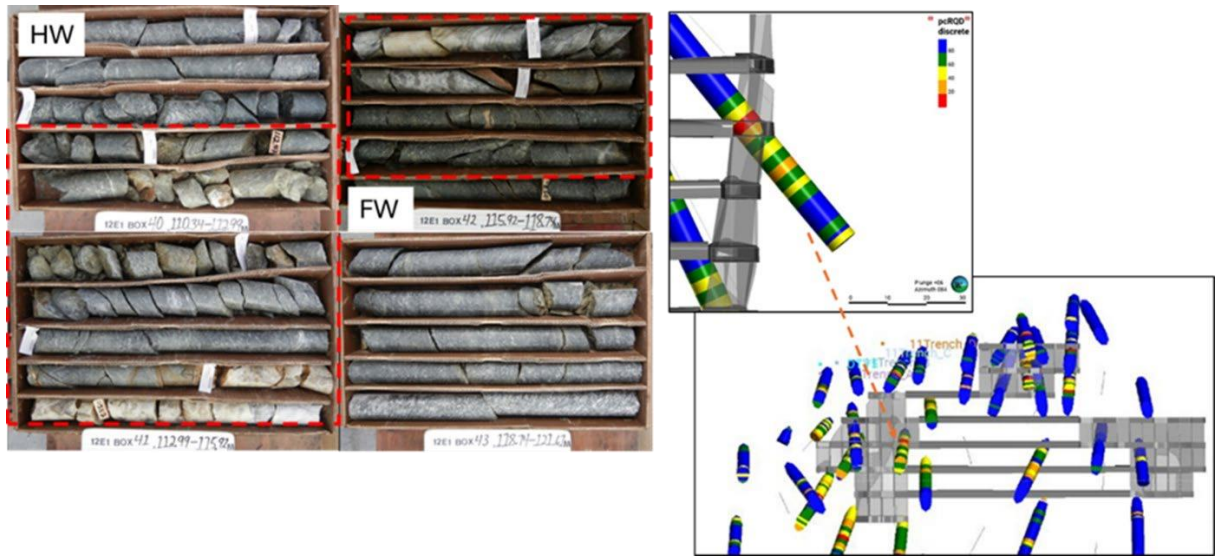
### 16.2.1 Rock Mass Quality

The geotechnical assessment for the New Amalga Project was conducted using core photographs, RQD (Rock Quality Designation) data (Figure 16-3 and Figure 16-4) and geotechnical classification systems (RMR76 and Q). The rock mass quality varies significantly across the project area:

- Near-Surface Rock: Exhibits variability in rock mass quality, ranging from very poor to very good conditions. Alteration zones (e.g., sericite, chlorite, carbonate) are associated with lower-quality rock, particularly in the southern veins.
- At Depth: Rock mass quality improves with depth, with higher RQD values observed. However, faults and alteration near the orebody can lead to localized deterioration in rock mass conditions that could impact stoping areas.



**Figure 16-3: View Looking East of Designed Stope Shapes with Available RQD Data From the Exploration Database**



**Figure 16-4: Core Photos and Sections Demonstrating the Rock Mass Conditions Intersecting a Planned Stope**

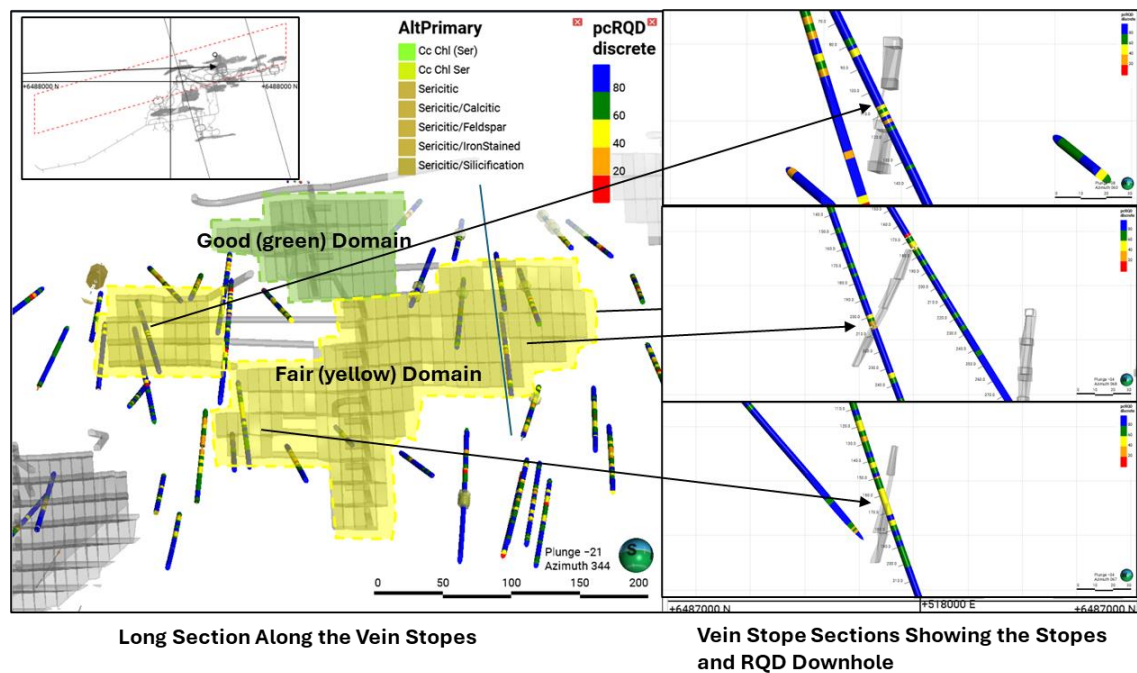
### 16.2.2 Geotechnical Domains

Following the review, three preliminary geotechnical domains (Figure 16-5) were identified based on lithology, RQD, geologic structures, and alteration intensity:

- Good (green) Domain: Good rock mass quality (RQD 60–100).
- Fair (yellow) Domain: Fair rock mass quality (RQD 40–60).
- Poor (red) Domain: Poor rock mass quality (RQD 0–40).

The percentage of stopes per domain is summarized as follows:

- Good: 44%
- Fair: 49%
- Poor: 7%



**Figure 16-5: Example of Preliminary Geotechnical Domaining Process Based on RQD Assessments, Lithology and Alteration**

### 16.2.3 Design Recommendations

The planned sublevel spacing is 16 m, which is considered appropriate at this stage for limiting dilution during narrow vein mining. Shanty walls (mined parallel to the orebody dip) are recommended to minimize overbreak and dilution risks. The proposed mining areas are defined

by steeply dipping quartz veins with strike lengths of 700–900 m and vein thicknesses ranging from decimeters to several meters. The mine design guidelines and method selection is based on the determined preliminary geotechnical domains classified as Good, Fair, and Poor, based on varying rock mass quality:

- Good Rockmass Quality (green): LHOS is recommended with stope lengths up to 31 m and an estimated ELOS (Equivalent Linear Overbreak/Slough) of 0.5 m.
- Moderate Rockmass Quality (yellow): LHOS is recommended with stope lengths of 15–20 m, depending on the use of cable bolts. ELOS ranges from 0.5–1.0 m.
- Poor Rockmass Quality (red): Cut-and-fill mining is recommended due to the poor rock mass conditions and higher risk of instability. This is limited to Areas 9 and 12.

#### 16.2.4 *Crown and Sill Pillars*

Crown Pillars: Crown pillar thicknesses range from 20–35 m. Parts of the near-surface crown pillars exhibit broken rock conditions, while deeper crown pillars show higher RQD values. Additional geotechnical drilling is recommended for high-grade crown pillar areas to assess rock mass conditions and fault intersections, that could result in reduced crown pillar size requirements.

Sill Pillars: Elevated stresses in the deeper remnant sill pillars poses a risk in the form of a reduction in mining recovery within these localized pillar areas. Sacrificial rib pillars or full overcuts beneath or within cemented backfill could improve stress conditions and increase recovery. The mine plan in this study utilizes full overcuts and assumes a reduction in recovery in the sill pillar areas (see section 16.5 and 16.11).

#### 16.2.5 *Ground Support*

Conventional ground support recommendations include fully grouted rebar, welded wire mesh, and cable bolts. A supported box-cut is recommended for the portal area due to broken zones near the surface. Detailed geotechnical mapping and drilling are required to optimize support design during the next phase of study.

**Table 16-1: General Ground Support for the Portal and Development**

Type of Support	Length	Support pattern (m x m)
<b>Ramp and Level Access</b>		
#7 fully grouted rebar plus #6 welded wire screen to cover the back and shoulders. Galvanised Split sets to be installed in the walls not more than 1.5m from the sill.	2.4	1.5 x 1.5
<b>Level development (access drift, level drift, remuck and refuge station drive)</b>		
#7 fully grouted rebar plus #6 welded wire screen to cover the back and shoulders. Galvanised Split sets to be installed in the walls not more than 1.5m from the sill.	1.8	1.2 x 1.2
<b>Long-term Cross cut (waste cross cut)</b>		
#7 fully grouted rebar plus #6 welded wire screen to cover the back and shoulders. Galvanised Split sets to be installed in the walls not more than 1.5m from the sill.	1.8	1.2 x 1.2
<b>Short-term Ore Development (Temporary)</b>		
Split sets plus #6 welded wire screen to cover the back and walls with not more than 1.5 m from sill.	1.8	1.2 x 1.2
<b>Long-term Intersections</b>		
#7 fully grouted rebar plus #6 welded wire screen	2.4	1.5 x 1.5
Cable Bolts	5	2.5 x 2.5
<b>Short-term Intersections (Level access and stopes)</b>		
#7 fully grouted rebar plus #6 welded wire screen	2.4	1.5 x 1.5
16' Connectable Swellex	4.8	2.5 x 2.5
<b>Portal</b>		
Portal face: 6m Cable bolts #7 (2.4 m) Length fully grouted rebar #6 Galvanised Chain-link Mesh Potential Straps (Zero Gauge) at the portal brow	6	2.0 x 2.0
Cable Bolts AND Install rebar and welded wire screen as per the Level Development recommendation.	6	2.0 x 2.0
<b>Vertical Development</b>		
All raises will be raisebored.		
Personnel-entry raises will be only 1.1 m diameter (Safescape laddertube).		
Ventilation raises will be a slightly larger diameter by non-personnel-entry.		

### 16.2.6 *Geotechnical Risks*

Key geotechnical risks include:

- Variability in rock mass quality, particularly near surface and in alteration zones.
- Structural features such as faults and joints, which may impact excavation stability and increase dilution risks.
- Crown and sill pillar stability, particularly in areas with poor rock mass conditions or more high stress areas in deeper part of mine in closure areas.

### 16.2.7 *Geotechnical Recommendations*

To address the structural and geotechnical uncertainties, the following are recommended:

- A structural geology study is required to identify and characterize the key structures that may influence ground stability and permeability at each mining area.
- Targeted geotechnical drilling is needed to understand the rock mass conditions in key underground areas, including the high-grade crown pillar areas.
- Rock mass characterization, laboratory and field testing to gain a better understanding of the rock mass conditions that will be exposed during mining.
- Complete detailed crown pillar studies.
- Sill pillar sequence and extraction sequence management.
- Detailed ground support design for the box-cut, portal and underground excavations (long-term and temporary).
- Numerical modeling to assess the stress conditions in the sill pillars and other critical areas.

## 16.3 **Hydrogeological Factors**

### 16.3.0 *Hydrogeological Setting*

The New Amalga Project is located near the Herbert River valley, with the Herbert Glacier terminus situated close to the proposed mine. The valley is assumed to be filled with glaciofluvial and colluvial deposits, though the depth of unconsolidated sediments is not well constrained. No site-specific hydrogeological data (e.g., piezometers) are currently available, and conditions have been inferred based on drill core observations and experience in similar environments.

### 16.3.1 Groundwater Levels and Pressures

Groundwater levels are conservatively assumed to be at or near the ground surface, with hydrostatic pressure conditions. The Herbert River is expected to function as a constant head boundary, potentially hydraulically connected to subsurface structures. Groundwater storage is expected to be low in the massive intrusive granitic rock, but elevated pressures may be encountered at depth or near topographic highs.

### 16.3.2 Groundwater Inflow

Preliminary inflow estimates were calculated using Darcy's Law and the Goodman (1965) method. Hydraulic conductivity (K) values were assumed based on RQD and core photo analysis:

- Bulk Rock: Low hydraulic conductivity ( $\sim 1 \times 10^{-8}$  m/s or lower).
- Near-Surface Rock: Higher hydraulic conductivity ( $5 \times 10^{-7}$  to  $1 \times 10^{-7}$  m/s).
- Alteration Zones and Faults: Higher hydraulic conductivity ( $1 \times 10^{-6}$  to  $1 \times 10^{-7}$  m/s).

The following table presents a range of potential inflows estimated for the decline and stopes based on assumed hydraulic conductivity ranges:

**Table 16-2: Estimated Range of Inflow**

Component	Higher K Scenario Flow (m <sup>3</sup> /day)	Lower K Scenario Flow (m <sup>3</sup> /day)
Bulk Rock	7,545	670
Veins	435	20
Decline	5,950	120
Total	~14,000	~800

While estimated vein inflows are relatively low based on assumptions used (i.e., 2m width, hydraulic conductivity as noted above), discrete inflows from faults or fractures could result in localized zones of high inflow, potentially exceeding 15,000 m<sup>3</sup>/day, assuming open and connected features, which is not yet proven. Proper mine planning and consideration for mitigation or contingency measures, such as grouting, should be assumed to manage these risks.

### 16.3.3 Hydrogeological Risks

Key hydrogeological risks include:

- Limited site-specific hydrogeological data.

- Intersection of high-pressure or high-conductivity features which could increase inflows or could lead to geotechnical instabilities and safety hazards.
- Potential hydraulic connections to the Herbert River valley and surface water features, which could increase inflows.

#### 16.3.4 *Hydrogeological Recommendations*

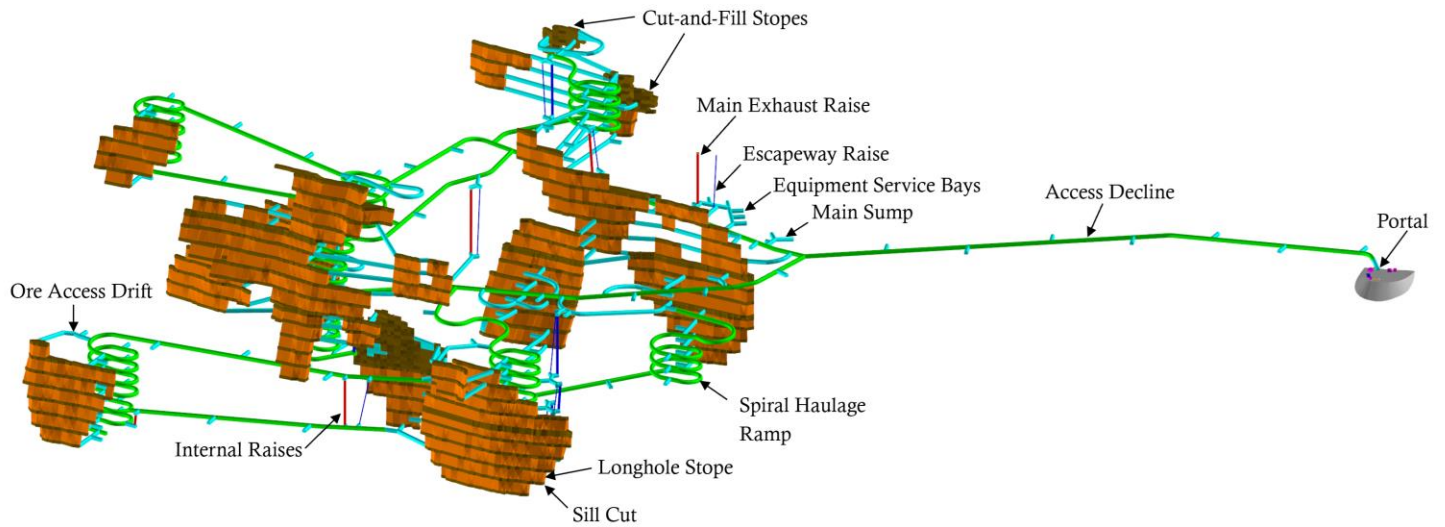
To address hydrogeological uncertainties, the following actions are recommended:

- Conduct targeted hydrogeological drilling and hydraulic testing to establish hydraulic properties of the rock mass and major structures.
- Install vibrating wire piezometers to monitor groundwater levels and pressures.
- Develop a conceptual hydrogeological model and refine inflow estimates using numerical and analytical methods.
- Initiate geochemical studies to assess water quality and potential water management and/or treatment requirements.

### 16.4 **Orebody Access & Development Mining**

The orebody will initially be accessed via a portal established into the hillside near the mine surface facilities. An access decline with a length of approximately 900m will be developed using conventional drill-and-blast methods to gain initial access to the Main Vein at a depth of approximately 95m below the portal elevation. Development waste rock will be hauled to surface using ejector-bed haul trucks, where it will be temporarily stockpiled for future backfill use.

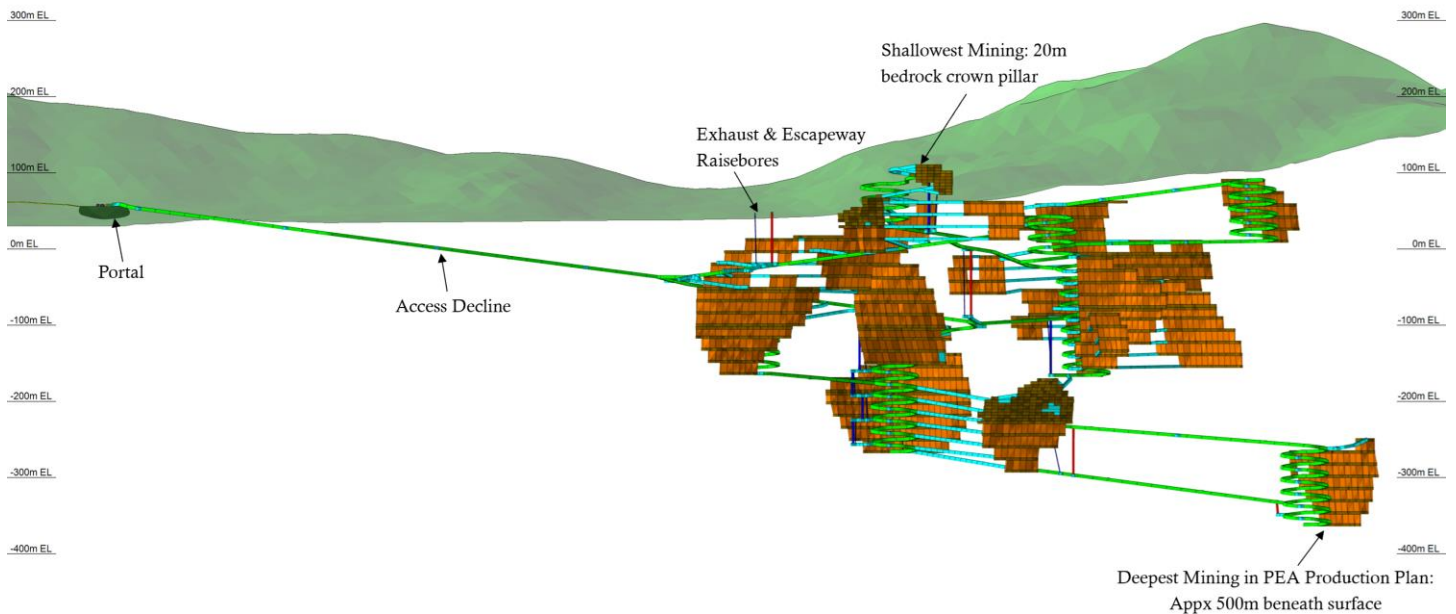
Two raisebores will be developed from the bottom of the decline to the surface: a secondary escape ladderway of 1.2m diameter and a ventilation exhaust of 3.0m diameter. The inclined escapeway raise will have a length of approximately 70m to surface, which is less than the MSHA criteria of 91m (300ft) where a mechanical hoisting system becomes required. This location will also include infrastructure such as the main ventilation fan, main sump and equipment service bays.



**Figure 16-6: 3-D View of Proposed Mine Layout, Looking South-Southeast**

Establishment of the escapeway raise will enable the initiation of several production stopes. Development will continue as production rampup begins, with multiple spiral haulage ramps branching out to access the vertical extent of each vein. Haulage ramp development will continue throughout most of the mine life to bring new stopes online and access outlying vein areas.

Level access drifts will be periodically driven from the haulage ramps to intersect each vein at the targeted production elevations. Haulage ramps will also include numerous smaller cutouts for use as muckbays, sumps, electrical bays, and other infrastructure.



**Figure 16-7: Side View of Mine Layout Showing Overlying Terrain, Looking North**

## 16.5 Production Mining, Haulage and Backfill

Production mining will primarily utilize conventional longitudinal longhole stoping methods, as appropriate for the relatively steeply dipping vein geometry with narrow-to-moderate widths and generally good-to-fair rock quality. A much smaller proportion of production will utilize cut-and-fill methods in certain areas of anticipated lower rock quality (see subsection 16.2). At full production, the targeted rate for mining of mineralized material is 1,150 t/d.

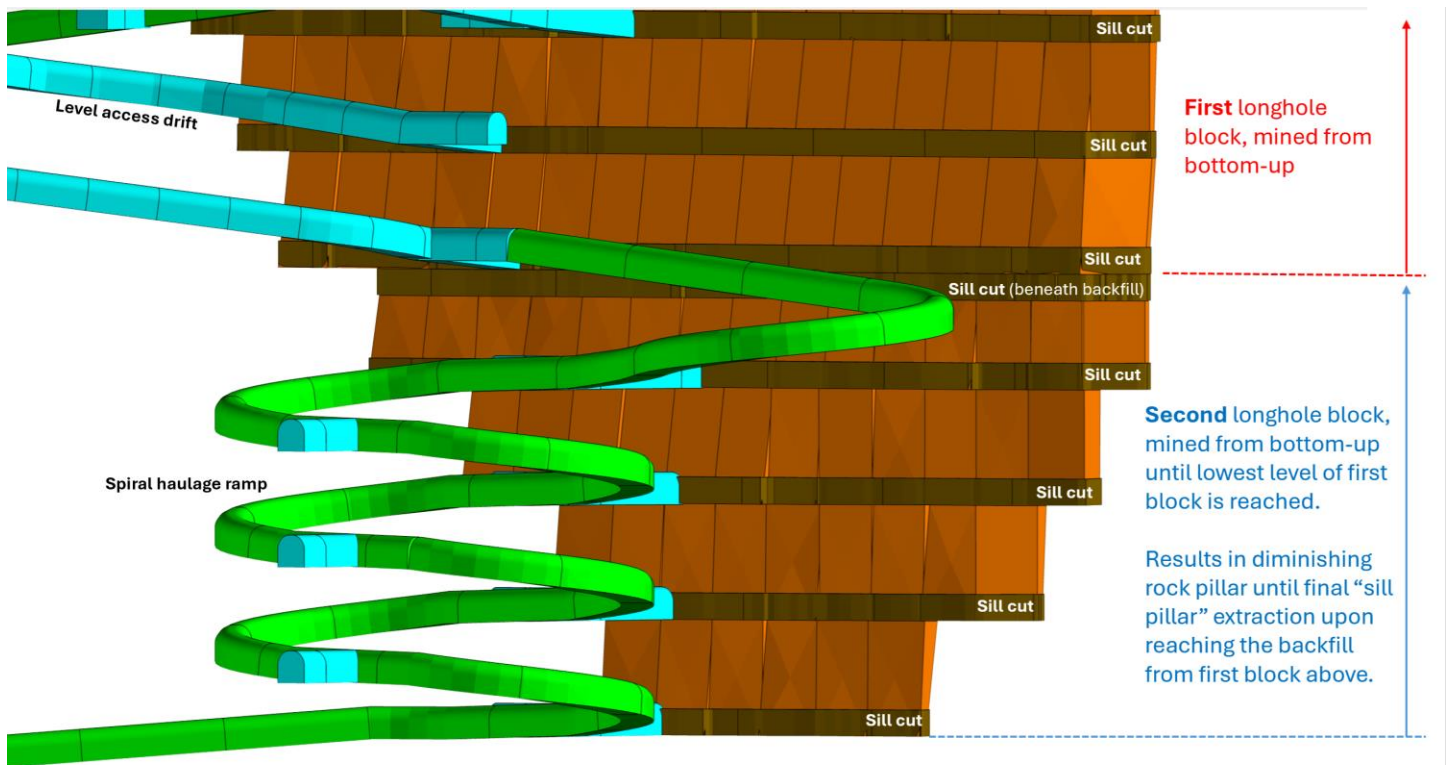
The shallowest mining in the PEA mine plan has a bedrock crown pillar of approximately 20m to surface. This pillar criteria will be revised as necessary based on further study. The deepest mining in the PEA is approximately 500m beneath surface.

For longhole mining, sill cuts will be developed horizontally along the vein at a 16m vertical intervals. A downhole-hammer longhole drill will bore blastholes from the above cut (drill drift) into the lower cut (mucking drift), which will be loaded with explosives along a portion of the strike length of the stope. After blasting, the broken rock will be removed (“mucked out”) from the bottom cut using a remotely-operated LHD (load-haul-dump) unit, which will load the material into ejector-bed haul trucks to be transported to surface.

Once the broken rock has been fully removed, the stope will be backfilled by dumping CRF (cemented rockfill) into the stope from the top cut. The use of ejector-bed trucks enables CRF to be dumped into the stope without the height-clearance issues associated with end-dump trucks. Drilling for the next blast will then take place, retreating back towards the level access. Once a level is fully extracted and backfilled, mining will proceed upwards to the next level above.

To maximize efficiency, the haul trucks will conduct production haulage and backfill haulage on the same cycle as follows. After being loaded from a production stope in the mucking cycle, the trucks will deposit the material on surface and then be loaded with CRF backfill (cemented rockfill) at the surface batch plant. The CRF will be transported into the mine on the return trip and deposited into a different stope which is in the backfill cycle.

High-strength CRF (typ. 8-10% cement) will be required for filling the limited number of stopes where future mining is planned directly underneath (“sill pillar extraction”, as shown in the figure below and also discussed in sub section 16.2). This typically consists of the initial mining level for the deeper veins, where mining will begin at an intermediate elevation, rather than at the very bottom of the vein. Most other stopes can utilize regular-strength CRF (typ. 4-5% cement), which will be the great majority of overall backfill placed. Uncemented development waste rock may be utilized for backfill in certain situations where no further adjacent mining is planned and structural backfill is not necessary.



**Figure 16-8: Three-Dimensional Diagram Showing Sill Pillar Extraction**

For the areas requiring cut-and-fill mining, a drift will be developed along the length of the vein and then backfilled. Subsequent drifts will then be developed and backfilled above the first, proceeding in an upward progression. This mining method, while less efficient than longhole stoping, enables resource extraction without creating the larger opening sizes associated with longhole mining and is therefore appropriate for the limited areas of anticipated lower rock quality.

## 16.6 Mine Ventilation and Air Heating

The mine ventilation system will pull fresh air into the portal and down the decline. The air will be directed to the haulage ramp systems at the bottom of the decline, and in certain locations will split into parallel pathways to ventilate the separate haulage ramps for the multiple veins before recombining. A network of internal ventilation raises will be developed along the ramps where necessary to provide a return path for the airflow, with airdoors and regulators installed as necessary to control direction and quantity.

After passing through the haulage ramps, all air will be drawn to the 400hp main fan located at the bottom of the primary exhaust raise, and then returned to surface. The mine airflow pattern is configured such that the escapeway raise at the bottom of the decline will not be in exhaust air.

Overall airflow will be approximately 160 m<sup>3</sup>/s, sufficient to provide appropriate ventilation for production and development activities while maintaining a reasonable intake air velocity in the haulage decline.

Auxiliary fans will be utilized to ventilate Individual production stopes, development headings, and other “dead-end” drifts without a flow-through connection. These fans will pull air from the main haulage ramp into flexible ducting which directs it to the mining face, from where it will flow along the length of the heading to return to the ramp.

The mine will utilize an intake air heating system due to below-freezing ambient temperatures during the winter months. This is necessary to prevent ice buildup at the portal and along the initial portion of the decline. A propane-fired direct heater system, installed at the portal, will have a heating capability of 5,300 KW and will be supplied from a 40,000 liter propane tank.

## **16.7 Water Handling, Electrical, and Compressed Air**

As discussed in subsection 16.3, there is potential to encounter localized zones of high inflow when mining crosses faults or fractures, if they are open and connected. These areas will be identified by cover drilling conducted progressively during mine development prior to advancing into areas where such structures have a potential to be present. If high-flow water-bearing structures are encountered with the cover drilling, they will be addressed by pressure grouting with a cementitious or resin grout prior to advancing mine development into the area.

Water entering the mine through seeps will be collected at pocket sumps located along the haulage ramps and within the level access drifts. These pocket sumps will also collect drill water pumped from the developed faces. The water will then be progressively pumped to higher-elevation pocket sumps until reaching the main sumps at the bottom of the mine access decline. Suspended solids will be removed in a settling sump and then decanted into a second holding sump from which it will be pumped out of the mine to the water treatment plant on surface.

Service water for drilling, dust control, and equipment washdowns will be brought into the mine from the surface water treatment plant. Decanted water recirculated from the main sumps may also be blended with the service water to the extent possible while maintaining an acceptable level of suspended solids for use by drilling equipment. Recirculating water from the main sumps in this fashion reduces the rate at which water must be pumped to the surface for treatment.

High-voltage electrical power will enter the mine at 13.8kV and will be fed from surface down the access decline to a switchgear room located near the main fan. Power will then be distributed to each haulage ramp where 1000kVA mine power centers (MPCs) located near active level accesses will reduce the voltage to 480v. The 480v power will then be distributed to local loads such as auxiliary fans, pumps, and drill power drops within the nearby stopes and development headings.

Compressed air will be provided by a compressor located on surface near the portal. Later in the mine life, an auxiliary compressor stations will be developed underground to ensure adequate air pressure as the mine workings progress to greater distances from the portal.

Sub-vertical utility boreholes will be drilled wherever the haulage ramp geometry is favorable in order to “shortcut” from level to level for routing water, electrical, and air lines in order to minimize the length of pipe and cable required to be run along the spiral ramps.

## 16.8 Communication Systems & Emergency Infrastructure

Underground communications will include an underground Wi-Fi network and radio system, with a backup hardwired mine phone system located at key infrastructure locations. A stench system for emergency evacuation alerts will be located at the portal in the main air intake.

Refuge chambers will be installed at various locations along the haulage ramps in line with MSHA regulations. The refuge chambers will be connected to the mine compressed air system to provide breathable air in the event of a mine fire or other underground hazardous atmosphere. In the event of failure or contamination of the compressed air system, the refuge chambers will have a self-contained life support system including oxygen bottles and CO<sub>2</sub> scrubbers. The chambers will also contain water, medical supplies, and communications equipment to enable contact with the emergency response team on surface.

## 16.9 Blasting & Explosives

Blasting will primarily utilize bulk ANFO in prill or emulsion form. ANFO will be transported to the mining face using a dedicated powder truck with a pneumatic pump for loading blastholes with bulk explosives.

Non-electric blasting caps will generally be utilized to initiate blastholes except for more complicated longhole blasts, where electronic caps will be utilized as needed to enable precise hole timing.

Small amounts of prepackaged “stick powder” may be utilized after primary blasting, as needed to break oversize rocks which are too large to be loaded and hauled to surface.

Explosives will be transported in dedicated containers to a powder magazine cutout located near the bottom of the mine access decline. Frequent deliveries of explosives from Juneau will minimize the volume required to be stored on-site. Current plans do not anticipate the construction of a permanent powder magazine on surface.

Blasting will utilize a remote-initiation system and will generally take place at the end of shift after all personnel have left the mine in order to enable blasting gases to be cleared by the ventilation system prior to the start of the next shift. Exceptions include early in the mine life (especially during initial decline development) as well as near the end of the mine life, periods where the small number of active headings enables safe mid-shift blasting due to no active working areas downwind of the blast. Mid-shaft blasting can enable a faster advance rate for the individual heading due to not having to wait until the end of the shift to initiate the blast.

## 16.10 Cutoff Grade

For the New Amalga mine plan, it is not appropriate to utilize a conventional cutoff grade calculation using the economic breakeven grade based on incremental OPEX due to the following reasons:

- The offtake terms require each monthly shipment to contain a minimum overall gold grade of 7.0g/t in order to be payable (see Chapter 19). It is critical to avoid the risk of any shipment dropping below this number.
- The offtake terms show that gold payability increases significantly with higher shipment grades, and the grade vs payability scale is non-linear with certain thresholds at which a step-change occurs. Adding low-grade material to a shipment would increase the overall contained gold ounces but could result in a lower payability rate for the entire shipment, thus partially or fully offsetting the incremental revenue gain from the additional ounces.
- Sensor-based ore sorting would enable a high proportion of waste dilution to be removed from the shipment prior to incurring transportation and processing costs (see Chapters 13 and 17).

Based on the above factors, to determine the stope shapes targeted for mining the PEA mine plan has utilized a gold COG of 7.0g/t applied before incorporating overbreak dilution. This partially accounts for the dilution-removing benefits of the ore sorter, enabling thinner veins or lower-grade resource to be mined. It also avoids excessive targeting of lower-grade resource in order to ensure that the grade of each monthly shipment does not adversely affect payability or approach the 7.0g/t minimum payable grade. The 7.0 g/t cutoff has been applied to both longhole and cut-and-fill mining methods.

Use of a lower but variable COG could enable mining of certain resource areas below 7.0 g/t without adversely affecting payability. Detailed production studies in the future may examine a variable COG which adjusts monthly to maximize value by optimizing the resource recovery versus payability for each shipment relative to the grade of the resource areas being mined during that period. This is a complicated modelling exercise which would typically be performed as a trade-off study during a future Pre-Feasibility Study.

In certain circumstances, areas of lower-grade resource must be mined through by sill cuts in order to access stopes of higher-grade material further away. Since this material must be mined regardless, a lower “incremental cutoff” of 3.0g/t is applied to determine whether to send this low-grade development rock to the ore sorter instead of the backfill materials stockpile. Applying this lower incremental cutoff to essential development enables additional ounces within low-grade material to be captured, but does not meaningfully affect shipment payability as the amount of tonnage in this category is minimal and the sorter will significantly increase the grade of the material before transportation.

## 16.11 Mining Assumptions – Dimensions, Dilution Factors, Productivity Rates, Etc.

### Mining Dimensions

**Capital Development Headings (Haulage Ramps, Level Access Drives, etc):** 4.5m H x 4.5m W

**Sill Cuts:** 3.7m H x minimum 4.0m W (before overbreak)

**Cut-and-Fill Stopes:** 4.0m H x minimum 4.0m W (before overbreak)

**Longhole Stope Height:** 12.3m exclusive of sill cuts (results in 16.0m level spacing)

**Longhole Stope Width:** minimum 1.5m drilled (before adding overbreak dilution)

**Longhole Stope Length:** 8.0m per blast

### **Overbreak Dilution Factors**

**Capital Development Headings:** 15% dilution tonnage added

**Sill Cuts & Cut-and-Fill Stopes:** 0.3m on each rib – results in 15% dilution at minimum 4.0m mining width

**Longhole Stopes:** 0.3m on each rib – results in 40% dilution at minimum designed stope width of 1.5m, and 17% dilution at more typical stope width of 3.5m

### **Mineralized Material Loss**

**Standard Longhole Stopes:** 5% of contained tonnes assumed to be unrecoverable due to underbreak, misaligned drillholes, etc.

**Longhole Stopes Beneath Backfill (“sill pillars”):** 35% of contained tonnes assumed to be unrecoverable in diminishing-pillar situations where a sill cut is redeveloped beneath backfill to enable longhole stoping of remaining resource pillar below. This situation occurs infrequently in the mine plan but may result in localized conditions of higher rock stress based on numerical modelling. The geotechnical analysis has recommended use of this higher resource loss assumption. (see Section 16.2 and 16.5 for discussion).

### **Productivity Rates**

**Mine Production Rate:** 1,150 t/d after ramp-up

**Overall Drifting Rate:** maximum 20m/d mine-wide after ramp-up. Includes all drifting including sill cuts, cut-and-fill stopes, and lateral waste capital development.

**Capital Development Headings:** maximum 2.5 m/d per available face, except during first year of initial development as follows:

**Month 1:** maximum advance 1.25m/d (portal development)

**Month 2:** maximum advance 1.88m/d (decline driving ramp-up)

**Month 3:** maximum advance 2.5m/d (decline driving ramp-up)

**Month 4-11:** maximum advance 3.0m/d (slightly faster advance enabled by ability to conduct on-shift blasting for the single decline heading)

**Month 12+:** maximum advance 2.5m/d (decline complete, multiple headings active, blasting only occurs between shifts)

**Sill Cuts & Cut-and-Fill Stopes:** maximum 140 t/d mined per available face (equivalent to 2.5 m/d drift advance rate at a heading size of 4.5m x 4.5m)

**Longhole Stopes:** maximum drilling rate of 1,200 tonnes drilled/d, mucking rate of 500 t/d, or backfilling rate of 600 t/d per available longhole stope depending on phase of mining cycle

**Overall Mine-Wide Maximum Backfilling Rate:** 1800 t/d

### Other

**Development Growth Allowance:** a Capital Development meters growth allowance of 3% is included in the mine schedule to account for minor cutouts and other small infrastructure excavations not individually designed for a PEA level of study

## 16.12 Mining Schedule

The mine plan results in the shipment of 1,859 kt of sorted production rock at a gold grade of 17.6 g/t over a seven-year production life. This requires the mining of 2,438 kt of production rock at a grade of 13.6 g/t (before sorting) as well as 23,597m of lateral waste development and 1,143m of vertical development.

The mining schedule incorporates a one-year surface construction period prior to the initiation of decline development (Year -2) and then a 15-month period of pre-production development (Year -1 and the first quarter of Year 1) before first production is achieved with the mining of the initial sill cut in the Main Vein. Commercial production is considered to begin during the second half of Year 1.

A set of 3-D images displaying the semi-annual progression of mine development and production are available at the end of this document in APPENDIX C.

Production ramps up during year 1 and 2 to reach full nameplate of 1,150 t/d. The tonnage of production shipped after ore sorting is variable (appx 800-950 t/d at full production) and dependent upon the amount of waste dilution versus vein volume within the mining shapes.

The production plan is designed to target the higher-grade areas of the resource first in order to maximize early cashflows, pay off CAPEX and maximize NPV/IRR. Early production primarily targets the higher-grade areas of the Main Vein and Goat Vein. Correspondingly, the mined (and shipped) grades are highest during Years 2-3 and lowest during Year 7 near the end of the mine life when production is sourced from the remaining lower-grade areas of resource. Production is ultimately sourced from seven veins (Main Vein, Main Hangingwall Vein, Goat Vein, Goat Hangingwall Vein, Deep Trench Vein, Sleeping Giant Vein, and Ridge Vein).

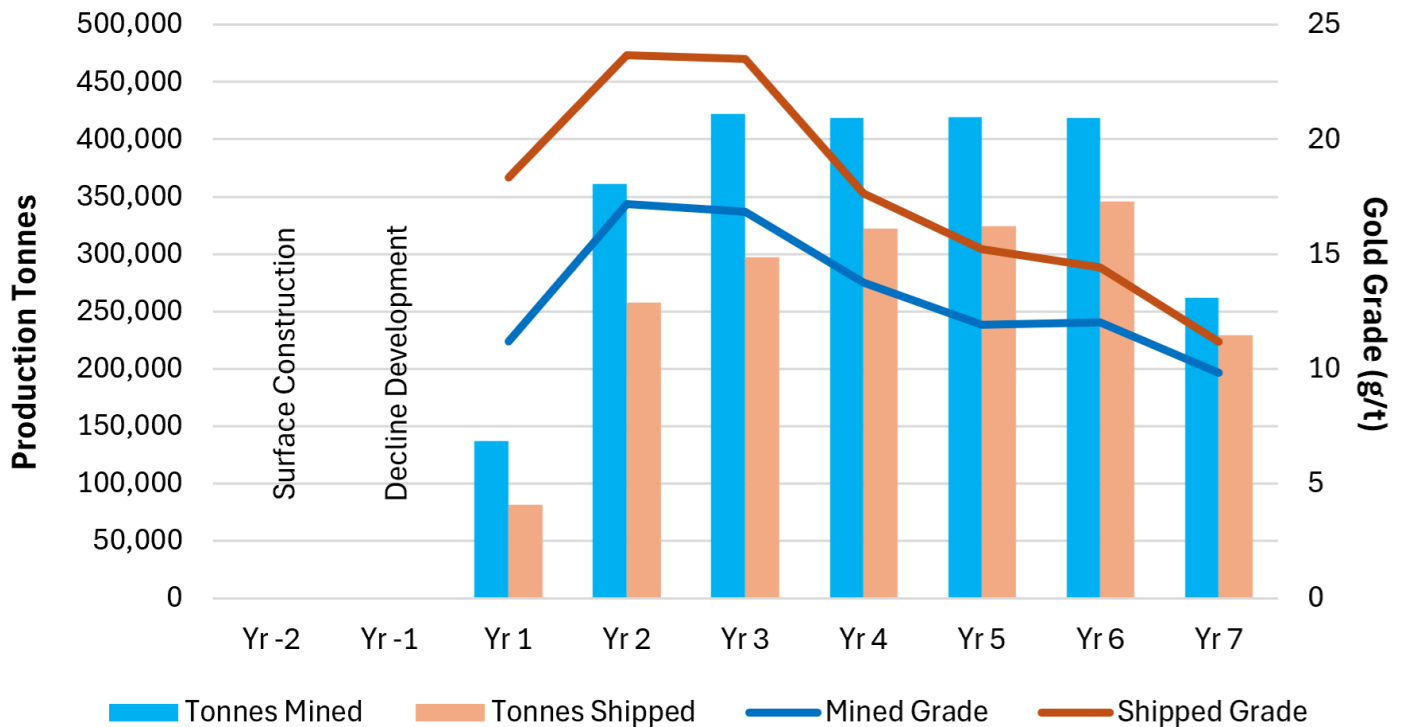
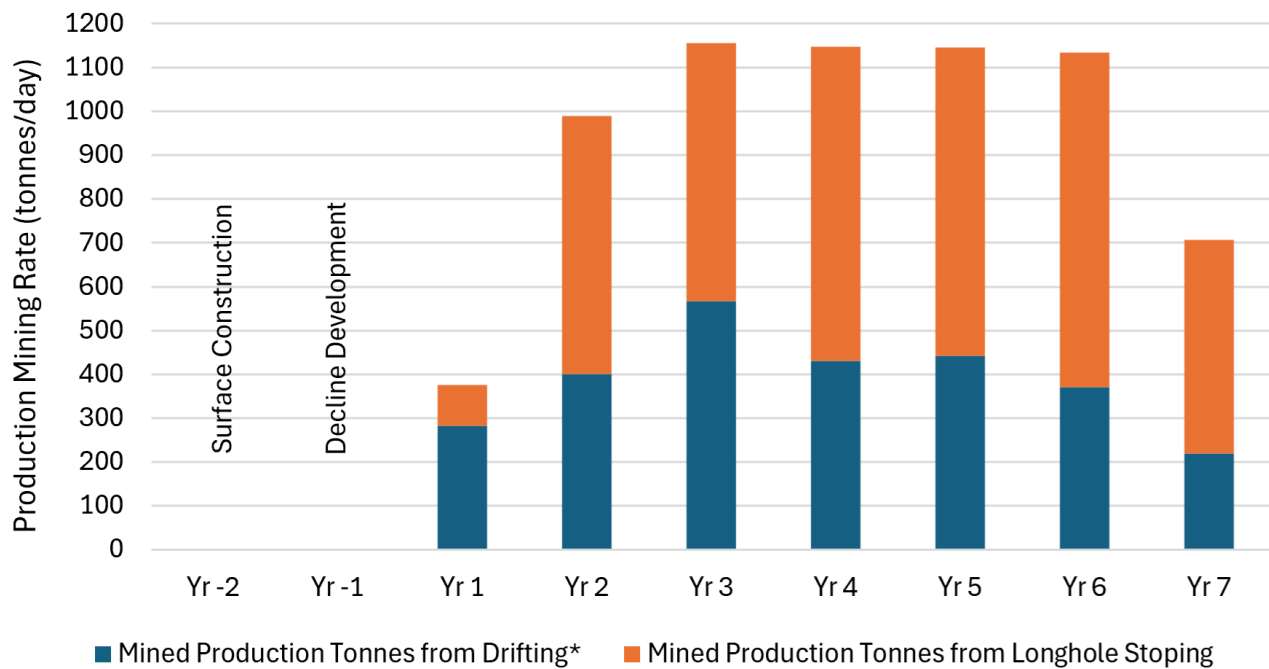


Figure 16-9 Schedule of Production Tonnage and Grade

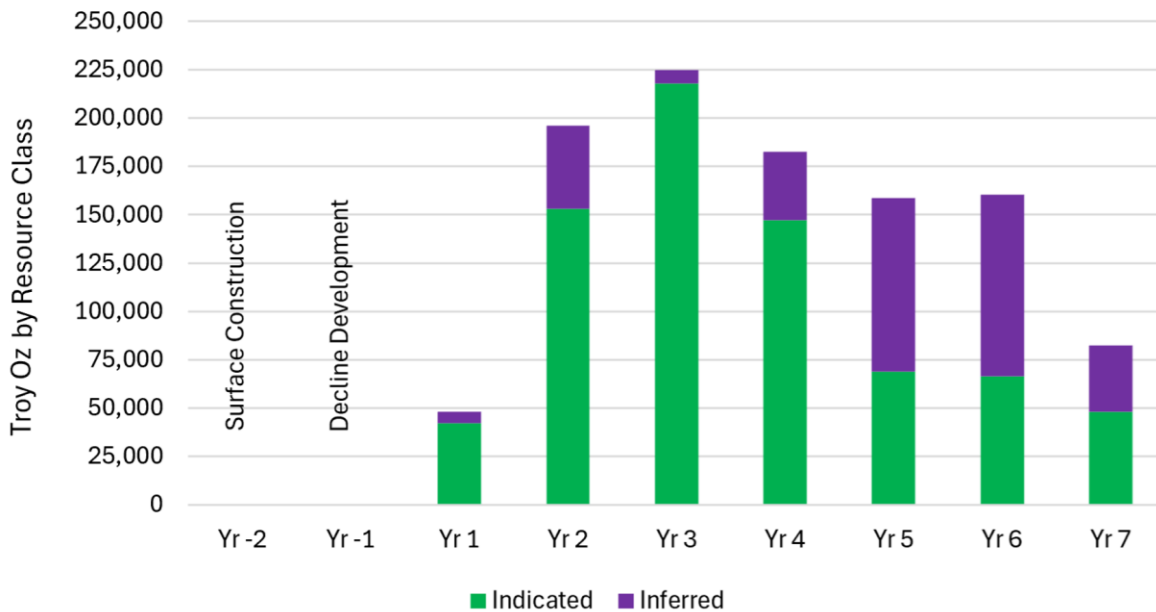
Approximately 70% of mine production is achieved via longhole stoping, with the remainder from sill cut development and cut-and-fill mining, as shown below.



\*Includes tonnage from sill cuts and cut-and-fill mining

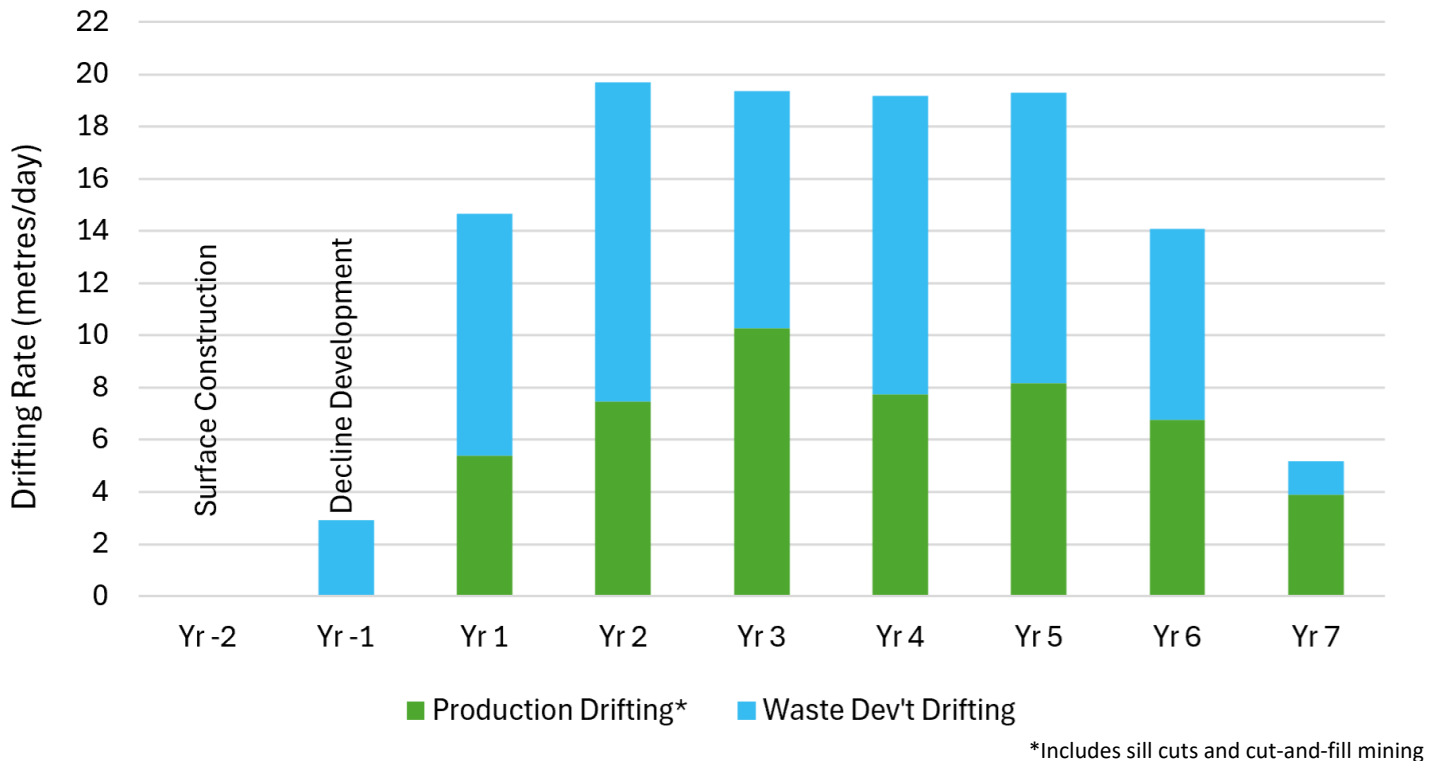
**Figure 16-10 Sources of Mined Production**

Approximately 70% of the shipped gold (troy ounces, after sorting) is sourced from indicated-class resource, with the balance from inferred-class resource. Most of the production from inferred resource takes place in the latter portion of the mine life, when lower-grade material is being mined.



**Figure 16-11 Resource Classification of Au Ounces Shipped**

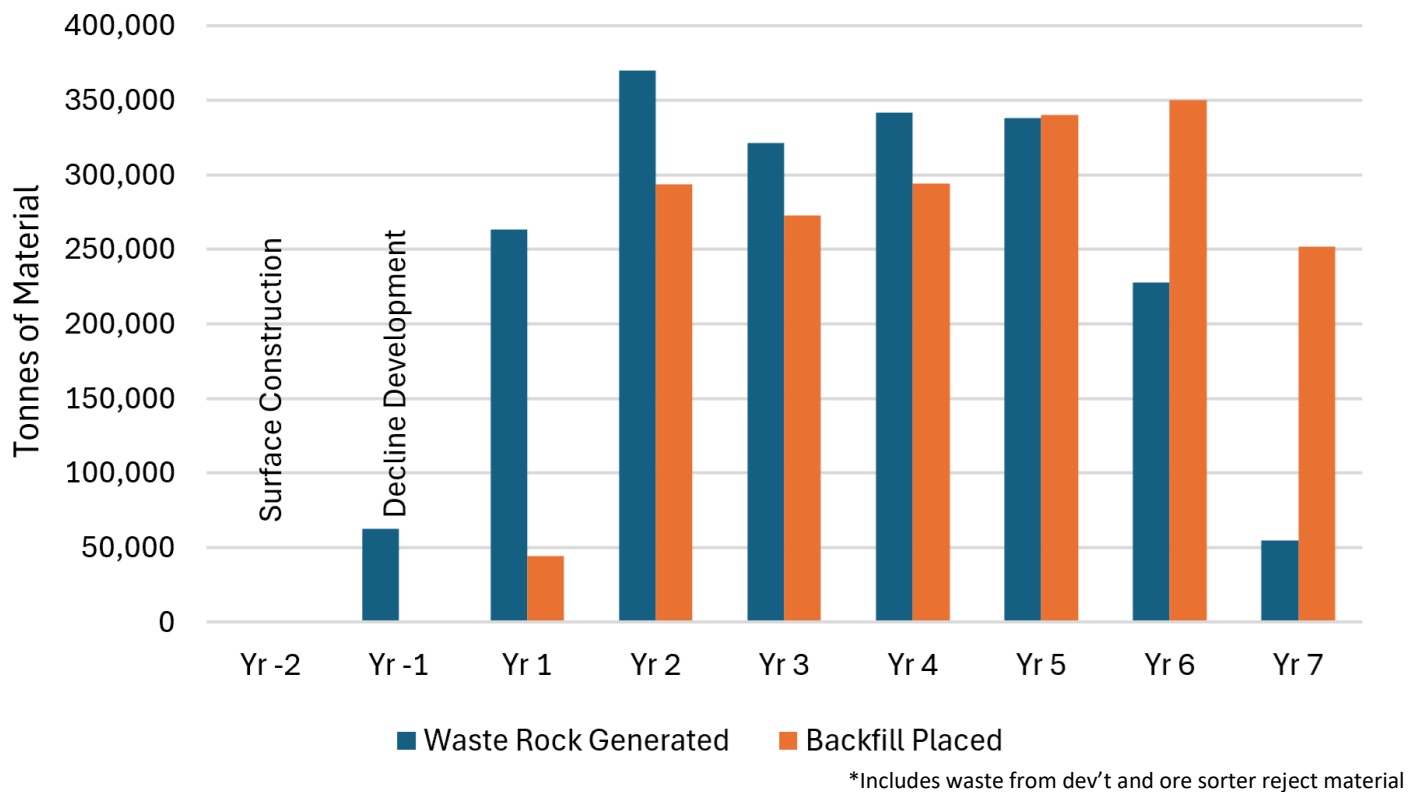
The mine development schedule is optimized for consistency in order to avoid large swings in annual drifting requirements requiring costly short-term mobilizations of mining equipment and personnel. The total drifting rate (including development drifting, sill cut production drifting, and cut-and-fill production) stabilizes at under 20 m/d after ramp-up. Sustaining development continues as the haulage ramp network expands and persists until near the end of the mine life in order to develop level access drifts to bring the final production areas online.



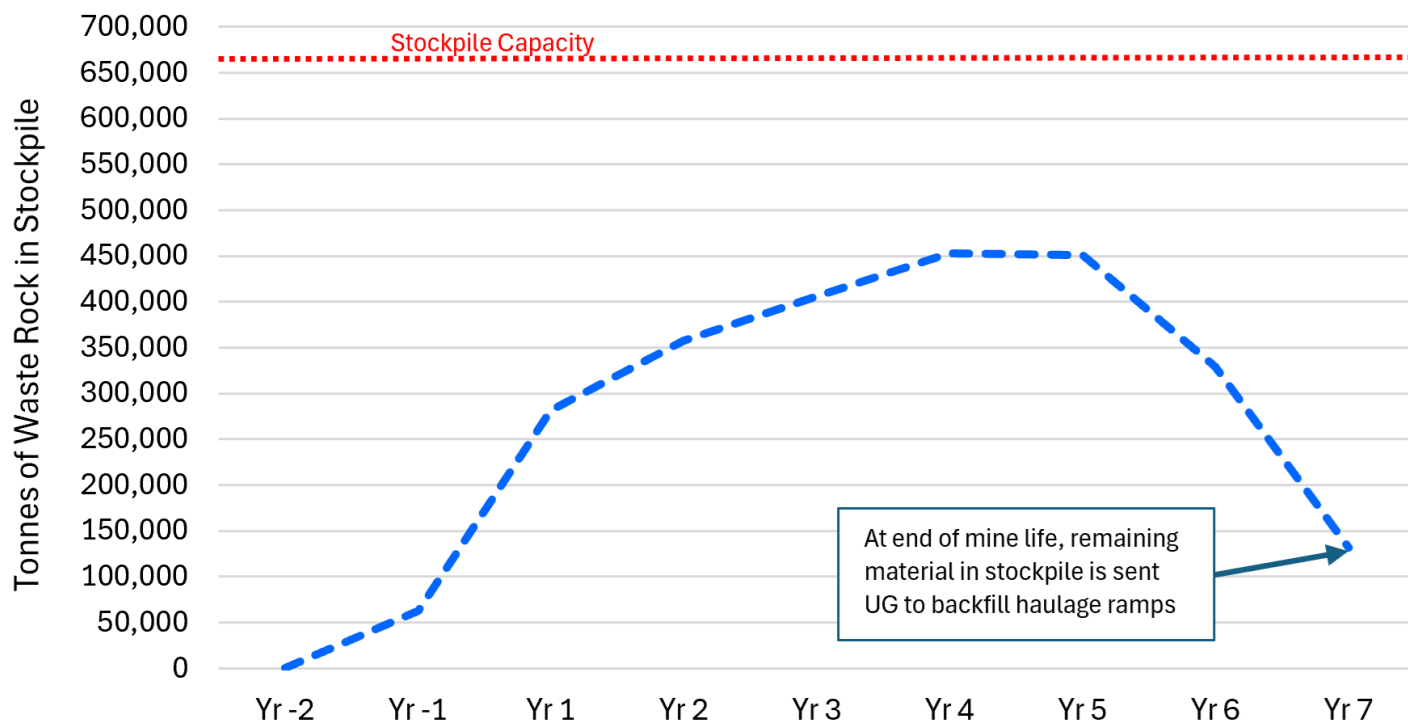
**Figure 16-12 Drifting Rate and Breakdown by Type**

Backfill activities begin in Year 1 shortly after first production and will continue until after the end of the mine life. Waste generation from development mining is staged at the Temporary Backfill Materials Stockpile. Ore sorter reject rock is also placed on this stockpile after production begins. Backfilling activities ramp up shortly afterward, greatly slowing the rate of stockpile growth until Year 6, at which point backfilling exceeds new waste generation and the stockpile is drawn down rapidly. This drawdown is accelerated by the backfilling of certain outlying haulage ramps which are depleted and no longer necessary by the midpoint of the mine life. The Temporary Backfill Materials Stockpile is designed to have significant extra capacity versus what the mine plan requires as a contingency (see section 18.3 for further details).

The residual remaining waste present in the stockpile at the end of the mine life is placed back underground in the haulage ramps at closure, resulting in the stockpile being completely removed.



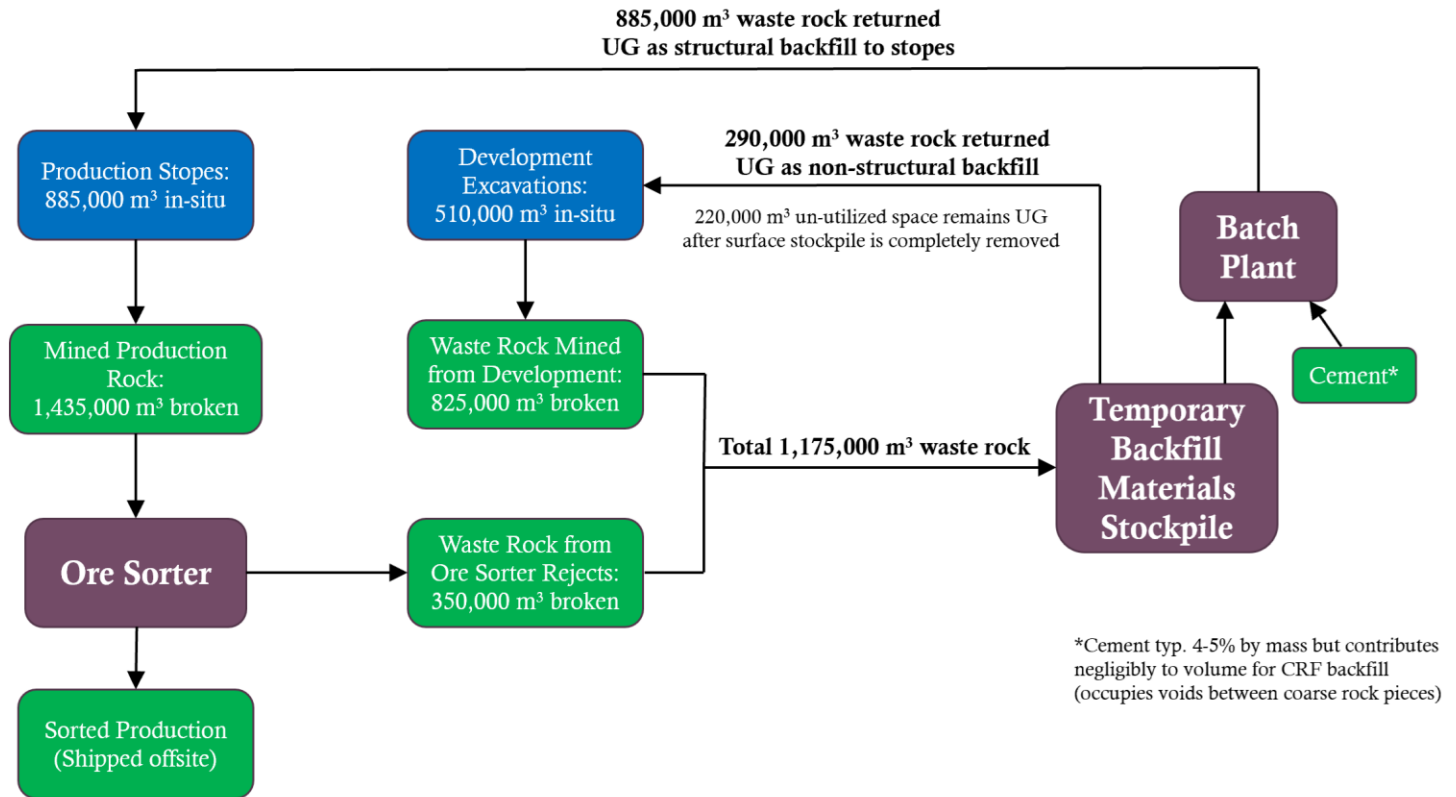
**Figure 16-13 Waste Rock Generation vs Backfill**



**Figure 16-14 Temporary Backfill Materials Stockpile Balance Over Mine Life (Waste Rock)**

The complete removal and return underground of all stockpiled waste is enabled by the transportation of mine production rock offsite for processing, resulting in no tailings present onsite to be used as backfill. Therefore all backfill feedstock volume consists of crushed waste rock from mine development or ore sorter rejects. The voids left by production stoping create ample space for placing this volume in combination with partial backfilling of certain mine development workings once they are no longer needed, which consumes all stockpiled waste rock.

The following flowchart displays the volume balance of waste vs backfill:



**Figure 16-15 Volume Balance Flowchart for Returning All Stockpiled Waste to UG**

The following table displays the key mining schedule metrics:

**Table 16-3 Mining Schedule**

Year	-2	-1	1	2	3	4	5	6	7	Clo- sure	Total
Production Rock Mined (kt)	-	-	137	361	422	419	419	419	262	-	2,438
Production Mining Rate (t/d)	-	-	376	989	1,153	1,147	1,149	1,147	715	-	-
Mined Gold Grade (g/t)	-	-	11.2	17.2	16.8	13.7	11.9	12.0	9.8	-	13.6
Mined Silver Grade (g/t)	-	-	7.7	13.4	10.6	7.0	6.6	7.8	5.3	-	8.5
Sorted Production Shipped (kt)	-	-	81	258	298	322	324	346	229	-	1,859
Shipping Rate (t/d)	-	-	223	706	815	883	889	948	628	-	-
Shipped Gold Grade (g/t)	-	-	18.3	23.7	23.5	17.6	15.2	14.4	11.2	-	17.6
Shipped Silver Grade (g/t)	-	-	12.6	18.0	14.4	8.7	8.0	8.4	4.6	-	10.4
Waste Dev't Drifting (m)	-	1,066	3,379	4,459	3,323	4,176	4,065	2,670	460	-	23,597
Total Drifting (eq. m)	-	1,066	5,346	7,185	7,083	6,998	7,049	5,136	1,889	-	41,753
Raiseboring (m)	-	-	299	0	204	358	270	13	0	-	1,143
Escapeway Installed (m)	-	-	164	0	112	197	149	7	0	-	629
Waste Generated (kt)	-	63	263	370	321	341	338	228	55	-	1,978
Backfill Placed (kt)	-	-	44	294	273	294	340	350	252	132	1,978
Overall Gold Mined (koz)	-	-	49	200	229	185	161	162	83	-	1,068
Overall Silver Mined (koz)	-	-	34	155	143	95	89	106	45	-	667
Gold Shipped (koz)	-	-	48	196	225	183	159	160	82	-	1,053
Silver Shipped (koz)	-	-	33	150	138	90	83	93	34	-	620

### 16.13 Underground Mobile & Fixed Equipment

An underground maintenance service area with three bays will be located near the bottom of the access decline. Airflow through this area will be sent directly to the adjacent main exhaust raise. This area is intended for normal preventative maintenance and light repairs, while more complex maintenance will take place on surface at the mobile equipment shop which will have additional capabilities and an overhead crane system.

The New Amalga project site will have an all-weather road connection to the city of Juneau, where third-party maintenance facilities exist for multiple major brands of mining equipment. Therefore it is expected that major overhauls and rebuilds will typically be performed offsite at a contracted facility. It is anticipated that approximately every three years prime movers (haul trucks and LHDs) will require an engine rebuild while jumbos and bolters will require a drifter rebuild / drill overhaul.

The following table shows the anticipated quantity and schedule of underground mobile equipment purchases required by the mining plan. The majority of the equipment will have been purchased by the time of full production ramp-up in Year 2, however haul truck procurement will continue for an additional period of time as additional haul trucks become required as production and development advances deeper and further away from the portal.

**Table 16-4: Mobile Mining Equipment Procurement Schedule**

	Yr-2	Yr-1	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Total
Twin-boom Jumbo Drill		1	1							2
Boom Bolter		1	3							4
Powder Truck		1	1							2
Longhole Drill			1	1						2
LHD - Prod/Devt		1	3							4
LHD - Cleanup/Utility			1							1
LHD - Backfill			2							2
Haul Truck - 30t Ejector		1	3	4	1	1				10
Scissor Lift/Telehandler		1	2							3
Grader		1								1
Shotcrete sprayer		1								1
Transmixer		2								2
Tractor/buggy/mantrip		4	6	2						12
Lube Truck / Water Truck		2								2

Standard rubber-tired diesel-powered equipment is assumed for this study. If the project ultimately gains access to low-cost hydropower (see Section 18.5) then battery-electric equipment will be evaluated.

Haul trucks will refuel on surface at the materials handling area. All other equipment will be refueled underground at fuel bays supplied with diesel brought from surface in tote containers.

Fixed equipment includes initial capital infrastructure (main fan, main sump pumping station, etc) as well as sustaining infrastructure such as auxiliary fans and airdoors which are installed progressively as the haulage ramp network expands during the mine life. The following table shows the anticipated quantity and schedule of underground fixed equipment purchases required by the mining plan.

**Table 16-5: Fixed Mining Equipment Procurement Schedule**

Fixed Equipment Required	Yr-2	Yr-1	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7
Primary UG Fan			2						
Stope/Heading Auxiliary Fans		1	4	5	4	2			
Refuge Chambers		1	1	1	1				
Airdoors			2	1	2				
UG Service Bay Equipment Set			1						
Main Sump & Pumping Station			1						
Mine Power Centers		1	2	2	1	1			
Air Compressor System			1						

## 17 RECOVERY METHODS (Item 17)

Haul trucks carrying mineralized material from the mine will deposit the material at a temporary working stockpile, where a front-end loader will rehandle it into a single-stage jaw crusher to be reduced to a 100mm topsize appropriate for ore sorting. The jaw crusher will include a feed belt magnet to remove any rock bolts or other steel present in the run-of-mine material.

The crushed material will then undergo a sensor-based ore sorting process (see Section 13.3 for additional ore sorting discussion). The ore sorter will separate the gold-bearing quartz vein material from the non-gold-bearing wall rock (primarily quartz diorite) which will unavoidably become mixed with the vein material during mining. This dilution occurs due to blasting overbreak and when mining narrower vein areas which may be thinner than the minimum mining width.

Sensor-based ore sorting can utilize a variety of measurements to determine whether a particle is product or waste, including color, electromagnetic induction, laser, and x-ray analysis to assess elemental composition. The crushed rock is placed on a conveyor belt and then passed in front of the sensor, which rapidly analyzes the individual pieces of rock. When a piece of rock is identified as waste, a puff of compressed air redirects it to a “reject” bin. The remaining pieces of rock are sent to the accepted “product” stockpile.

Fine particles too small to effectively sort are typically combined with the “product” stockpile, since higher-grade material tends to produce more fines during blasting and crushing due to the higher sulphide content and brittle nature of the quartz vein rock.

Ore sorting testwork (Section 13.3) demonstrated a very high degree of efficacy at rejecting waste material while avoiding inadvertent rejection of mineralized vein material and low gold loss. The small amount of gold loss is primarily driven by the following mechanisms:

1. Loss of gold present at very low grades present within particles of waste rock lithology rejected by the sorter. This background low-grade metal is not included in the mineralized envelope of the resource model and is therefore not relevant for determining the impact of ore sorting on the mine plan.
2. Loss of gold when an individual rock particle contains both mineralized and non-mineralized material. The blasting and crushing process will not always break the rock precisely at the boundary of the vein and the wall rock. The ore sorter will account for this during the particle evaluation process, however particles consisting of majority waste rock with a small amount of high-grade mineralized material attached may be rejected as subeconomic, resulting in a small amount of gold loss.
3. Situations where the ore sorter may inadvertently reject a particle of mineralized material, such as if a mineralized particle and a waste particle are stuck or frozen together and both are rejected by a single compressed air puff.

As noted previously, the ore sorter is configured to separate out waste from the stream of run-of-mine material, rather than separating out ore. Due to this configuration and the mechanisms of gold loss described above, the

degree of mineralized material loss is expected to be correlated to the proportion of feed material rejected as waste.

For purposes of the Preliminary Economic Assessment, ore sorter losses and mass rejection are assumed as follows based on the testing results described in Section 13.3:

- 1 tonne of mineralized material is inadvertently rejected per 27.5 tonnes of waste rejected (aligned with the ratio observed in the testing)
- 1 tonne of waste is sent to product per 20 tons of waste in feed, an assumption to account for waste particles present in the unsortable fines as well as particles containing both mineralized vein material and nonmineralized waste which are accepted as “product” by the ore sorter. This would typically consist of pieces of rock incorporating material from both sides of the vein boundary.

Additional testing is recommended before conducting a Pre-Feasibility Study in order to further define the proportion of sorter mass rejection and gold loss at varying feed ratios of vein material versus wall rock waste.



**Figure 17-1: Steinert Ore Sorting Machine**

After undergoing the ore sorting process, the sorted material would be transported to a smelter with no further concentration steps.

## 18 PROJECT INFRASTRUCTURE (Item 18)

### 18.1 Conceptual Facilities Layout

Surface facilities to support the underground mine will be located to the south of the Herbert River. Total developed footprint of the surface facilities will be approximately 93,000 m<sup>2</sup> (23 acres) excluding the access roads.

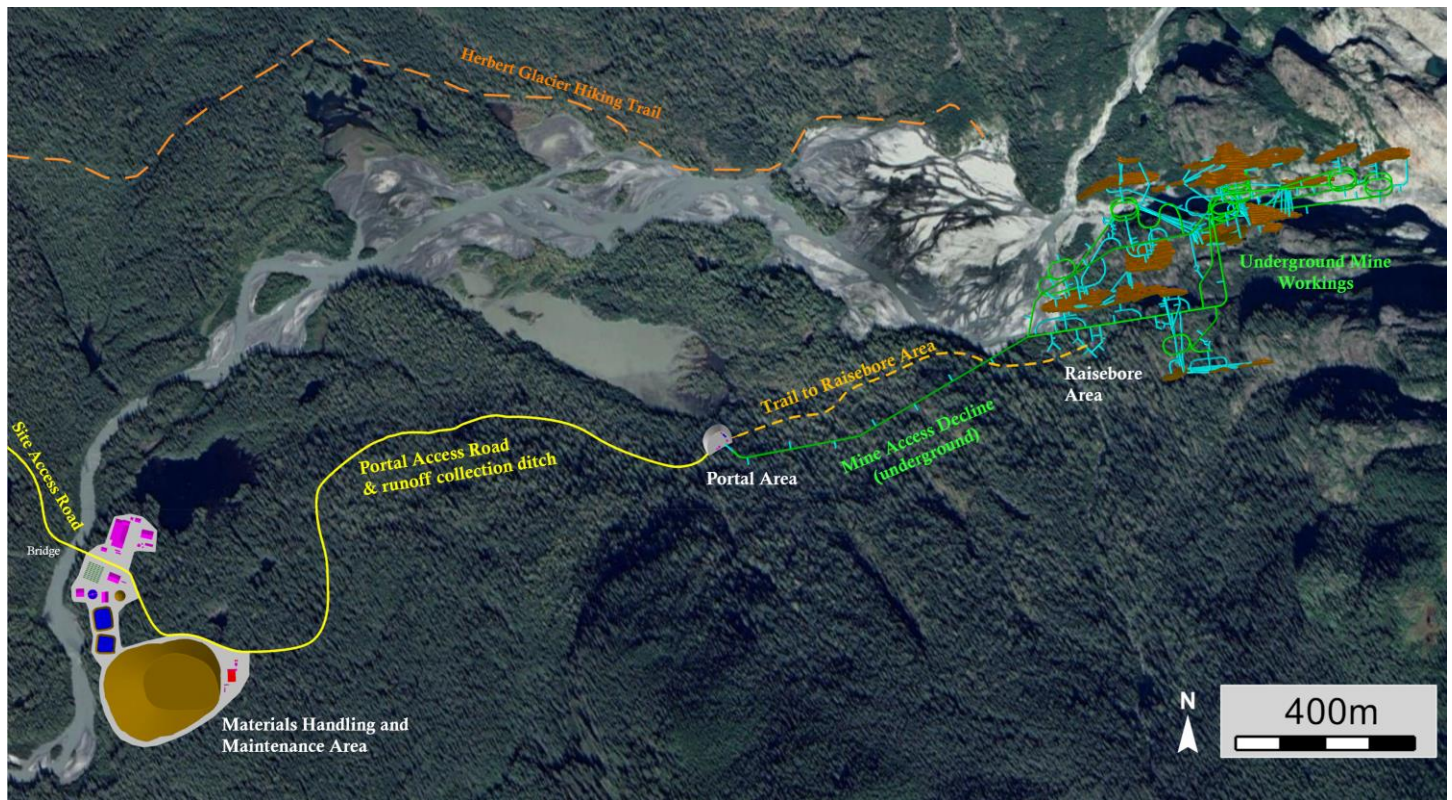
Key criteria driving the location and layout of the surface facilities include:

- Placing the facilities as close to the resource as practicable given the rugged terrain overlying the deposit
- Avoiding wetlands areas
- Avoiding steep terrain which would require excessive amounts of earthworks and site prep
- Maximizing the effective use of existing vegetation and terrain to avoid visibility of the site from the Herbert Glacier trail, a recreational hiking trail located on the north bank of the Herbert River.

The surface facilities at the project site will consist of four main components:

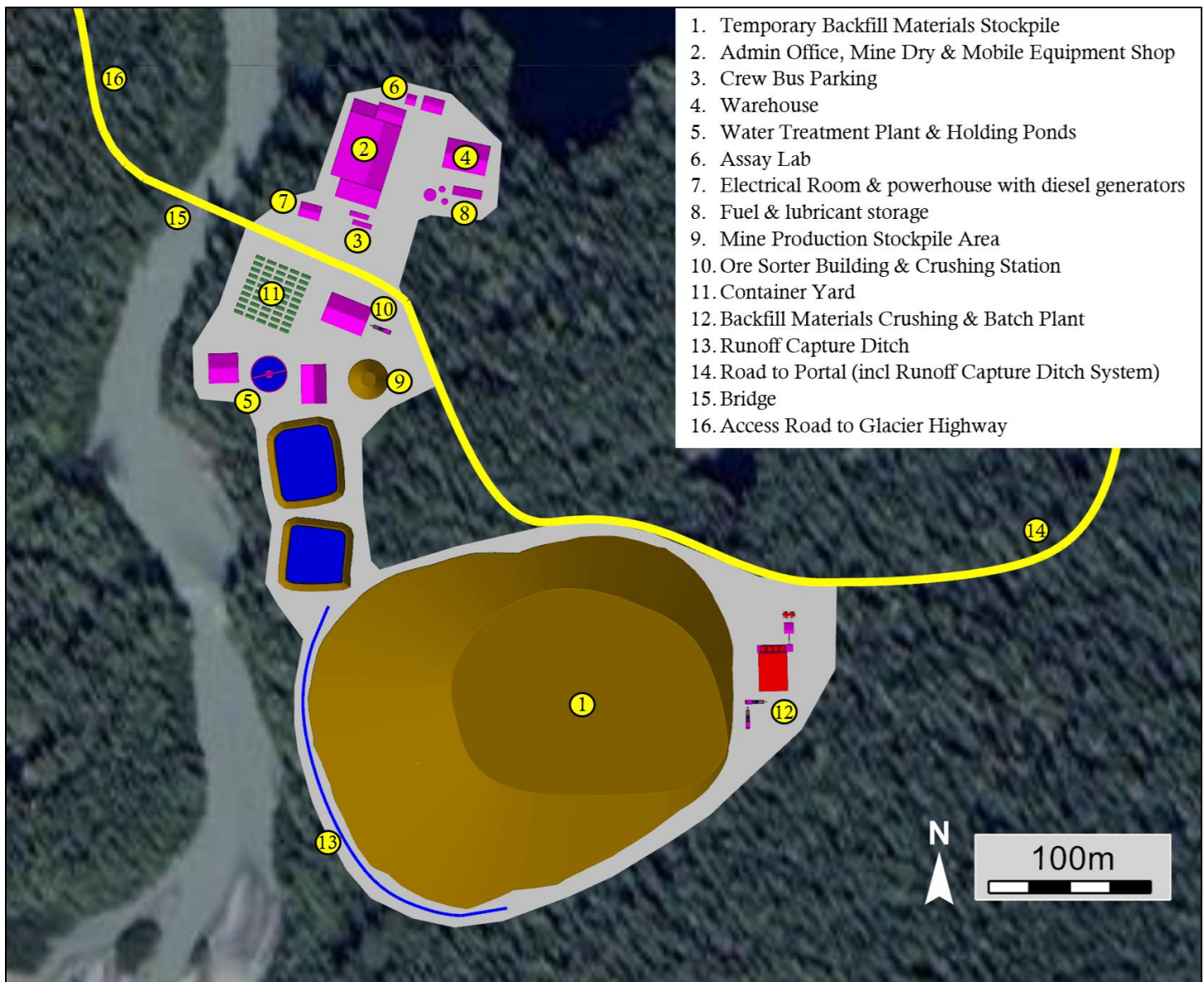
1. Site Access Road connecting to Glacier Highway
2. Materials Handling and Maintenance Area, including:
  - Temporary Backfill Materials Stockpile
  - Backfill batch plant
  - Crushing and ore sorting facilities
  - Electrical Infrastructure
  - Water Handling & Treatment Plant
  - Logistics, Maintenance & Administrative Facilities
3. Portal Area
4. Raisebore Area

No camp facilities or personnel housing are planned at the site, given its proximity to the City of Juneau. A set of crew transport buses will shuttle the workforce from the Juneau suburbs to the minesite for each shift, an approximately 35 minute drive.



**Figure 18-1: Conceptual Layout of Mine Surface Facilities Relative to Underground Workings**

Note that none of the underground workings lie beneath the ice of Herbert Glacier. The glacial ice is over 0.3 km horizontally to the east of the closest underground workings (which are also at approximately 0.4km depth at this location).



**Figure 18-2: Conceptual Layout of Materials Handling and Maintenance Area**

## 18.2 Site Access Road

The site will be accessed via a new single-lane gravel access road with a length of approximately 5.2 km which will connect to Glacier Highway, an all-weather government-maintained paved road which provides access to the City of Juneau approximately 25 km to the southeast as well as the Cascade Point barge dock site approximately 26 km to the north.

The access road will traverse flat, forested terrain within the Herbert River Valley. To the maximum practicable extent it will be routed to avoid wetland areas as well as the Herbert Glacier recreational hiking trail. The access road must cross the hiking trail at one location; an underpass will be constructed to ensure separation of vehicle traffic and pedestrians. The access road will include occasional pullouts to accommodate two-way vehicle traffic

as well as an approximately 50 m single-span bridge over the Herbert River just prior to reaching the surface facilities site.



**Figure 18-3: Conceptual Access Road Connection to Glacier Highway**



**Figure 18-4: Photo of the Herbert River Near the Proposed Bridge Location**

### 18.3 Backfill Materials

The largest feature of the surface facilities layout is the Temporary Backfill Materials Stockpile. This lined stockpile will be used as a staging area for waste rock generated from underground development as well as reject rock from the ore sorter. Total capacity of the stockpile will be 410,000 m<sup>3</sup> (appx 660,000 tonnes) with a slope angle of 3H:1V and a maximum height of 12m. will have a polymer underliner and runoff collection system for moving contact water to the water treatment plant.

A key feature of the stockpile is that it is temporary - the entire volume of stored rock will ultimately be moved back underground, avoiding significant changes to the local topography after mine closure. The great majority of the stockpile volume will be batched into cemented rock fill (CRF) and utilized for stope backfill during production operations. A smaller amount of residual volume is anticipated to be present at the end of the mine production life; this material would be hauled back underground and placed in the spiral haulage ramps at closure.

The stockpile design is sized such that only approximately 70% of its waste storage capacity is utilized for the mining schedule, providing important contingency in order to avoid the risk of not having anywhere to store waste if backfill activities proceed behind schedule or development overbreak is higher than anticipated. Full return of the stockpile volume to the underground workings is possible because the gold-bearing material mined from stopes will be transported offsite for processing, resulting in ample void space for placing waste underground. See Section 16.12 "Mining Schedule" for additional details including a graph of the stockpile volume balance over time.

As discussed in Section 16.5, cemented rock fill will be the structural backfill utilized for the underground mining process. Waste rock will be removed from the Temporary Backfill Materials Stockpile using a front-end loader and placed into a jaw crusher to reduce to a 100mm topsize. Approximately 25% of this material will then be placed into a secondary crusher to generate the ratio of finer particles necessary for the CRF recipe. These two sizes of material will be stored in temporary working stockpiles and then fed into the adjacent CRF batch plant hoppers using the front-end loader.

The CRF batch plant will mix the coarse rock, fine rock, cement, and water at the proper ratios for the pre-programmed CRF recipe. High-strength recipes (for underhand mining) will typically require a higher ratio of cement and fines. The CRF will then be delivered to the bed of a waiting haul truck via a chute underneath the mixer. To maximize efficiency, the haul trucks will typically bring CRF into the mine on the back-haul after delivering a load of material to the ore sorting station. The batch plant is also capable of producing shotcrete when required for ground support, which will be transported into the mine using transmixers loaded from the same chute as the CRF haul trucks.

Cement will be delivered to the site in ISO totes and conveyed pneumatically to the cement silo adjacent to the batch plant. The batch plant will also be winterized for operation in cold weather.

## 18.4 Production Rock Handling Facilities

Gold-bearing production rock removed from the mine will be placed into a small temporary working stockpile by the haul trucks. It will then be transferred by a front-end loader to a single-stage crusher and subsequent ore sorting process (see Section 17) which will take place inside the ore sorter building. The rejected waste from the ore sorting process will be hauled to the Backfill Materials Stockpile, while the product will be loaded from the ore sorter output conveyor directly into ore containers for transport.

The ore containers will have dimensions of roughly 6.1 m length by 1.6 m width by 1.6 m height, and will be similar in appearance to a standard “sea container” used for intermodal transport, but much smaller – only about ¼ of the volume. The ore containers will have a rigid lid which fully encloses the material during transport to prevent fugitive dust and precipitation contact.

Each ore container will be loaded with roughly 21 tonnes of material (dry basis) to result in a gross vehicle weight within allowable highway limits. It will then be staged in the container yard with a heavy-duty forklift to await transport (see Section 18.10).



Figure 18-5: Example of ISG-Brand “Rotainer” Ore Container

## 18.5 Electrical Infrastructure

At the present time there is no viable access to grid-based power at the project location, although this may change in the future. The Juneau area has an independent electrical grid which is not connected to the North American grid due to the vast glaciers and icefields which surround the community.

Electrical generation for the Juneau area is provided by several small-to-midsized hydroelectric plants which serve the local community as well as the nearby Hecla Greens Creek mine, located on Admiralty Island and connected via subsea cable. Greens Creek is an interruptible power customer; during low-precipitation periods it often gets shut off from grid power for multiple months due to low reservoir levels at the hydroelectric plants and the need for the utility to preserve capacity for the city of Juneau. During these periods it reverts to on-site diesel generators.

There is currently no high-voltage electrical transmission infrastructure along Glacier Highway near the start of the site access road. The nearest high-voltage substation is located at Lena Point, approximately 16km to the south.

For purposes of this study it is assumed that the New Amalga project will utilize on-site diesel generation consisting of three 2.5 MW generators (two operating and one backup). Connection to the local grid is not considered advantageous at present because of the intermittent availability of grid power (local hydro generation already at seasonal full utilization and frequently shut off to Greens Creek) and the lack of existing high-voltage transmission infrastructure near the mine site. Electrical power needs for the New Amalga mine will be lower than most comparably-sized operations due to the lack of processing facilities at the site.

However, grid power may become available in the future with the construction of the proposed Sweetheart Lake hydroelectric facility and associated high-voltage transmission lines. If built, this project would significantly increase the hydroelectric generation capacity feeding the Juneau grid.

The Sweetheart Lake project would also incorporate the construction of a new high-voltage transmission line from the existing substation at Lena Point to connect to the Kensington Gold Mine approximately 50km to the north. The Kensington mine currently relies on diesel generation. This transmission line would parallel Glacier Highway and pass directly by the start of the New Amalga site access road.

If the Sweetheart Lake Hydro project and associated high-voltage transmission lines are ultimately built, the New Amalga facility would have the opportunity to gain access to low-cost hydropower with modest additional infrastructure requirements consisting of a substation and transmission intertie along the site access road from Glacier Highway. However, timelines for this development are uncertain and therefore this study assumes on-site diesel generation for the New Amalga project.

## **18.6 Water Handling & Treatment**

Precipitation runoff from the surface facilities will be collected in local sumps to allow preliminary solids settling and then will be pumped to the main holding ponds at the water treatment plant, which will also receive water pumped from the underground workings. Mine rock contact areas will be graded such that water reports directly to these sumps or to collection ditches which transport the water to the sumps. This includes a collection ditch on the downhill side of the portal access road.

Runoff diversion ditches will also be placed up-slope from mine roads and facilities to minimize the amount of runoff flowing into the mine rock handling areas.

For purposes of infrastructure sizing for this study it is assumed that typical underground inflows will be approximately 7,350 cubic metres per day, the midpoint of the wide range of potential inflow volumes listed in section 16.3. Further hydrogeological study will refine this range significantly.

For purposes of this study, the water treatment plant is sized for a capacity of 14,000 cubic metres per day to treat both underground inflows and collected surface runoff during storm events. This facility will provide for

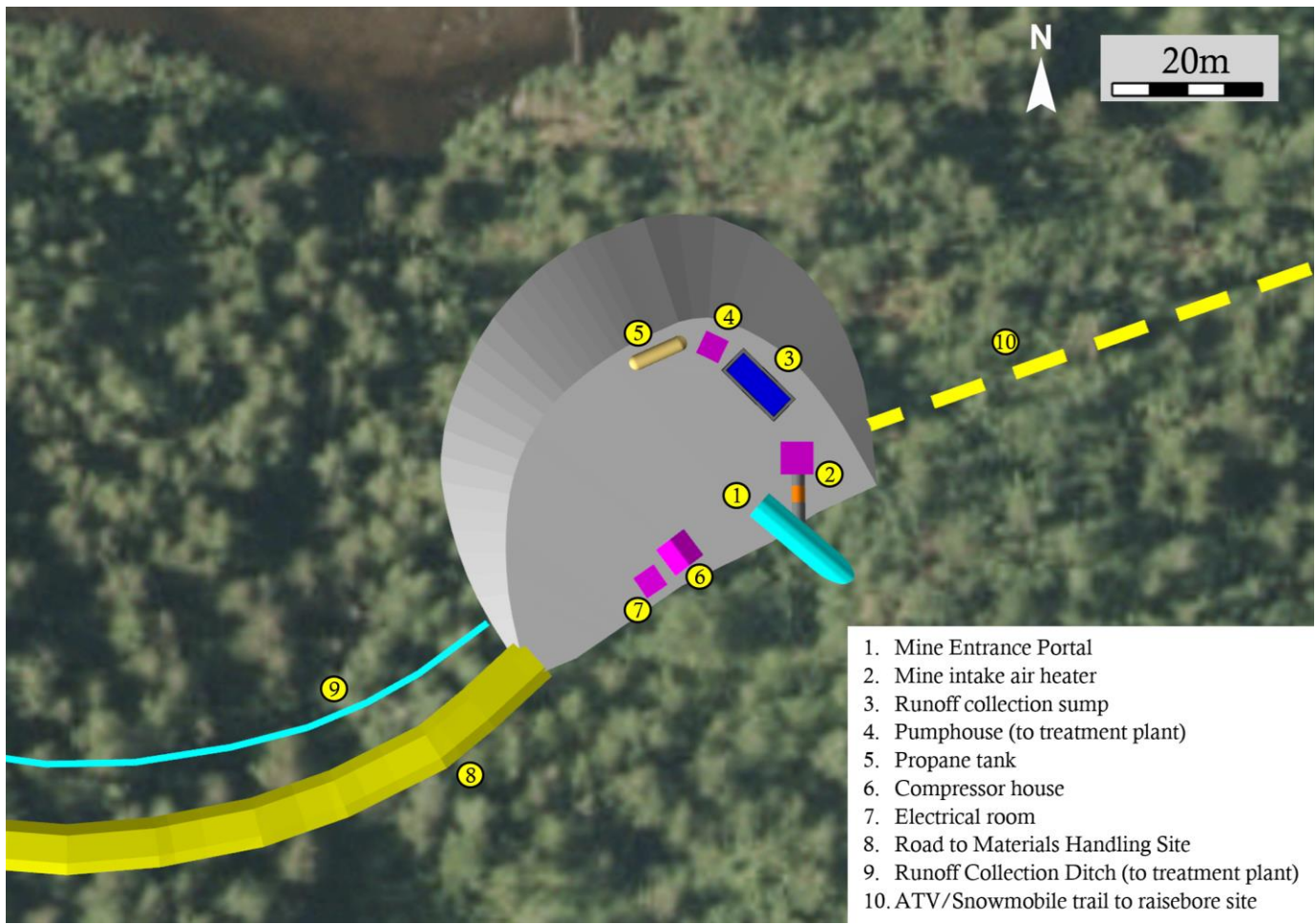
treatment process as necessary to meet applicable water quality standards which may include removal of suspended solids, precipitation of dissolved metals, pH control, and removal of nitrates from blasting residues. Treated water will be discharged to the Herbert River at a location determined by the state and federal regulatory process.

The water handling, storage, and treatment infrastructure will have capacity to handle the volumes of water associated with a 100-year, 24-hour storm event. This will include storage in two surface retention ponds near the water treatment plant and one near the portal as well as underground sumps for short-term mine water retention while the treatment plant processes surface water from a storm event.

## **18.7 Portal Area**

The portal area will be connected to the materials handling area with a 1.8km haul road of similar configuration to the site access road described in Section 18.2. The portal will be developed into the hillside bedrock, and a large boxcut is not anticipated to be necessary due to the minimal depth of cover typically present in the steep slopes bordering the Herbert River valley, having been scoured by the retreating Herbert Glacier. The exact portal location will be determined based on geotechnical drilling to confirm the location of favorable bedrock.

Infrastructure at the portal area will include the intake air heaters and propane tank (described in Section 16.6), the primary air compressor, the 13.8kV switchgear feeding the underground electrical distribution system, and a runoff collection and settling sump and pumping station for transfer to the primary water treatment plant collection pond at the materials handling area.



**Figure 18-6: Conceptual Layout of Mine Portal Area**

## 18.8 Raisebore Area

The raisebore area will be connected to the portal area with a primitive trail configured for ATV/snowmobile use. Facilities at the raisebore area will be very minimal, consisting of the outlet evasé of the ventilation raise as well as the exit of the escape ladderway raise. A small warming hut will be constructed on top of this escapeway for personnel to shelter while awaiting transport in the event of a mine evacuation. This will also prevent ice accumulation at the top of the escapeway raise.

## 18.9 Other Site Facilities

Other facilities at the Materials Handling Area will include:

- Administrative office & mine dry
- Four-bay mobile equipment shop with overhead crane
- Warehouse & supplies storage facility
- Gold assay lab

- Fueling station & diesel storage tanks

The entrance to the site access road off Glacier Highway will also include a guard shack and gate to control vehicle access and coordinate deliveries.

### **18.10 Container Transportation to Barge Dock**

After being loaded with sorted material, the ore containers will be staged at the container yard at the materials handling site. A forklift will load a single container onto a flat-deck trailer pulled by a conventional over-the-road semi truck. Single trailers (not double/tandem trailers) will be utilized. Containers will be hauled 6 km west along the New Amalga site access road to reach Glacier Highway, and then 21km north to the end of the highway and the start of the Cascade Point access road, then an additional 5km to the Cascade Point barge dock site.

Currently, the section of Glacier Highway which will be utilized for haulage primarily serves as an access to wilderness recreational facilities such as hiking trailheads, picnic areas, campgrounds, and small boat launch sites. There are few residences or places of employment along the route, and traffic is primarily related to the recreational facilities. In order to minimize traffic impacts for other road users, haulage will be paused on weekends and major federal holidays during the summer months, when recreational traffic is typically highest. Ore containers will be stockpiled at the mine site during these periods.

The mine production schedule will require seven over-the-road haul trucks and trailers (six active and one spare). This fleet has been sized to account for the haulage rate necessary during weekdays to “catch up” from the weekend pause periods. Haulage will take place on both dayshift and nightshift during weekdays. The peak year’s haulage rate will average approximately 36 truck cycles per 12-hour shift based on the mine production schedule. This is roughly one truck leaving the site every 20 minutes on average, however trucks may travel in convoys at less-frequent intervals to avoid traffic congestion on the single-lane site access road as well as to reduce perceived frequency of traffic noise.

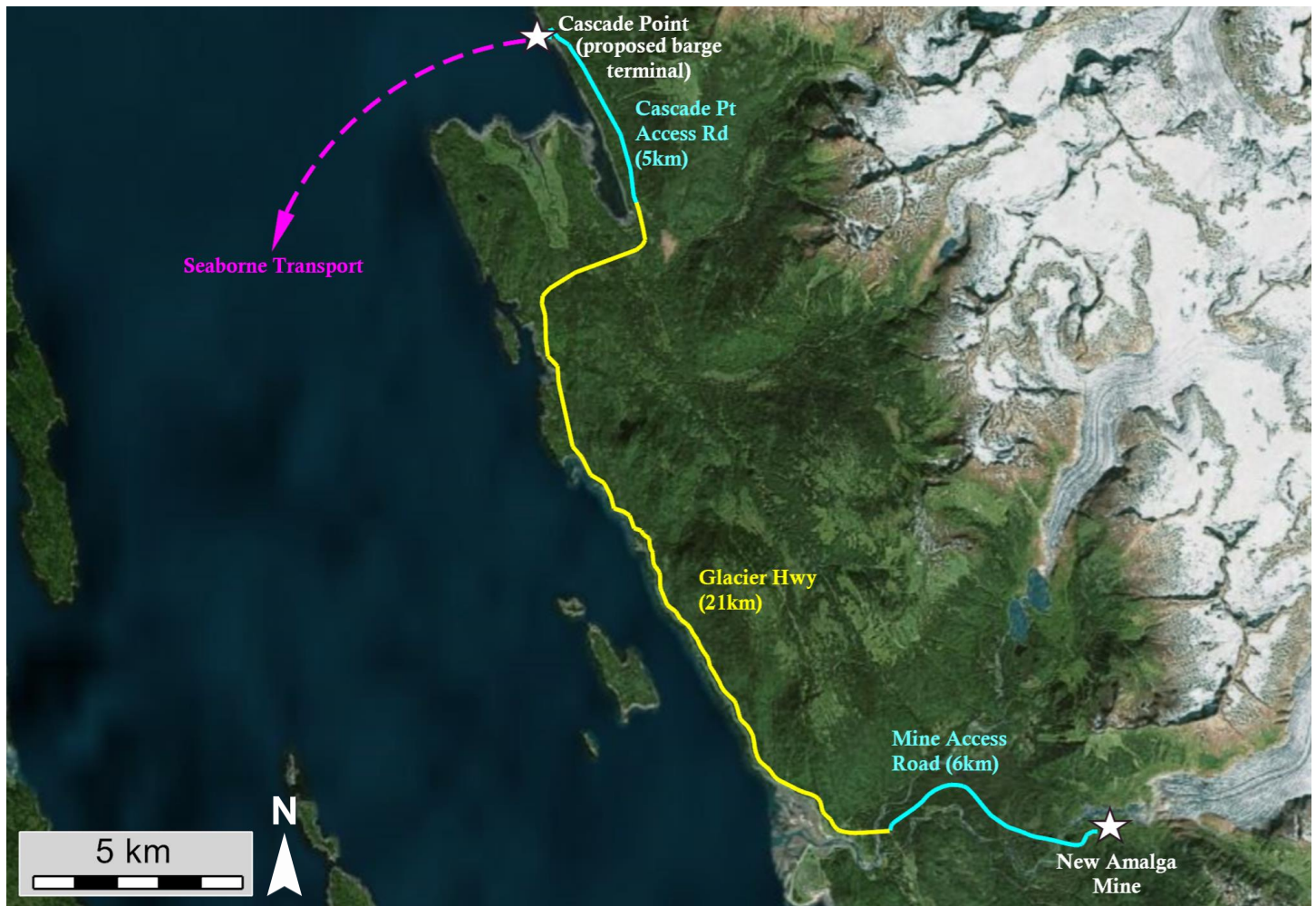


Figure 18-7: Map of Haulage Route from New Amalga Minesite to Proposed Barge Terminal at Cascade Point

### 18.11 Barge Dock and Seaborne Transport

Upon reaching the Cascade Point barge dock site, the ore container will be removed from the flat-deck trailer with a forklift and staged at the container yard adjacent to the barge dock. An empty container would then be placed on the trailer for back-haul to the minesite.

A barge would arrive approximately once per week. Empty returning containers would be offloaded and full containers would be loaded using forklifts. The barge would then bring the containers to existing deepwater port facilities at Stewart, BC (or other regional deepwater port) where the containers would be emptied and the material staged inside a storage shed to await the monthly arrival of a Handymax or Handysize-class bulk cargo vessel, which would be loaded by conveyor. The bulk vessel would then transport the material to an overseas smelter.

The Cascade Point site is owned by Goldbelt Incorporated (“Goldbelt”), the local Alaska Native corporation affiliated with the Tlingit and Haida tribe. Grande Portage has signed an agreement with Goldbelt to cooperate towards development of the barge dock facilities.

Goldbelt is also currently working with the Alaska Department of Transportation to develop a passenger ferry terminal for the Alaska Marine Highway System at the site. Work already completed at the site includes establishment of an access road to tidewater, a borrow pit, and preliminary earthworks. Goldbelt's long-term plans for the site have previously included a cargo barge facility since prior to the involvement of the New Amalga project. As such, there is space allocated for the barge dock adjacent to, but separate from the planned passenger ferry facilities. The barge dock can be therefore developed independently either before, concurrently with, or after the development of the passenger ferry terminal.

As of the effective date of this report, the Alaska state government has allocated funding for "Phase 1" development of the site for passenger terminal use including uplands earthworks and improvements to the access road. Portions of this work (particularly the road improvements) could be utilized both by the passenger ferry terminal as well as the barge dock. However, construction work has not yet begun, and therefore for purposes of this study it is assumed that any work towards ferry terminal development will not be undertaken by the State of Alaska. The New Amalga project is not dependent or reliant upon any development of Cascade Point by the State of Alaska.

The conceptual design of the site is shown in the figure below, displaying the layout for both the barge dock facilities and the passenger ferry terminal. A key feature is the permanent mooring of a derelict barge adjacent to the dock to serve as a wave attenuator, enabling barge loading operations to continue through periods of rougher seas during the winter months. This is a more cost-effective solution than constructing a breakwater at the barge dock due to the steep seafloor gradient at this location.

This study assumes that, while preliminary construction funding would be incurred by the New Amalga project, the Cascade Point barge terminal would remain independently owned and operated by Goldbelt who would provide barge-loading services to the project under contract. Other cargo customers may be served by Goldbelt at the site concurrently with, or after, handling cargo for the New Amalga project.

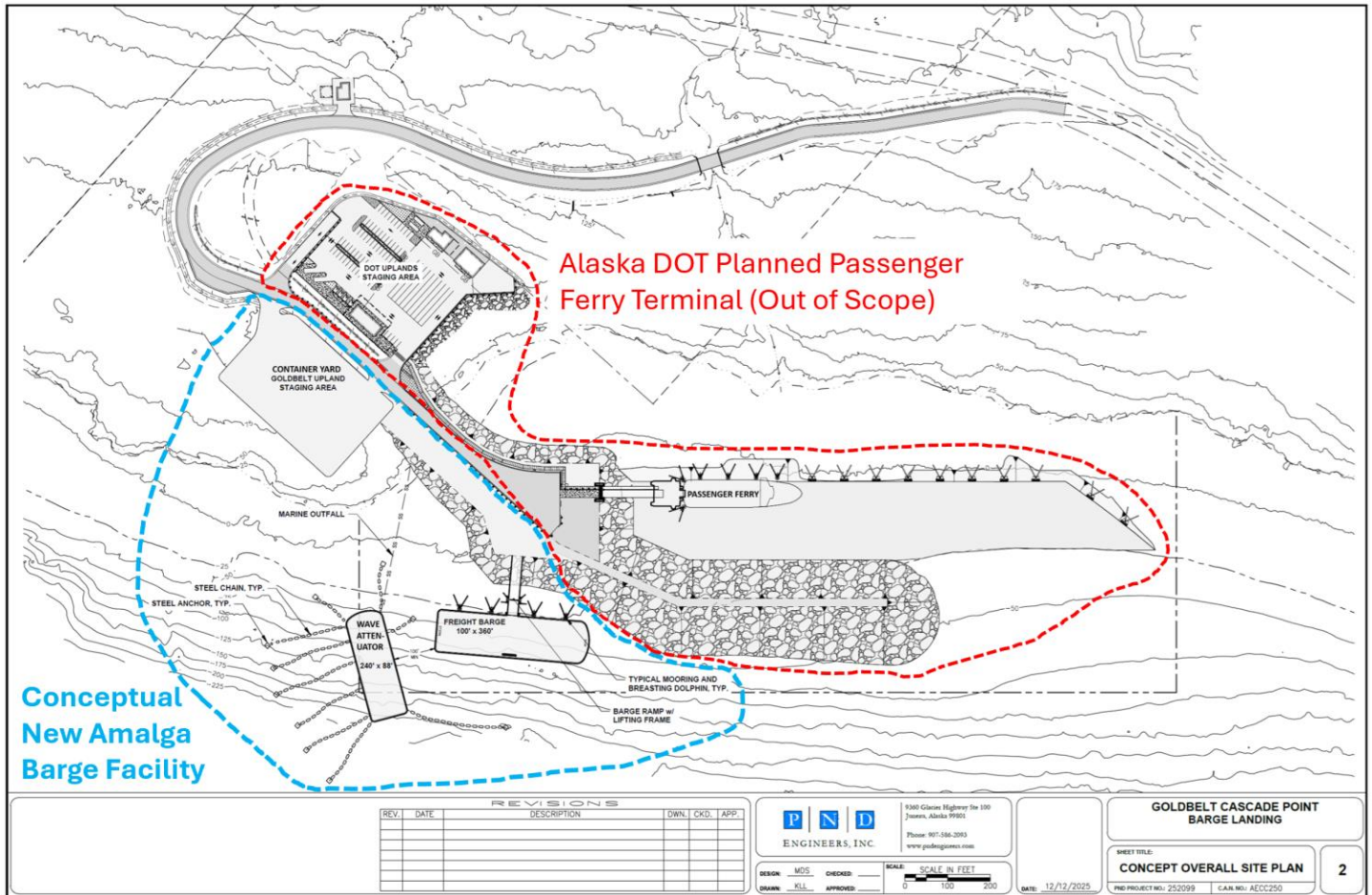


Figure 18-8: Cascade Point Conceptual Site Layout

### 18.12 Closure & Reclamation

At the end of the mine life, any residual material present in the Temporary Backfill Materials Stockpile will be brought underground and placed in the spiral haulage ramps. If necessary, residual water treatment will continue until applicable regulatory standards are met.

The portal and raisebores will be plugged, site buildings and infrastructure will be dismantled, and the site revegetated and resurfaced to approximate original contour.

### 18.13 Workforce

Estimated number of employees and full-time contractors totals 277 as follows:

**Table 18-1: Estimated Workforce Numbers****Underground Operations Crews***Four crews: dayshift/nightshift, one week on / one week off*

Drifting & Development Miners	40	ten per shift
Blasting Crew	16	four per shift
Longhole Drill Operators	8	two per shift
Longhole Mucking Crew	8	two per shift
Haul Truck Operators	36	nine per shift
Utility Miners	16	four per shift
Underground Supervisors	4	one per shift

**Site Surface Operations Crews (Four crews: dayshift/nightshift, one week on / one week off)***Four crews: dayshift/nightshift, one week on / one week off*

Water Treatment Plant Operators	4	one per shift
Crusher & Ore Sorter Operators	4	one per shift
Backfill Plant Operators	4	one per shift
Warehouse & Receiving Tech	4	one per shift
Security Guard	4	one per shift
Surface Ops & Product Transport Supervisors	4	one per shift

**Maintenance Crews (4 crew schedule, dayshift/nightshift, one week on / one week off)***Four crews: dayshift/nightshift, one week on / one week off*

UG Electricians	8	two per shift
UG Mobile Mechanics	8	two per shift
Shop Mechanics	12	three per shift
Surface Electricians	4	one per shift
E&I Technicians	4	one per shift
Lube Technicians	4	one per shift
Maintenance Supervisors	4	one per shift

**Product Transportation Crews***Two crews: dayshift/nightshift, five days per week*

Over-the-Road Truck Driver	14	seven per shift
Container Forklift Operator (minesite)	2	one per shift
Container Forklift Operator (barge dock)	2	one per shift

**Crew Over-Hire***15% contingency for PTO and attrition coverage of key roles*

Over-Hire	33
-----------	----

**General & Administrative Staff (Monday-Friday schedule)**

General Manager	1
Surface Ops & Transport Manager	1
Maintenance Manager	1

Mobile Maintenance Planner	1
Fixed Maintenance Planner	1
Controller	1
Accountant	1
Procurement Buyer	1
Environmental Manager	1
Environmental Tech	1
HR Manager	1
HR Generalist	1
Janitor	2
Mine Manager	1
Safety & Training Specialist	4
Chief Mine Engineer	1
Mine Engineers	3
Chief Mine Geologist	1
Mine Geologists	3
Surveyor	2
IT Specialist	1
<b>Total Workforce</b>	<b>277</b>

## 19 MARKET STUDIES AND CONTRACTS (Item 19)

### 19.1 Initial Offtake Study & Term Sheet

Grande Portage has engaged with a leading global base and precious metals concentrate trading firm to assess opportunities for sale of sorted material from New Amalga without any further onsite processing beyond ore sorting.

This firm conducted an offtake study based on the grade, characteristics, and estimated volumes of New Amalga sorted product. Investigations indicated that the proposed New Amalga shipments will be readily marketable to East Asian buyers including custom ore processing facilities, roasting and leach plants, base metal smelters and trading companies.

Per this offtake study, a portion of monthly shipments may occasionally approach or exceed the threshold level for triggering a minor smelter penalty for deleterious elements due to arsenopyrite content. This penalty, if incurred, would typically reduce the overall payability for the individual shipment by less than 1%. Based on available information, the QP considers this to be non-material for the current stage of study as the penalty would be small and infrequently incurred, and could be effectively managed with proper mining grade control and short-range production planning practices to optimize deleterious element levels within each individual monthly shipment. Additional analysis and resource modelling for deleterious elements is recommended for future stages of study.

Subsequent to this offtake study, the trading firm provided an indicative term sheet for purchasing the material from the New Amalga operation for subsequent resale to multiple third-party processors (primarily base metal smelters). These terms would give gold payability ranging from 72% to 87%, with higher shipment grades resulting in higher payabilities. The grade vs payability scale is non-linear, with certain thresholds at which a step-change occurs. The minimum allowable gold grade for each individual shipment is 7.0g/t, below which there is no payability.

Gold payability over the mine production plan would average approximately 85%, with variability based on the grade of each monthly shipment. Applicable TC/RCs would be the copper benchmark treatment charge plus \$95/tonne (which would include the cost of sizing/grinding the material as necessary), plus a refining charge of \$10 per contained Au troy oz. This treatment charge includes costs for grinding the ore, which would leave the minesite at a 100mm topsize and require further reduction before processing.

Silver is not expected to be payable based on the low anticipated silver grades of the shipments. (See Mining Schedule table in Section 16.12)

The name of the trading firm and the specific details of the gold payabilities are confidential commercial terms. The QP has reviewed this term sheet and offtake study and determined that both are highly credible and were provided by a large, reputable concentrate trading firm. These offtake terms were therefore utilized as the basis for the economic analysis in this report.

## 19.2 Second Offtake Study

Many of the processing facilities considered in the initial study above are located in the People's Republic of China. To validate offtake flexibility against any future geopolitical or tariff risk, Grande Portage commissioned a second independent marketability study with H Okumura Consulting Ltd which examined opportunities for sale of New Amalga material to processing facilities outside of China.

A notable finding is that the New Amalga material is an attractive copper smelter feed due to its high silica content. After undergoing the ore sorting process, the New Amalga material is expected to contain around 50% silica ( $\text{SiO}_2$ , silicon dioxide) by mass. Appx 80% of the total silicon (Si) content of the material would be in the form of silica, with the remaining 20% of Si being in the form of other silicate minerals. The study found that this potentially enables its use as an alternative to the silica flux which many copper smelters must purchase as an additive for the metallurgical process (as necessary to remove iron from the copper-bearing material and ensure it separates into the slag).

While the New Amalga material does not contain copper in payable concentrations, copper smelters have gold-recovery circuits and can process this type of gold-bearing material with very high recoveries enabling favourable gold payabilities. Multiple copper smelters outside of China expressed interest in the New Amalga material as part of this second offtake study. Some of these customers could grind the ore, enabling sale at a 100mm topsize, while others would require grinding to a finer size prior to receipt. This could be done at the mine site prior to shipment or by a third party prior to delivery.

The study indicated that the global copper concentrate market remains chronically undersupplied. Copper smelters are therefore seeking to better utilize available capacity through processing materials other than traditional copper concentrates. Demand for alternative feedstocks such as the gold-bearing New Amalga material is expected to increase as there is little relief forecasted in the copper concentrate supply.

This second offtake study was not used as the basis for the economic analysis in this report but is presented as an alternative which could be pursued as an option to negotiate maximum payabilities, or if future geopolitical or tariff-related considerations preclude sale to processors in the People's Republic of China.

## 19.3 Other Potential Processing & Offtake Pathways

The QP recommends continued investigation of all potential processing pathways, and notes that significantly higher gold payabilities and potential for reduced transportation costs might be achieved by instead sending the material to a regional facility for CIP/CIL leaching and refining into doré bars. This has the potential to significantly enhance project cashflows and NPV. Such facilities exist within the region, however their availability has been constrained by various factors and as of the effective date of this study the project has not received indicative commercial terms for such processing nor conducted metallurgical testing for any specific CIP/CIL flowsheet used by a third-party facility.

## **20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT (Item 20)**

This section characterizes the existing and ongoing environmental baseline data collection for the New Amalga project area and makes suggestions for additional studies that would provide a basis for the future mine permitting efforts, describes the major environmental permits that will likely be required for mine development, and identifies social and community considerations.

### **20.1 Environmental Studies**

The New Amalga Project area consists of State of Alaska and Federal lands. Federal lands are part of Tongass National Forest and administered by the US Forest Service. Baseline environmental studies that have been performed to varying degrees on the property to date include cultural resources, aquatic life surveys, wetlands delineation, surface water quality sampling and waste rock characterization. Surface and groundwater hydrology and meteorological monitoring are planned to start in early 2026, along with additional studies. The environmental data are summarized in Sections 20.1.1 to 20.1.7.

#### *20.1.0 Cultural Resources*

In 2025 Stephen Braund and Associates (SRB&A) conducted a comprehensive desktop-level cultural resources review that incorporates the following: Alaska Resource Heritage Survey (AHRs), National Register of Historic Places (NRHP), Alaska Division of Mining Land and Water (DMLW) RS2477 historic trails database, Alaska Native placename databases, and Alaska Museum Digital Archives.

The purpose of the review was to identify known cultural resources in the area as part of baseline studies for the project and their potential relevance to the development of the New Amalga Gold Mine. SRB&A's review of the AHRs revealed one AHRs site (Montana Creek Trail: JUN-01010) that crosses the project area and three additional AHRs sites within the cultural resource review area. Two RS2477 trails were identified within the review area: RST 606 (Eagle River Trail) and RST 309 (Montana Creek Trail). Three Alaska Native placenames extend into the review area. These places include references to Eagle River (Twisted Tree [Dam]), Herbert Creek (Person's Head Rock Hole), and an old village at Eagle River Landing (Small Rapids) several kilometers downstream of the project area. No NRHP listed sites are within the review area. Results of the Alaska Museum Digital Archive search provide documentation of various types of historical mining and agricultural/homesteading activities within the Study Area.

SRB&A concluded that the results of the desktop-level cultural resources review indicate that the review area has moderate-to-high potential for containing both Indigenous and historic cultural resources, and there are likely other undocumented cultural resources within the review area. However, the QP notes that the Herbert Glacier has receded nearly 4km since the beginning of the 20th century [1], and much of the project's surface infrastructure is planned to be located in areas less than 3.5km downstream of the glacier. This may reduce the potential for Indigenous and historic cultural resources in the immediate area of anticipated construction and development.

SRB&A recommended using the review as a preliminary baseline to inform the scope of a future study plan involving pedestrian cultural resource surveys within the project's future area of potential effects (APE). The plan should be developed in coordination with relevant regulatory agencies, which may include the USFS, the Army Corps of Engineers, and the State Office of History and Archaeology (OHA) to ensure compliance with Section 106 of the National Historic Preservation Act (NHPA) (SRB&A, 2025).

New Amalga does anticipate it will be necessary to complete pedestrian archaeology surveys in the areas designated for the New Amalga Mine facilities and mine-related infrastructure in the future, to support the New Amalga mine permitting process. It anticipates that the scope of those surveys will be developed in collaboration with state and federal regulatory agencies.

### 20.1.1 *Aquatic Life*

In 2025, the Alaska Department of Fish and Game – Habitat Division (ADF&G) was contracted to initiate aquatic life surveys within the general project area. The surveys are designed to document the extent of resident and anadromous fish in the project area and then monitor fish populations over several years and establish at least one long-term fish monitoring station to detect changes that may occur during or after mine operations. In addition to documenting the distribution of fish, ADF&G collected fish tissue samples from 10 fish for metals analyses and collected samples of macro invertebrates, periphyton and stream sediments as a means of measuring the overall quality of the aquatic environment in these streams.

ADF&G performed field surveys in April, May, June, July, August and October in 2025. ADF&G anticipates issuing a final technical report in March 2026.

Initial results indicate the presence of anadromous salmonids (Coho salmon) and resident Dolly Varden and cutthroat trout in the project area. Any future mine development will be required to comply with the State and Federal regulations directed at protecting fish habitat and fish passage. All activities in fish-bearing streams will be subject to ADF&G and USFS review and permitting (ADF&G 2025)

### 20.1.2 *Wetlands*

New Amalga engaged Stantec Consulting to perform a desktop mapping exercise delineating all waters and wetlands within the project area, and a 3-day field survey in 2025 to validate two areas within the broader project area including a portion of the proposed road corridor on State land and another area proposed for the mine surface facilities (Stantec, 2025). Wetlands delineation was performed in accordance with the US Army Corp of Engineers 2007 Alaska Regional Supplement.

As is often the case, the detailed mapping completed during the field program resulted in a reduction in acreage of wetlands originally identified in the desktop mapping exercise. This is true both along the proposed access road corridor and at the proposed mine infrastructure site.

When the plans for the future mine infrastructure are more fully developed it will be more apparent whether the mine developer will need an individual permit from the USACE for loss of wetlands, or if the impacts are minimal, whether they can qualify under one of the Nationwide Permits for impacts to wetlands.

### 20.1.3 *Surface Water Quality and Hydrology*

Surface water quality sampling was performed in the project area in 2010, 2011, 2012 and then every year starting in 2020 to present. Pre-2020 sample locations are not well documented. Sample locations for the sampling beginning in 2020 are well documented and were selected to provide baseline water quality data above the extent of known mineralization as well as downstream from it. Sampling was performed generally 3x per year starting in 2020.

Samples were typically subjected to analyses for ammonia, alkalinity, hardness total dissolved solids, total suspended solids, and a suite of total and dissolved metals. Field parameters were recorded at each site including stream water pH, turbidity, dissolved oxygen, conductance and temperature.

In 2022 Grande Portage, changed sampling contractors and analytical labs and changed sampling contractors again in 2025. Also in 2025, the sampling frequency was conducted quarterly, and new sampling locations were added aligned with the more-developed understanding of the potential locations of mine facilities.

New Amalga had its water sampling contractor develop a Quality Assurance Protection Plan (QAPP) in 2020 and had it informally reviewed by Alaska Department of Environmental Conservation (ADEC) in 2020 and again in 2025. Formal ADEC approval is not provided for QAPP's for non-compulsory baseline programs.

New Amalga intends to continue the baseline water quality sampling into the future.

New Amalga has also received an ADF&G Fish Habitat permit to install a stream gauge in Herbert River as a step toward establishing a baseline for stream flow volumes. An additional US Forest Service Special Use Permit has also been applied for and is required prior to installation. Data generated by measuring stream flows will be important to the project's overall site water balance and acquiring a water discharge permit under the Alaska Pollution Discharge Elimination (APDES) program.

### 20.1.4 *Meteorology Monitoring*

New Amalga has received a special use permit from the USFS for the installation of two engineering-level meteorology stations. The stations will record meteorology data including wind speed and direction, temperature, solar gain, precipitation and relative humidity. These data will help inform several aspects of the project including dust management and the site water management plan.

### 20.1.5 *Waste Rock Characterization*

In 2020 and 2021 New Amalga selected a suite of 8 samples representative of the wall rock adjacent to mineralized quartz vein and subjected those samples to a suite of acid-base-accounting (ABA) geochemical analyses to determine their potential to generate acid. An ability to generate acid would indicate that these materials, if extracted in the course of mining the veins, could contribute to acid mine drainage. Understanding the acid-generating potential of waste rocks is key in developing effective waste management strategies for any future mine operation.

All 8 samples were subjected to Total Sulfur, Sulfur as Sulfate, Fizz Rating, Acid Potential and Neutralizing Potential.

New Amalga engaged Geochemical Solutions LLC in 2021 and again 2022 to review the results of the ABA analyses. In 2022 Geochemical Solutions LLC concluded that all 8 samples are clearly NOT potentially acid producing by a wide margin. They also concluded that the samples were collected as an early stage evaluation of the ABA characterization, they cannot be interpreted of the bulk of the waste rock that could be produced upon project development (Geochemical solutions, 2022).

The Project intends to proceed with the next phase of waste rock characterization in 2026 including thorough analysis of samples representative of the rock which would be produced.

### *20.1.6 Groundwater Hydrogeology*

A critical component of mine planning is managing inflows into the proposed underground mine. Typically, mine inflows are estimated using a computer model based on inputs from one or more field programs that perform hydrogeologic testing, groundwater monitoring, and groundwater quality sampling. This is directed at a fundamental understanding about the volume of groundwater that is likely to be encountered and what geologic features (faults, lithologies, etc.) control the movement of groundwater. In 2025, the Company engaged SRK Consultants to perform a desktop hydrogeologic study as a first step in characterizing ground water quality and quantity for the proposed mine site.

SRK concluded that there were some hydrogeologic risks for the project related to the potential for higher pressure water features underground at least partly due to the spatial position of the proposed underground development relative to the Herbert River. However, SRK also reviewed core photos and concluded that groundwater storage will be low in much of the rock that will be mined. Based on core photos SRK estimated that hydraulic conductivity would be low in the host intrusive rocks but higher closer to the surface and in alteration zones around the various gold-bearing veins. SRK emphasizes that the estimates are preliminary as no site-specific hydraulic testing has been completed. SRK recommended 14 boreholes to further the geotechnical and hydrogeological characteristics of the proposed mine area (SRK, 2025).

New Amalga will be incorporating SRK's recommendation into a focused hydrogeological program in the coming year(s) to constrain the estimate of mine water inflows and the geochemical character of those inflows. This information is key to the site-wide water balance and water management plan.

### *20.1.7 Additional Baseline Data Requirements*

All the baseline data are important for developing a representative pre-mining environmental baseline for the New Amalga Project area. These baseline studies need sufficient scope to support ongoing and future engineering, water management strategies, permitting and NEPA. In addition, they will provide a comparative basis for determining the success of the future reclamation and closure effort. The risks that come with insufficient baseline data include delays in the permitting process, poorly constrained pre-mining characterizations, inappropriate trigger levels in permits, higher costs and other impacts to mine operations and closure.

Additional baseline studies for the New Amalga Project area are required to generate the data to support future mine design, development of an Environmental Impact Statement (EIS), permitting, construction, operations and closure. Specific Recommendations for additional baseline studies are included in the table below.

**Table 20-1: List of Additional Environmental Baseline Studies**

Discipline	Recommended Studies
Waste Rock Characterization	Characterization is recommended for all project solid waste streams including waste rock, and potentially, fugitive dust to establish acid-rock drainage and metal leaching (ARD/ML) characteristics as well as to determine mine water treatment criteria. The previous waste rock characterization program provided encouraging results but was limited in scope. The Company should work with a consultant to determine a subset of waste rock types based on lithology/mineralogy, alteration and sulfide species and concentration, and establish the ABA characteristics for each type. The results of program will inform waste management strategies as well reclamation and closure strategies and can be encoded into the mine block model to inform mine scheduling. The Company should also consider setting up barrel tests at site to initiate long term Acid Rock Drainage/Metal Leaching characterization of waste rock types under local meteorological conditions. ABA is also recommended for all proposed construction material sites.
Cultural Resources	Pedestrian surveys for cultural resources are largely lacking in the New Amalga Project area. Pedestrian surveys are warranted in all areas designated for future disturbance as well as a buffer around the proposed disturbance limits, collectively referred to as the Area of Potential Effect (APE). The scope of the pedestrian surveys should be negotiated with the State Office of History and Archaeology in collaboration with other federal agencies that have a requirement to comply with the National Historic Preservation Act, i.e., the USACE.
Aquatic Life	Aquatic life surveys should be continued.
Wetlands	Additional detailed (field) wetlands delineation may be required in specific project areas slated for disturbance. Wetlands delineation will also be beneficial in additional areas reasonably expected to be included in any future NEPA alternatives analysis.
Hydrogeology	We recommend focused hydrogeological studies in the coming year(s) to allow reasonable estimation of mine inflows and groundwater quality. SRK has made recommendations for a future focused hydrogeological program. The Company should pursue this or a similar program.
Hydrology	New Amalga is in the process of permitting and installing a stream gauge on the Herbert River. Additional limited hydrology data will be required for stream crossings that require a bridge or culvert.
Meteorology and Air Quality	New Amalga is currently permitting a special use permit with the USFS for the installation of two engineer-level meteorology stations. It may be necessary to upgrade one or both stations to collect qualified data suitable for air permitting.
Water Quality	Ongoing surface water quality monitoring should continue. Groundwater monitoring wells should be developed inside and outside the proposed underground development limits as part of the hydrogeology program but should also be purposed for groundwater quality sampling.

Wildlife	Potential impacts to wildlife, particularly goats and bear, should be evaluated further and mitigation measures for reducing impacts to wildlife should be developed and integrated into any future mine standard operating procedures.
----------	---

## 20.2 Permitting

Currently, the New Amalga Project performs its seasonal exploration programs in accordance with its Plan of Operations, approved annually by the USFS, most recently in a USFS approval letter dated January 16, 2026. New Amalga will comply with the terms of the approval letter.

Development of a new mine at New Amalga will require a significant number of permits from state, federal, and local governments. The permitting process should be preceded by a robust environmental baseline program and integration of that data into effective designs and operating and closure plans for the mine and other NEPA pre-planning. The Company has already initiated pre-permitting engagement with regulatory agencies and stakeholders with the intent of identifying significant issues and mitigating them to the greatest practical extent through the mine engineering and operating plans. Most federal agencies must comply with the requirements of the National Environmental Policy Act (NEPA) before making a final decision to issue their respective permit.

NEPA generally results in development of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) that identifies and compares the direct, indirect, cumulative and reasonably foreseeable impacts of the project, both positive and negative, and includes the selection of a “preferred alternative.” The level of NEPA pre-planning, including the overall effort that mine project proponents invest in robust baseline studies, recognizing the potential environmental and social impacts, and designing a mine with the least impacts, has a direct effect on reducing the risk of delays or unanticipated project changes during the NEPA process.

As part of the future mine planning and design process New Amalga will incorporate the baseline environmental data into several management plans that will address water management, waste management, air quality control, reclamation and closure and other plans. New Amalga has not yet developed these plans owing to the relatively early planning and design stage of the project and incomplete set of baseline data.

**Table 20-2: Major Permits that May Be Required for the New Amalga Project**

Authority	Permit
<b>FEDERAL</b>	
US Forest Service	Plan of Operations Approval
Environmental Protection Agency (EPA)	Spill Prevention Containment and Contingency (SPCC) Plan
U.S. Army Corps of Engineers (USACE)	CWA Section 404 Permit (wetlands dredge and fill)
	River and Harbors Act (RHA) Section 10 (structures in navigable waters)

Bureau of Alcohol, Tobacco, and Firearms (ATF)	License to Transport Explosives
	Permit and License for Use of Explosives
U.S. Department of Transportation	Hazardous Materials Registration
U.S. Fish and Wildlife Service	Section 7 of the Endangered Species Act, Consultations requiring a Biological Assessment or Biological Opinion
<b>STATE</b>	
Department of Natural Resources (ADNR)	Reclamation Plan Approval
	Temporary Water Use Authorizations
Department of Environmental Conservation (ADEC)	APDES Water Discharge Permit
	Alaska Multi-Sector General Permit (MSGP) for Stormwater
	Stormwater Pollution Prevention Plan (part of MSGP)
	Sec. 401 Water Quality Certification of the CWA Sec. 404 Permit
	Integrated Waste Management Permit
	Air Quality Control – Construction Permit
	Air Quality Control – Title V Operating Permit
	Reclamation Plan Bond Amount Approval
State Office of History and Archaeology (OHA)	Section 106 National Historic Preservation Act Concurrence
Department of Fish and Game (ADF&G)	Title 16 Fish Habitat and Passage Permits
	Wildlife Hazing Permit
<b>LOCAL</b>	
City and Borough of Juneau (CB&J)	Title 49 Large Mine Permit

### 20.3 FAST-41 Permitting Process

In 2015 the federal government enacted the Fixing America’s Transportation Act (FAST-41) to improve the permitting process for eligible projects. The mining sector is eligible to participate in FAST-41. Projects must meet the minimum requirements of being subject to NEPA and requiring capital expenditures of at least \$200M. FAST-41 benefits include increased permitting predictability, enhanced agency coordination, certain funding sources, agency leadership attention, transparency and accountability, and dispute resolution. Sixteen federal agencies participate in the process. Project proponents typically apply to the FAST-41 program a few months prior to initiating the NEPA process, which is tied to submission of their federal permit application(s). New Amalga intends to apply for inclusion in the FAST-41 program in the future.

## 20.4 Social and Community Considerations

The New Amalga Project is located 19 miles north of Juneau, Alaska. The population of Juneau is 31,572 (2024), the unemployment rate is 3.2% (2025). Juneau is the Alaska state capital. Local economic drivers include state government and administration, commercial fishing, tourism, and mining. Juneau is home to a majority of mine employees at both the Greens Creek and Kensington mines, although a significant proportion commute from outside of the region.

The New Amalga Project has the potential to improve work opportunities for southeast Alaska residents in the area. The potential jobs created may also be more family-friendly and accessible to a wider demographic compared to roles at the two existing mines in the region (Greens Creek and Kensington). These two mines are at remote locations and require either extremely long daily commutes via boat or extended stays at the mine camp facilities during work rotations. Comparatively, the New Amalga Gold Mine would be accessible via road and only a ~30-minute commute via Glacier Highway from the Juneau Mendenhall Valley suburbs. This creates additional opportunities to hire local residents instead of relying on workforce from outside the region.

Local concern regarding potential social and environmental impacts may focus on the fact that the project is reasonably close to Juneau and is in proximity to a popular hiking trail. New Amalga surface facilities described in this document have been designed to be protective of this recreational resource, primarily by utilizing topography and vegetation to screen the site and mitigate noise and visual impacts to the trail on the opposite side of the river.

The project area and surrounding areas have been the object of historic mining and mineral exploration for more than 100 years, notably the eponymous Amalga Gold Camp which was a significant production hub during the early 20<sup>th</sup> century and was located a few kilometers away from the New Amalga resource. The city of Juneau itself was originally developed to support the Alaska-Juneau Gold mine which was one of the largest gold mines in the world in the early 1900's.

The Company acknowledges the concerns of the public and has indicated to the QP that it intends to address them with a focused community relations effort and through the permitting process.

Local community concerns will also be formally recognized during the scoping stage at the beginning of the NEPA process. At that time, the lead federal agency (USFS) will hold scoping meetings in the region to hear and record the concerns of the local communities so that they can be addressed during the development of the EIS. In addition, the USFS would hold government-to-government consultations with the local Tribal Councils as part of the NEPA process, to discuss the project and any concerns from Tribal Governments or members.

## 20.5 Reclamation

### 20.5.0 Reclamation of Exploration Activities

Reclamation of mineral exploration activities in the New Amalga Project area is subject to the requirements of the State of Alaska regulations 11 AAC 97 and the Alaska Best Management Practices (BMP) for

decommissioning water wells and boreholes section 6.2E, and any additional stipulations imposed by the 2026 USFS Plan of Operations approval letter.

### 20.5.1 *New Amalga Mine Reclamation and Closure*

Mine reclamation and closure considerations are largely driven by State regulations (11 AAC 86.150, 11 AAC 97.100-910, and 18 AAC 70) and statutes (AS 27.19), USFS Manual 2840 and federal regulations in 36 CFR Part 228.

Development of a new mine at New Amalga will require agency approval of a formal Reclamation Plan and a form of financial assurance acceptable to the agencies sufficient to fund the reclamation of the mine by a third-party contractor. USFS, ADNR and ADEC would have joint authority to approve the Reclamation Plan and each would be beneficiaries for the required reclamation financial assurance. An MOU between state and federal agencies would allow a single financial assurance instrument to satisfy the financial assurance obligations to the state and USFS.

The financial assurance amount is derived through a detailed reclamation cost estimate that meets requirements of the state and federal agencies. Typically, the cost estimate assumes: No equipment at site will be available for the reclamation, no salvage value for equipment or facilities, both direct and indirect costs are included, and a third party would manage the reclamation activities. The estimate would also include the post-reclamation monitoring costs typically for 30 years, and, if necessary, the cost for long-term water treatment.

New Amalga will need to provide a financial assurance sufficient to complete the reclamation and closure of the mine utilizing a third-party contractor. State and federal financial assurance regulations stipulate certain requirements for calculating the financial assurance amount and that amount will be higher than the direct closure costs. Some of those requirements include: restrictions to applying mine salvage values to offset the reclamation costs, estimate must also include indirect costs calculated consistent with state and federal guidance for indirect costs, must assume all on-site equipment is under a lien and therefore not available for performing reclamation activities.

Owing to the early stage of the project, New Amalga has not developed a detailed mine reclamation plan. A detailed reclamation plan and reclamation cost estimate will be submitted to the agencies for review and approval in the future, during the formal mine permitting process.

## 21 CAPITAL AND OPERATING COSTS (Item 21)

### 21.1 Introduction

Capital and operating costs estimates were prepared at a preliminary economic assessment (PEA) study level with an expected accuracy of  $\pm 50\%$ . All costs are expressed in Q1 2026 US dollars. The capital costs can be classified as a Class 5 estimate in accordance with AACE International Guidelines Practice.

### 21.2 Capital Costs

Capital expenditures (CAPEX) are divided into two primary categories, “Pre-Production CAPEX” and “Sustaining CAPEX”. The “Pre-Production CAPEX” category covers the construction and development period (Year -2, -1, and the first half of Year 1) and includes the costs required to achieve commercial production, along with Owner’s Costs necessary prior to the start of construction. The “Sustaining CAPEX” category covers the period beginning in the second half of Year 1 and includes the capitalized costs necessary to sustain production levels and achieve the mine plan.

Capital cost estimates are expressed in Q1 2026 US dollars on a real, rather than nominal, basis (without further assumptions applied for escalation beyond Q1 2026).

#### 21.2.1 *Basis of Estimate*

The capital cost estimate is prepared for the preliminary economic assessment (PEA) of the New Amalga Gold project. This estimate was developed using a combination of data from multiple sources. These sources included budgetary quotes, benchmarking cost information sources such as mining industry standard like Costmine databases, industry standards or industry current costs, technical summary reports published for mines utilizing similar mining methods, local government body (i.e. City and Borough of Juneau) bid documents database for similar projects, expert judgements for the relevant topics. CPI Inflation calculator maintained by the U.S. Bureau of Labor Statistics was used to update historical cost data for January 2026 costs.

This cost estimate has been prepared without incorporating any impacts related to existing, proposed, or potential tariffs. Due to the current volatility of the tariff environment, no assumptions have been made regarding future tariff changes, surcharges, or trade policy adjustments. If tariff conditions shift in a manner that affects material, labor, or supply chain costs, a revised estimate may be required to accurately reflect those impacts.

#### 21.2.2 *Pre-Production CAPEX*

Pre-Production CAPEX totals US\$254.8M and is summarized in the table below.

**Table 21-1 Pre-Production CAPEX**

<b>Pre-Production CAPEX</b>	<b>Cost \$M USD</b>
Eng. & Env. Studies, Definition Drilling, Permitting, Owner's Construction Mgmt. Team	\$16.9
Mine Access Road	\$9.4
Mine Site Surface Facilities	\$73.6
Surface Haulage Equipment & Ore Containers	\$9.9
UG Pre-Production Capital Development	\$22.0
UG Equipment (Mobile & Fixed)	\$47.0
Ore Loading Dock (Cascade Point)	\$12.3
Indirect Costs (10%)	\$17.4
Contingency applied to Equipment Purchases (15%)	\$8.5
Contingency applied to Construction, UG Dev't, & all other pre-production activities (25%)	\$37.9
<b>Total Pre-Production CAPEX</b>	<b>\$254.8</b>

The scope of each Pre-Production CAPEX line item is as follows:

- **Eng. & Env. Studies, Definition Drilling, Permitting, Owner's Construction Mgmt Team:** Includes costs related to the activities necessary before construction begins, including studies, fieldwork, drilling, Federal environmental review (NEPA), and State of Alaska permitting. Also includes an allowance for owner's team costs, including the hiring of a construction management team to oversee procurement and site development during the pre-production period.
- **Mine Access Road:** Includes the cost of developing the access road to the project site from Glacier Highway (including a bridge over the Herbert River) as well as the cost for the internal site road connecting the materials handling area with the mine portal area.
- **Mine Site Surface Facilities:** includes buildings, surface infrastructure, mobile and fixed equipment necessary for mine operations at the site. This includes maintenance facilities, electrical infrastructure, water handling and treatment, stockpiles, ore crushing and sorting, site prep, and other minesite facilities as described in Chapter 18.
- **Surface Haulage Equipment and Ore Containers:** includes the ore container fleet, the over-the-road trucks and trailers necessary for moving containers to and from Cascade Point, and ancillary equipment for container handling.
- **UG Pre-Production Capital Development:** includes the cost of decline and infrastructure development necessary to achieve commercial production including the access decline, ventilation and escapeway raises, excavations for key infrastructure such as the UG service bays and main sumps, and the initial level access drifts into the stoping areas. It is assumed that this work will be undertaken by a mining contractor.

- **UG Equipment (Mobile & Fixed):** includes the mobile equipment fleet necessary for development and production. This includes typical underground mobile mining equipment such as jumbo drills, bolters, LHD, haul trucks, longhole drills, etc. This category also includes support equipment such as utility vehicles, mantrips, etc. Fixed equipment includes infrastructure such as the main fan, auxiliary fans, main sump equipment, service bay equipment, refuge chambers, mine power centers, etc.
- **Ore Loading Dock (Cascade Point):** includes both uplands development for the container yard laydown area as well as marine development for the barge loading facility (including the wave attenuator). The State of Alaska is planning to construct a passenger ferry terminal at the site which would result in development of uplands infrastructure which could also be utilized by the New Amalga project. For purposes of this study it is assumed that work towards ferry terminal development will not be undertaken by the State of Alaska. The New Amalga project is not dependent or reliant upon any development of Cascade Point by the State of Alaska.
- **Indirect Costs (10%):** this factor covers standard indirect cost items such as freight, sales taxes, commissioning, training, contractor mobilization, first fills, etc.
- **Contingency for Equipment Purchases (15%):** a contingency factor of 15% is applied to the purchase of fixed and mobile equipment. This contingency is appropriate since the most of these costs are supported by recent vendor quotes.
- **Contingency for Construction, UG Dev't, & all other pre-production activities (25%):** a contingency factor of 25% is applied to owner's costs, construction activities, underground development, and all other pre-production activities. This contingency is appropriate for a PEA-level study of a project of low-to-moderate complexity and risk. The New Amalga project fits this criteria (established & stable mining jurisdiction, no onsite processing, conventional mining methods, standard equipment and infrastructure used on surface and underground, non-remote location which will have direct road access to a regional mining hub).

### 21.2.3 Sustaining CAPEX

Sustaining CAPEX totals US\$269.3M and is summarized in the table below.

**Table 21-2 Sustaining CAPEX**

Sustaining CAPEX	Cost \$M USD
Sustaining UG Development & Definition Drilling	\$172.4
Sustaining Mine Equipment & Rebuilds	\$26.9
Indirect Costs (10%)	\$19.9
Contingency applied to Equipment Purchases/Rebuilds (15%)	\$7.0
Contingency applied to UG Dev't and Drilling (25%)	\$43.1
<b>Total Sustaining CAPEX</b>	<b>\$269.3</b>

The scope of each Sustaining CAPEX line item is as follows:

- **Sustaining UG Development & Definition Drilling:** This is the largest sustaining cost item and includes the significant amount of ongoing development of haulage ramps, level access drifts, and other capital infrastructure excavations required to gain access to all planned mining areas along the vertical extent of each vein. This sustaining capital development continues until near the end of the mine life and is assumed to be undertaken by a mining contractor. This line item also includes an allowance for capitalized underground definition drilling undertaken prior to stoping in an individual mining area.
- **Sustaining Mine Equipment & Rebuilds:** This category includes the purchase of new mining equipment to sustain production, primarily additional haul trucks which become necessary as haulage distances progressively increase while the mine expands to deeper or outlying vein areas. Costs for capital rebuilds of mobile mining equipment are also included; it is assumed that most major pieces of mining equipment will require varying degrees of rebuild or overhaul after three years of operation.
- **Indirect Costs (10%):** same factor applied as for the Initial Capital Costs in the previous subsection.
- **Contingency for Equipment Purchases/Rebuilds (15%):** same factor applied as for the Initial Capital Costs in the previous subsection.
- **Contingency for UG Dev't and Drilling (25%):** same factor applied as for the Initial Capital Costs in the previous subsection.

### 21.3 Operating Costs

Operating expenses (OPEX) are incurred after commercial production begins during the second half of Year 1. These are non-capitalized costs directly required for mine production and short-term operation of the project.

Operating costs over the life-of-mine total US\$663.5M. Unlike capital development, it is assumed that production mining and backfilling activities will be undertaken by company personnel rather than contractors. Key operating cost components are summarized in the table below.

**Table 21-3 Components of Operating Cost (OPEX)**

Mining & Backfilling OPEX	\$114.70	US\$ / metric tonne of mined production
Crushing & Ore Sorting OPEX	\$7.00	US\$ / metric tonne of mined production
Surface Road Haulage to Barge Dock OPEX	\$11.16	US\$ / metric tonne of shipped production
Barging to Deepwater Port, Storage, and Transloading	\$39.67	US\$ / metric tonne of shipped production
Bulk Freighter Vessel Transport to Overseas Processor	\$95.00	US\$ / metric tonne of shipped production
Overhead G&A (staff, environmental, insurance, etc)	\$13.7	US \$ annually (millions) – fixed cost
<b>LOM Overall Average Operating Cost</b>	<b>\$272.11</b>	US\$ / metric tonne of mined production

### 21.3.1 *Summary*

Operating cost estimates are expressed in Q1 2026 US dollars on a real, rather than nominal, basis (without further assumptions applied for escalation beyond Q1 2026).

### 21.3.2 *Basis of Estimate*

The operating cost was prepared by RESPEC and Grand Portage Resources Ltd. Cost estimates were developed based on information from recently published annual reports and technical report summaries from mines using similar mining methods. Modifying factors were used based on experience and site-specific situations. CPI Inflation calculator maintained by the U.S. Bureau of Labor Statistics was used to update historical cost data for January 2026 costs.

### 21.3.3 *Mining Cost*

The operating cost is developed based on the benchmarking of the underground mining cost from mines using similar mining methods from their annual reports and technical reports adjusted for January 2026 costs using CPI factors.

### 21.3.4 *General and Administrative Costs*

The G&A costs were developed from the similar data source with factors applied for the absence of processing and man camp facilities and relatively lower production rates at the New Amalga Gold Project.

## 21.4 **Closure Costs**

Closure and reclamation costs are estimated at US\$10.5M based on benchmarking against published reclamation cost estimates for a comparable Alaska operation, with adjustments as appropriate for scope and size. The small site footprint combined with the lack of any permanent waste or tailings stockpiles means that closure activities will consist of hauling residual waste underground, dismantling buildings, removing infrastructure, recontouring and revegetating the site. Water treatment will continue if necessary until all regulatory standards are met and the portal will be plugged.

Due to the need for sustaining mobile equipment purchases during the later mine life (particularly haul trucks), the mobile equipment fleet will have significant residual salvage value which is estimated at US\$4M.

## 22 ECONOMIC ANALYSIS (Item 22)

The economic analysis presented in this Technical Report includes, and is dependent upon, forward-looking information including Mineral Resource estimates, metal prices, mine production plans and recoveries, metal offtake payabilities, capital and operating costs, regulatory aspects, and project development timeframes. These forward-looking aspects are subject to known and unknown risks and uncertainties which may cause actual results to differ materially from those presented.

Description of the assumptions and factors utilized when developing the forward-looking information, and the risk factors that could cause actual results to differ materially from the forward looking information are provided in the relevant sections of this Technical Report. The production schedules, economic analysis, and other aspects of this Technical Report are based, in part, on Inferred Mineral Resources, which do not have the level of geologic confidence to enable them to be categorized as Mineral Reserves. There is no certainty that the economic forecasts presented or the assumptions on which this Technical Report is based will be realized.

The economic analysis is presented in real (inflation-adjusted) US dollars, rather than nominal US dollars and utilizes a discounted cash flow approach, with an annual discount rate of 5% applied to calculate Net Present Value (NPV). This discount rate is considered to be reasonable due to the project's location in a stable, established mining jurisdiction (Juneau District, Alaska, USA) with road access to a regional mining hub, use of conventional mining methods, and a relatively simple project configuration which avoids the construction and operation of on-site processing and tailings facilities. For calculating NPV, cash flows have been discounted to the start of year -2 (beginning of surface construction activities). Financing costs have been excluded.

### 22.1 Determination of Gold Price Assumption

The QP determined that the appropriate gold price assumption to utilize for the Base Case PEA scenario is the real (inflation-adjusted) analyst consensus long-term price forecast, rounded to the nearest \$50/oz.

An analyst survey dated January 19, 2026 was purchased which included a compilation of forecasts from over 30 major investment banks and market analysis firms. Based on this data, the price assumption utilized for the PEA was set at **\$3,200/oz**, equal to the average of the analyst forecasts for the long-term real gold price rounded to the nearest \$50/oz.

The gold price has experienced significant volatility in the months leading up to the effective date of this report. As a comparison to confirm that the above price assumption is appropriate, the QP calculated the CPI inflation-adjusted 24-month trailing average of the monthly closing gold price (NY Spot) as of the effective date of this report (inclusive of February 2024 through January 2026). The result of this calculation (\$3,107/oz) was within 3% of the \$3,200/oz analyst consensus long-term price discussed above. This indicates that \$3,200/oz can be considered a reasonable price assumption from both a forward-looking and rearward-looking perspective.

**Table 22-1 Calculation of Inflation-Adjusted 24-month Trailing Average Gold Price**

	Nominal NY Spot Monthly Closing Price (USD/oz)	US CPI Inflation (to Dec 2025)	Real Gold Price in current dollars (USD/oz)
Feb-24	\$2,044.33	4.42%	\$2,134.69
Mar-24	\$2,232.75	3.75%	\$2,316.48
Apr-24	\$2,296.55	3.35%	\$2,373.48
May-24	\$2,327.36	3.18%	\$2,401.37
Jun-24	\$2,326.73	3.14%	\$2,399.79
Jul-24	\$2,447.15	3.02%	\$2,521.05
Aug-24	\$2,503.40	2.94%	\$2,577.00
Sep-24	\$2,634.70	2.78%	\$2,707.94
Oct-24	\$2,744.12	2.66%	\$2,817.11
Nov-24	\$2,650.59	2.71%	\$2,722.42
Dec-24	\$2,624.49	2.68%	\$2,694.83
Jan-25	\$2,798.30	2.01%	\$2,854.55
Feb-25	\$2,857.67	1.56%	\$2,902.25
Mar-25	\$3,123.98	1.33%	\$3,165.53
Apr-25	\$3,289.16	1.02%	\$3,322.71
May-25	\$3,289.34	0.81%	\$3,315.98
Jun-25	\$3,303.05	0.46%	\$3,318.24
Jul-25	\$3,290.39	0.31%	\$3,300.59
Aug-25	\$3,447.73	0.02%	\$3,448.42
Sep-25	\$3,858.73	-0.33%	\$3,846.00
Oct-25	\$4,001.21	0%	\$4,001.21
Nov-25	\$4,220.43	-0.02%	\$4,219.59
Dec-25	\$4,318.18	0% (no data)	\$4,318.18
Jan-26	\$4,891.32	0% (no data)	\$4,891.32
	<b>24-Month Inflation-Adjusted Average Price</b>		<b>\$3,107.11</b>

## 22.2 Summary of Inputs for Economic Analysis

The key mine plan items driving the economic analysis are summarized below. Additional description and annual numbers are available in section “16.12 – Mining Schedule”.

**Table 22-1 Summary of Mine Plan Inputs for Economic Analysis**

Mine Production Life	7	yrs
Total Production Tonnes Mined	2.44	Mt
Avg Mined Gold Grade	13.6	g/t
Total Gold Ounces Mined	1.07	Moz
Total Product Tonnes Shipped (after sorting)	1.86	Mt
Avg Shipped Gold Grade (after sorting)	17.6	g/t
Total Gold Ounces Shipped	1.05	Moz
Average Gold Payability	85%	varies by shipment grade
Total Gold Ounces Payable	0.89	Moz

The key cost items driving the economic analysis are summarized below. Additional description regarding CAPEX and OPEX are available in Chapter 21. Additional description regarding treatment and refining charges are available in Chapter 19.

**Table 22-2 Summary of Cost Inputs for Economic Analysis**

Total Pre-Production CAPEX	\$254.8	M USD
Total Sustaining CAPEX & Closure Costs	\$275.8	M USD
Total Operating Cost (mining, transport, G&A)	\$663.5	M USD (avg of \$272.11/t mined)
Treatment Charges	\$95	per tonne shipped
Refining Charges	\$10	per Au ounce payable
NSR Royalties	5%	

## 22.3 Results of Economic Analysis for Base Case Gold Price

Based on the above inputs, the economic analysis shows the following results:

**Table 22-3 Summary of Project Financial Totals using Base Case Gold Price**

Revenue (net of TC/RCs)	\$2,675.3	M USD
Initial CAPEX	(\$254.8)	M USD
LOM Operating Costs	(\$663.5)	M USD
Sustaining CAPEX & Closure Cost	(\$275.8)	M USD
Royalties Paid	(\$133.8)	M USD
<b>Pre-Tax Cashflow</b>	<b>\$1,347.4</b>	<b>M USD</b>
Taxes Paid	(\$339.5)	M USD
<b>After-Tax Cashflow</b>	<b>\$1,007.8</b>	<b>M USD</b>

**Table 22-4 Summary of NPV/IRR and Project Financial Metrics using Base Case Gold Price**

Pre-Tax NPV <sub>5</sub>	\$979	M USD
Pre-Tax IRR	69%	
<b>After-Tax NPV<sub>5</sub></b>	<b>\$721</b>	<b>M USD</b>
<b>After-Tax IRR</b>	<b>56%</b>	
Avg NSR per tonne mined (net of royalty)	\$1,042	\$/metric tonne mined
Operating Cost per Gold Ounce Shipped	\$630	US\$ per ounce shipped
LOM All-in Sustaining Cost (AISC)	\$1,408	US \$ per ounce payable
Pre-Production CAPEX per Ounce Payable	\$285	US \$ per ounce payable
Initial Capital Payback Period	1.3	Years (after-tax)

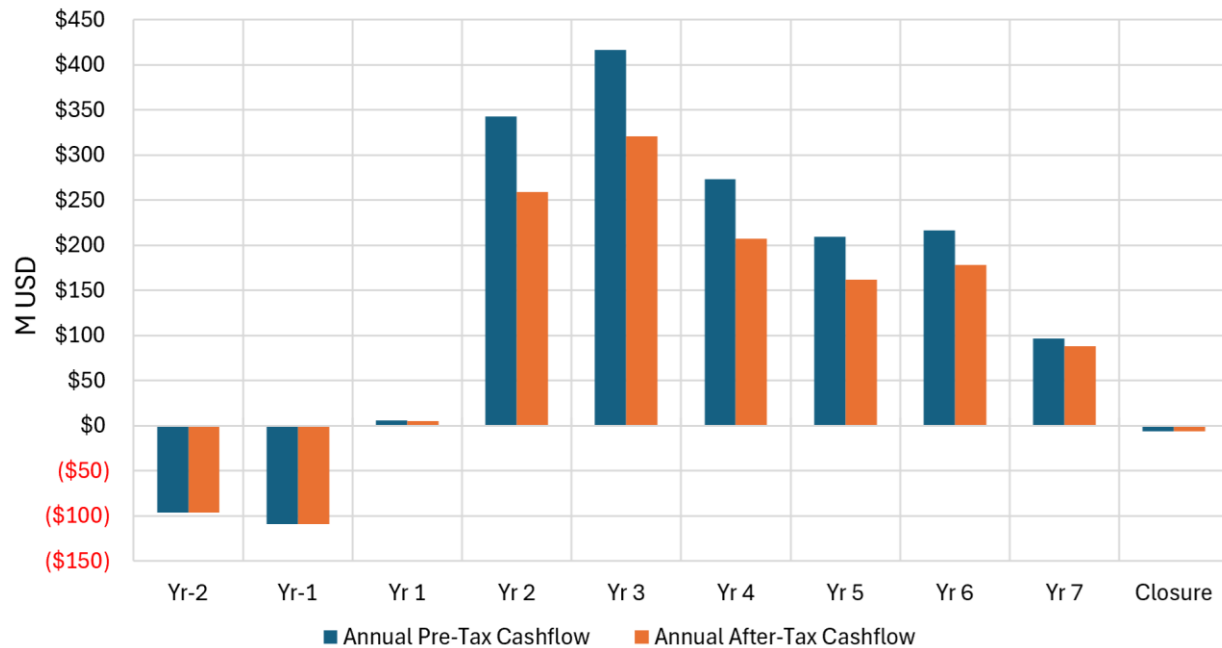
## 22.4 Summary of Tax Factors

Four categories of taxation are included in the financial analysis:

- **US Corporate Income Tax:** assessed at a rate of 21% after accounting for depreciation and depletion credits. The depreciation method used was variably 7-year MACRS, Units of Production, or 3-year straight line as appropriate for the various capital expenditures.
- **Alaska Corporate Income Tax:** assessed at a marginal rate of 9.4% after accounting for depreciation and depletion credits
- **Alaska Mining License Tax:** applied to the net income derived from mining operations in the state, with a marginal rate of 7% and an exemption for the first 3.5 years after production begins to allow operators to recover initial capital investments
- **Annual Property Taxes:** Payable to the City & Borough of Juneau once the facilities are constructed

### 22.5 Cashflow and Payback for Base Case Gold Price

The graph below displays pre-tax and after-tax project cashflows by year. Cashflows are front-loaded due to the mine plan targeting higher-grade areas for production first while deferring lower-grade areas until the latter years of the mine life.



**Figure 22-1: Annual Pre-Tax and After-Tax Cashflows**

The graph below displays cumulative project cashflows over time. Pre-tax payback occurs after 1.1 years of production and after-tax payback occurs after 1.3 years of production.

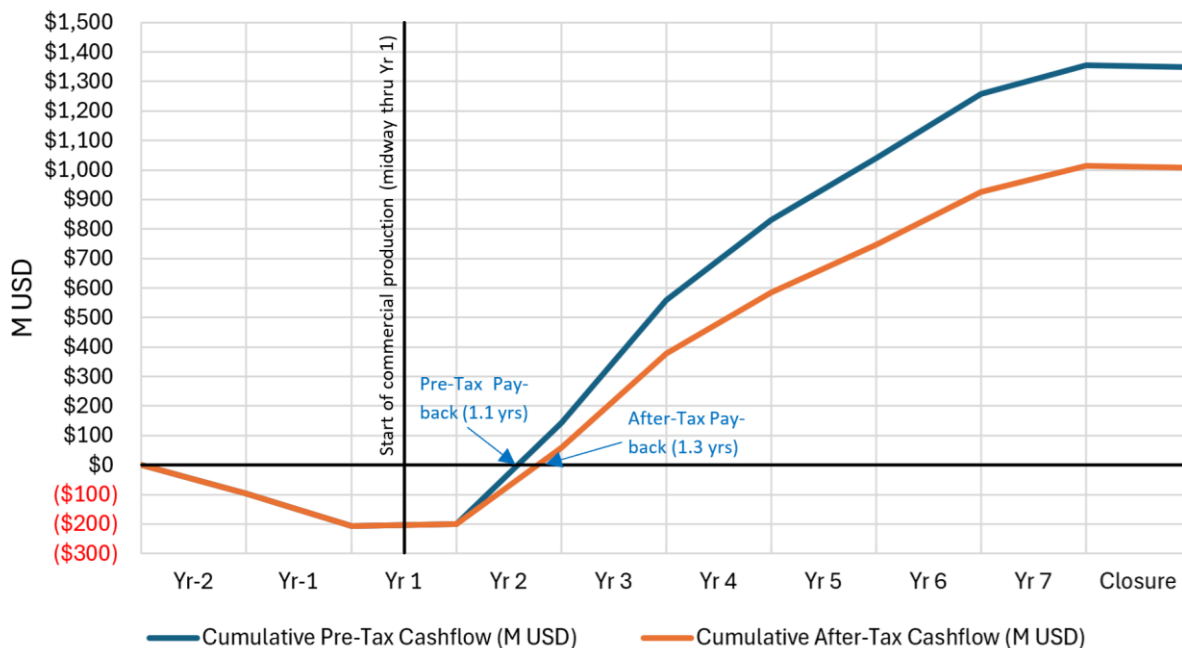


Figure 22-2: Pre-Tax and After-Tax Cumulative Cashflows and Project Payback Period

## 22.6 Sensitivity Analyses

Several sensitivity analyses were performed to test the project financial robustness against a variety of factors.

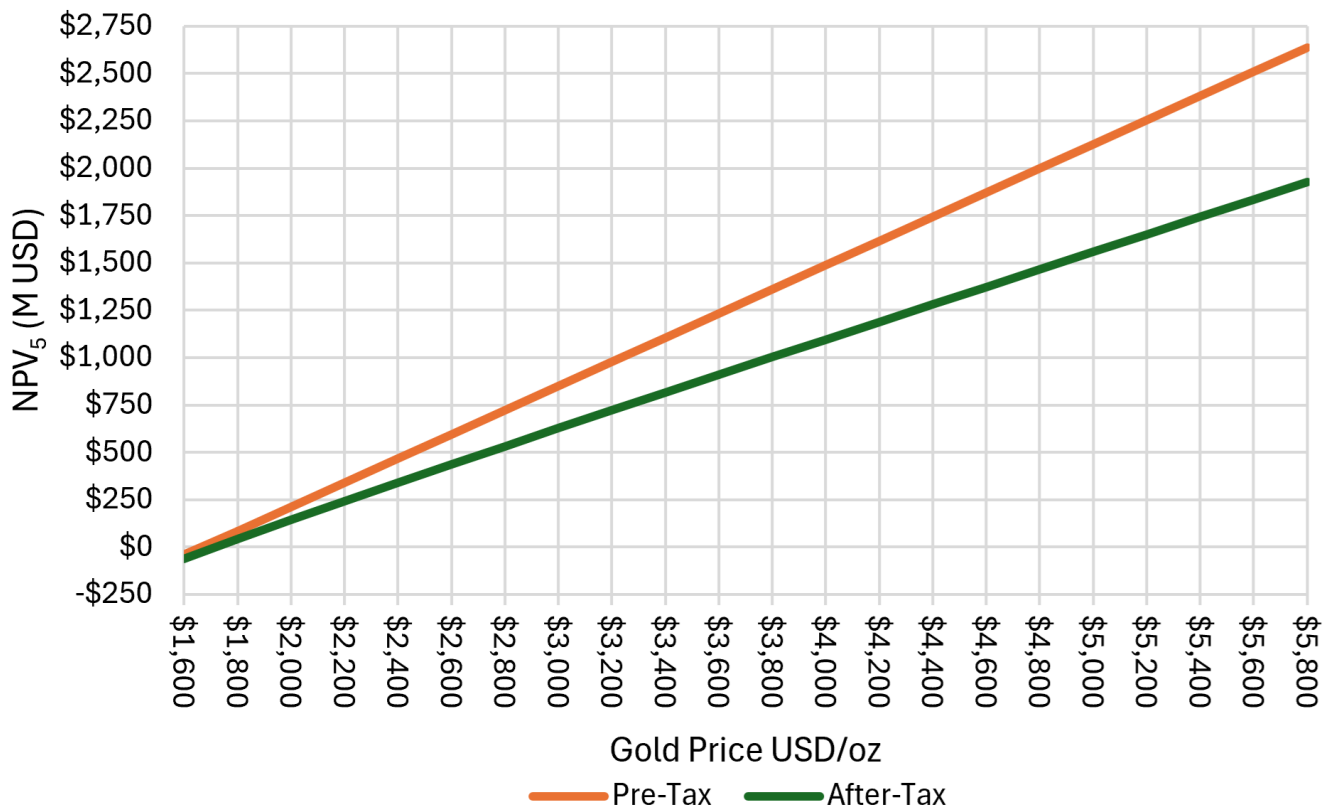
### 22.6.1 Gold Price Sensitivity

The project sensitivity to gold price was tested on both a pre-tax and after-tax basis, with the gold price input ranging from a high of \$5,800/oz to a low of \$1,600/oz at which point the project NPV is no longer positive. The peak intraday spot price over the past 24 months was \$5,597/oz on January 29, 2026. The project NPV is highly sensitive to gold price.

Table 22-5: Pre-Tax and After-Tax NPV<sub>5</sub> and IRR Sensitivity to Gold Price

Au Price (\$/oz)	Pre-Tax		After-Tax	
	NPV <sub>5</sub> (\$M)	IRR	NPV <sub>5</sub> (\$M)	IRR
\$1,600	-\$42	-1%	-\$63	-5%
\$1,800	\$86	15%	\$42	10%
\$2,000	\$213	26%	\$143	20%
\$2,200	\$341	35%	\$241	28%
\$2,400	\$468	43%	\$339	35%
\$2,600	\$596	50%	\$435	41%
\$2,800	\$724	57%	\$532	46%
\$3,000	\$851	63%	\$627	52%
<b>(base case) \$3,200</b>	<b>\$979</b>	<b>69%</b>	<b>\$721</b>	<b>56%</b>
\$3,400	\$1,107	74%	\$815	61%
\$3,600	\$1,234	79%	\$909	65%

\$3,800	\$1,362	84%	\$1,002	70%
\$4,000	\$1,489	88%	\$1,095	73%
\$4,200	\$1,617	93%	\$1,188	77%
\$4,400	\$1,745	97%	\$1,280	81%
\$4,600	\$1,872	101%	\$1,373	84%
\$4,800	\$2,000	105%	\$1,465	88%
\$5,000	\$2,128	109%	\$1,557	91%
\$5,200	\$2,255	112%	\$1,650	94%
\$5,400	\$2,383	116%	\$1,742	97%
\$5,600	\$2,510	119%	\$1,835	100%
\$5,800	\$2,638	123%	\$1,927	103%



**Figure 22-3: Graph of Pre-Tax and After-Tax NPV<sub>5</sub> Sensitivity to Gold Price**

### 22.6.2 Discount Rate Sensitivity

A base case discount rate of 5% was utilized for calculating pre-tax and after-tax NPV. A sensitivity analysis testing a 6%, 7%, and 8% discount rate was performed utilizing the base case gold price. The project NPV is not highly sensitive to discount rate due to the relatively short production life and front-loaded cashflows.

**Table 22-6: NPV Sensitivity to Discount Rate (Base Case Gold Price)**

	Pre-Tax NPV (M USD)	After-Tax NPV (M USD)
<b>(Base Case) 5%</b>	<b>\$979</b>	<b>\$721</b>
6%	\$920	\$675
7%	\$864	\$632
8%	\$813	\$592

### 22.6.3 Ore Sorter Sensitivity

A sensitivity analysis was conducted to evaluate the economics of the project without the use of the sensor-based ore sorter. Removal of the ore sorter results in several changes including:

- Removal of crusher and ore sorter purchase and installation CAPEX
- Removal of crushing and ore sorting OPEX
- Increased transportation OPEX due to increased amount of shipped material
- Increase to ore container fleet CAPEX due to increased rate of material shipping
- Additional gold ounces shipped due to the elimination of ore sorter losses of mineralized material
- Lower gold payabilities due to lower grade of shipments
- No ore sorter reject rock generated at the site, resulting in early backfill materials stockpile depletion. This creates a need to procure a moderate amount of supplementary rock/aggregates for backfill purposes during the late mine life (assumed at \$14 per tonne aggregate purchased).

The net effect of the removal of the ore sorter was a meaningful reduction in NPV and IRR. However, project economics remained strongly positive, indicating that use of the ore sorter may be considered a significant enhancement to project economics rather than a critical aspect required for project viability under the base case gold price.

**Table 22-7: NPV and IRR Impact of Removing Ore Sorter (Base Case Gold Price)**

	Pre-Tax		After-Tax	
	NPV <sub>5</sub> (M USD)	IRR	NPV <sub>5</sub> (M USD)	IRR
<b>With Ore Sorter</b>	<b>\$979</b>	<b>69%</b>	<b>\$721</b>	<b>56%</b>
No Ore Sorter	\$849	63%	\$624	52%

### 22.6.4 Other Sensitivity Analyses: CAPEX, OPEX, Mined Grade

Sensitivity analyses were performed at the base case gold price to examine the impact of changes to Initial CAPEX, Sustaining CAPEX, OPEX, and Shipped Au Grade at intervals of -30%, -15%, 0%, +15%, and +30% relative to the base case.

The analysis showed that the project NPV is most sensitive to Au grade, moderately sensitive to OPEX, and less sensitive to initial and sustaining CAPEX. The project IRR is most sensitive to Au grade and pre-production CAPEX, while being least sensitive to OPEX and sustaining CAPEX.

Note that the sensitivity analysis for Shipped Au grade incorporates the changes in gold payability resulting from the modified grades (see Chapter 19).

The tables below display the NPV<sub>5</sub> and IRR impact of the above sensitivity factors.

	Pre-Tax NPV <sub>5</sub> (M USD)					After-Tax NPV <sub>5</sub> (M USD)				
	-30%	-15%	0%	+15%	+30%	-30%	-15%	0%	+15%	+30%
Pre-Production CAPEX	\$1,049	\$1,014	<b>\$979</b>	\$943	\$909	\$776	\$749	<b>\$721</b>	\$693	\$665
Sustaining CAPEX	\$1,040	\$1,010	<b>\$979</b>	\$948	\$918	\$766	\$744	<b>\$721</b>	\$698	\$675
OPEX	\$1,126	\$1,053	<b>\$979</b>	\$905	\$832	\$824	\$773	<b>\$721</b>	\$669	\$617
Shipped Au Grade	\$319	\$627	<b>\$979</b>	\$1,312	\$1,621	\$224	\$458	<b>\$721</b>	\$965	\$1,190

**Table 22-8: NPV<sub>5</sub> Impact of Sensitivity Factors using Base Case Gold Price**

	Pre-Tax IRR					After-Tax IRR				
	-30%	-15%	0%	+15%	+30%	-30%	-15%	0%	+15%	+30%
Pre-Production CAPEX	89%	77%	<b>69%</b>	61%	55%	74%	64%	<b>56%</b>	50%	45%
Sustaining CAPEX	71%	70%	<b>69%</b>	67%	66%	59%	58%	<b>56%</b>	55%	54%
OPEX	74%	71%	<b>69%</b>	66%	62%	61%	59%	<b>56%</b>	54%	51%
Shipped Au Grade	34%	53%	<b>69%</b>	81%	92%	29%	44%	<b>56%</b>	68%	77%

**Table 22-9: IRR Impact of Sensitivity Factors using Base Case Gold Price**

The following “spider graph” displays the After-Tax NPV<sub>5</sub> sensitivity for the above factors.

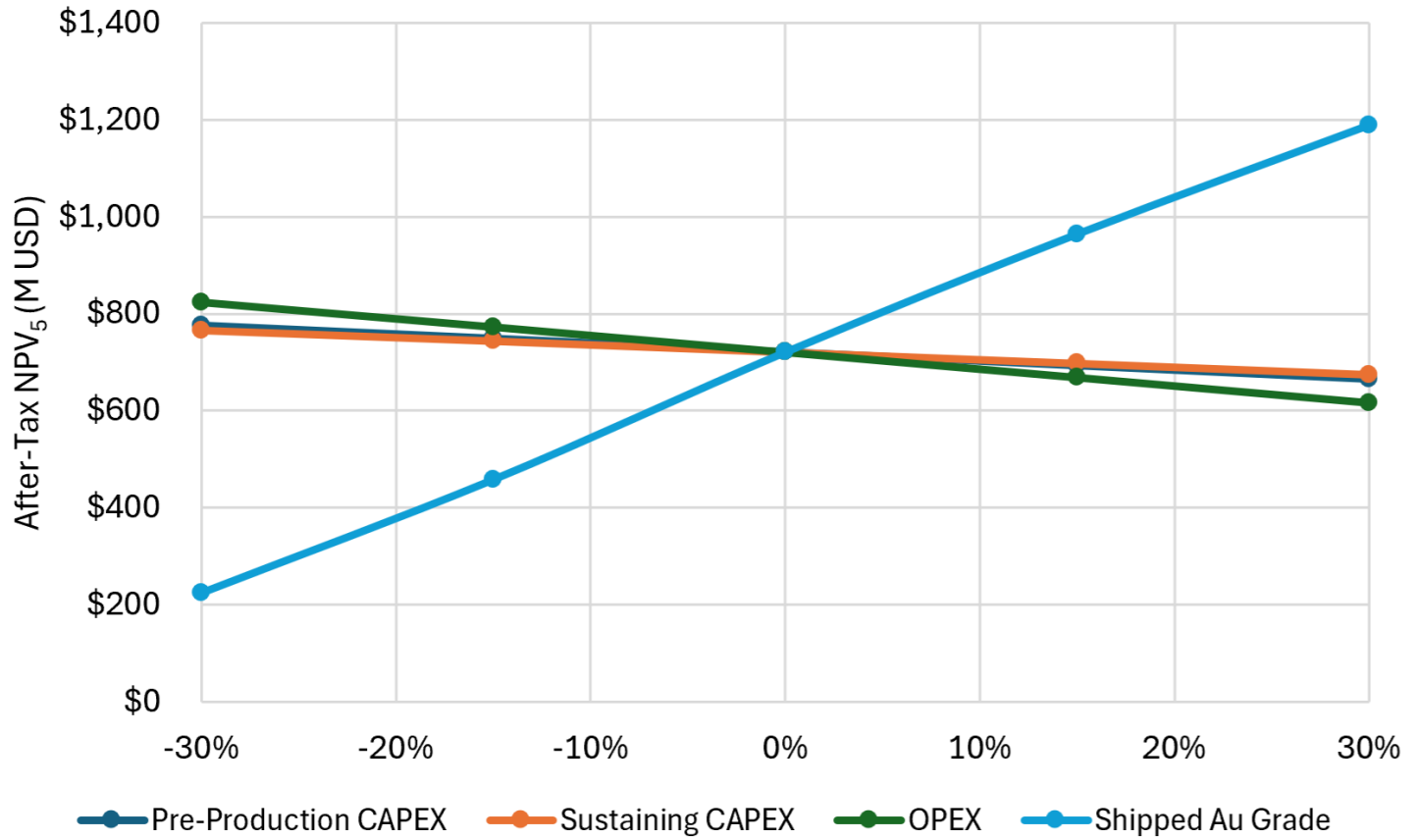


Figure 22-4: "Spider Graph" of CAPEX, OPEX, Mined Grade Sensitivity Factors using Base Case Gold Price

## 22.7 LOM Financial Data using Base Case Gold Price

Table 22-10: LOM Financial Data

Year	-2	-1	1	2	3	4	5	6	7	Closure	Overall
Overall Gold Mined (troy oz)	0	0	49,281	199,507	228,513	185,041	160,671	161,736	82,775	0	1,067,525
Sorted Ore Shipments - Contained Gold (oz)	0	0	47,971	196,230	224,971	182,704	158,742	160,326	82,317	0	1,053,262
Sorted Ore Shipments - Payable Gold (oz)	0	0	40,775	170,720	195,725	155,299	134,931	129,864	66,677	0	893,991
Sorted Ore Shipments - Payable Gold Value (M USD)	\$0.0	\$0.0	\$130.5	\$546.3	\$626.3	\$497.0	\$431.8	\$415.6	\$213.4	\$0.0	\$2,860.8
Treatment Charges (M USD)	\$0.0	\$0.0	(\$7.7)	(\$24.5)	(\$28.3)	(\$30.6)	(\$30.8)	(\$32.9)	(\$21.8)	\$0.0	(\$176.6)
Refining Charges (M USD)	\$0.0	\$0.0	(\$0.4)	(\$1.7)	(\$2.0)	(\$1.6)	(\$1.3)	(\$1.3)	(\$0.7)	\$0.0	(\$8.94)
Overall Revenue from Metal Sales (M USD)	\$0.0	\$0.0	\$122.3	\$520.1	\$596.1	\$464.8	\$399.6	\$381.4	\$190.9	\$0.0	\$2,675.3
Royalty Paid (M USD)	\$0.0	\$0.0	(\$6.1)	(\$26.0)	(\$29.8)	(\$23.2)	(\$20.0)	(\$19.1)	(\$9.5)	\$0.0	(\$133.8)
<b>Total REVENUE ("NSR") after royalty (M USD)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$116.2</b>	<b>\$494.1</b>	<b>\$566.3</b>	<b>\$441.5</b>	<b>\$379.6</b>	<b>\$362.3</b>	<b>\$181.4</b>	<b>\$0.0</b>	<b>\$2,541.5</b>
<b>OPEX</b>											
OPEX - Mining	\$0.0	\$0.0	(\$15.7)	(\$41.4)	(\$48.4)	(\$48.0)	(\$48.1)	(\$48.0)	(\$30.0)	\$0.0	(\$279.7)
OPEX - Ore Crushing & Sorting	\$0.0	\$0.0	(\$1.0)	(\$2.5)	(\$3.0)	(\$2.9)	(\$2.9)	(\$2.9)	(\$1.8)	\$0.0	(\$17.1)
OPEX - Surface Ore Haulage	\$0.0	\$0.0	(\$0.9)	(\$2.9)	(\$3.3)	(\$3.6)	(\$3.9)	(\$3.9)	(\$2.6)	\$0.0	(\$20.7)
OPEX - Barge to Deepwater Port	\$0.0	\$0.0	(\$1.2)	(\$3.8)	(\$4.4)	(\$4.8)	(\$4.8)	(\$5.1)	(\$3.4)	\$0.0	(\$27.5)
OPEX - Transload at Deepwater Port	\$0.0	\$0.0	(\$2.0)	(\$6.4)	(\$7.4)	(\$8.0)	(\$8.1)	(\$8.6)	(\$5.7)	\$0.0	(\$46.2)
OPEX - Overseas Ore Transport	\$0.0	\$0.0	(\$7.7)	(\$24.5)	(\$28.3)	(\$30.6)	(\$30.8)	(\$32.9)	(\$21.8)	\$0.0	(\$176.6)
OPEX - External Aggregate Supplement for Backfill	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
OPEX - Site overhead, G&A	\$0.0	\$0.0	(\$13.7)	(\$13.7)	(\$13.7)	(\$13.7)	(\$13.7)	(\$13.7)	(\$13.7)	\$0.0	(\$95.7)
<b>Total OPEX (M USD)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>(\$42.2)</b>	<b>(\$95.2)</b>	<b>(\$108.4)</b>	<b>(\$111.6)</b>	<b>(\$112.0)</b>	<b>(\$115.1)</b>	<b>(\$78.9)</b>	<b>\$0.0</b>	<b>(\$663.5)</b>
<b>Total REVENUE (M USD)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$116.2</b>	<b>\$494.1</b>	<b>\$566.3</b>	<b>\$441.5</b>	<b>\$379.6</b>	<b>\$362.3</b>	<b>\$181.4</b>	<b>\$0.0</b>	<b>\$2,541.5</b>
<b>Total OPEX (M USD)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>(\$42.2)</b>	<b>(\$95.2)</b>	<b>(\$108.4)</b>	<b>(\$111.6)</b>	<b>(\$112.0)</b>	<b>(\$115.1)</b>	<b>(\$78.9)</b>	<b>\$0.0</b>	<b>(\$663.5)</b>
<b>Total OPERATING CASHFLOW (M USD)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$74.0</b>	<b>\$398.9</b>	<b>\$457.9</b>	<b>\$329.9</b>	<b>\$267.6</b>	<b>\$247.2</b>	<b>\$102.5</b>	<b>\$0.0</b>	<b>\$1,878.0</b>
<b>Pre-Production CAPEX</b>											
CAPEX - Pre-Construction & Owner's Costs	(\$16.9)										(\$16.9)
CAPEX - Mine Access Road	(\$9.4)										(\$9.4)
CAPEX - Mine Site Surface Facilities	(\$36.8)	(\$36.8)									(\$73.6)
CAPEX - Surface Haulage Equipment		(\$9.9)									(\$9.9)
CAPEX - UG Capital Development		(\$8.1)	(\$13.9)								(\$22.0)
CAPEX - UG Equipment (Mobile & Fixed)	(\$2.7)	(\$21.0)	(\$23.3)								(\$47.0)
CAPEX - Ore Loading Dock (Cascade Point)	(\$6.1)	(\$6.1)									(\$12.3)
CAPEX - Indirects	(\$5.5)	(\$8.2)	(\$3.7)								(\$17.4)
CAPEX - Construction Mgmt	\$0.0	\$0.0	\$0.0								\$0.0
CAPEX - Contingency for Equipment	(\$0.4)	(\$4.6)	(\$3.5)								(\$8.5)
CAPEX - Contingency for Construction, UG Dev't, etc.	(\$18.7)	(\$14.8)	(\$4.4)								(\$37.9)
<b>Total Pre-Production CAPEX (M USD)</b>	<b>(\$96.6)</b>	<b>(\$109.4)</b>	<b>(\$48.9)</b>								<b>(\$254.8)</b>
<b>Sustaining CAPEX</b>											
SUSEX - UG Capital Development			(\$13.9)	(\$33.7)	(\$26.7)	(\$34.3)	(\$32.8)	(\$20.3)	(\$3.5)	\$0.0	(\$165.1)
SUSEX - UG Equipment (Mobile & Fixed)				(\$6.9)	(\$2.8)	(\$6.5)	(\$9.5)	(\$1.2)	\$0.0	\$0.0	(\$26.9)
SUSEX - Allowance for Capitalized Definition Drilling			(\$0.4)	(\$1.1)	(\$1.3)	(\$1.3)	(\$1.3)	(\$1.3)	(\$0.8)	\$0.0	(\$7.3)
SUSEX - Indirects			(\$1.4)	(\$4.2)	(\$3.1)	(\$4.2)	(\$4.4)	(\$2.3)	(\$0.4)	\$0.0	(\$19.9)
SUSEX - Contingency for Equipment			(\$0.2)	(\$1.7)	(\$0.9)	(\$1.6)	(\$2.1)	(\$0.5)	(\$0.1)	\$0.0	(\$7.0)
SUSEX - Contingency for UG Dev't and Drilling			(\$3.6)	(\$8.7)	(\$7.0)	(\$8.9)	(\$8.5)	(\$5.4)	(\$1.1)	\$0.0	(\$43.1)
<b>Total Sustaining CAPEX (M USD)</b>			<b>(\$19.5)</b>	<b>(\$56.2)</b>	<b>(\$41.7)</b>	<b>(\$56.7)</b>	<b>(\$58.5)</b>	<b>(\$30.9)</b>	<b>(\$5.8)</b>	<b>\$0.0</b>	<b>(\$269.3)</b>
<b>Grand Total CAPEX by year (M USD)</b>	<b>(\$96.6)</b>	<b>(\$109.4)</b>	<b>(\$68.4)</b>	<b>(\$56.2)</b>	<b>(\$41.7)</b>	<b>(\$56.7)</b>	<b>(\$58.5)</b>	<b>(\$30.9)</b>	<b>(\$5.8)</b>	<b>\$0.0</b>	<b>(\$524.1)</b>
<b>Closure</b>											
Closure & Reclamation Cost	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	(\$10.5)	(\$10.5)
Mobile Equipment Salvage Value	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4.0	\$4.0
<b>Total CLOSURE (M USD)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>(\$6.5)</b>	<b>(\$6.5)</b>
<b>Total ANNUAL PRE-TAX CASHFLOW</b>	<b>(\$96.6)</b>	<b>(\$109.4)</b>	<b>\$5.6</b>	<b>\$342.7</b>	<b>\$416.2</b>	<b>\$273.2</b>	<b>\$209.1</b>	<b>\$216.3</b>	<b>\$96.6</b>	<b>(\$6.5)</b>	<b>\$1,347.4</b>
<b>Cumulative Pre-Tax Cashflow (M USD)</b>	<b>(\$96.6)</b>	<b>(\$205.9)</b>	<b>(\$200.3)</b>	<b>\$142.4</b>	<b>\$558.6</b>	<b>\$831.8</b>	<b>\$1,040.9</b>	<b>\$1,257.2</b>	<b>\$1,353.9</b>	<b>\$1,347.4</b>	<b>\$1,347.4</b>
<b>Net Taxable Income</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$274.2</b>	<b>\$314.1</b>	<b>\$198.4</b>	<b>\$123.8</b>	<b>\$88.8</b>	<b>\$8.7</b>	<b>\$0.0</b>	
<b>Total TAX (M USD)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>(\$0.3)</b>	<b>(\$83.6)</b>	<b>(\$95.8)</b>	<b>(\$66.3)</b>	<b>(\$47.1)</b>	<b>(\$37.9)</b>	<b>(\$8.4)</b>	<b>\$0.0</b>	<b>(\$339.5)</b>
<b>TOTAL ANNUAL AFTER-TAX CASHFLOW (M USD)</b>	<b>(\$96.6)</b>	<b>(\$109.4)</b>	<b>\$5.3</b>	<b>\$259.1</b>	<b>\$320.4</b>	<b>\$206.9</b>	<b>\$162.0</b>	<b>\$178.4</b>	<b>\$88.2</b>	<b>(\$6.5)</b>	<b>\$1,007.8</b>
<b>Cumulative After-Tax Cashflow (M USD)</b>	<b>(\$96.6)</b>	<b>(\$205.9)</b>	<b>(\$200.6)</b>	<b>\$58.4</b>	<b>\$378.8</b>	<b>\$585.7</b>	<b>\$747.7</b>	<b>\$926.1</b>	<b>\$1,014.3</b>	<b>\$1,007.8</b>	<b>\$1,007.8</b>

## 22.8 Economic Analysis at Spot Gold Price (Upside Scenario)

As of the effective date of this report the spot gold price is approximately \$5,000/oz, significantly higher than the \$3,200/oz long-term gold price assumption utilized for the base case scenario.

The table below shows the economic analysis metrics for a “Spot Gold Price” upside scenario using a \$5,000/oz price assumption.

**Table 22-11: Summary of Project Financial Totals using Spot Gold Price**

Revenue	\$4,284.4	M USD
Initial CAPEX	(\$254.8)	M USD
LOM Operating Costs	(\$663.5)	M USD
Sustaining CAPEX & Closure Cost	(\$275.8)	M USD
Royalties Paid	(\$214.2)	M USD
<b>Pre-Tax Cashflow</b>	<b>\$2,876.1</b>	<b>M USD</b>
Taxes Paid	(\$756.5)	M USD
<b>After-Tax Cashflow</b>	<b>\$2,119.6</b>	<b>M USD</b>

**Table 22-12: Summary of NPV/IRR and Project Financial Metrics using Spot Gold Price**

Pre-Tax NPV <sub>5</sub>	\$2,128	M USD
Pre-Tax IRR	109%	
<b>After-Tax NPV<sub>5</sub></b>	<b>\$1,557</b>	<b>M USD</b>
<b>After-Tax IRR</b>	<b>91%</b>	
Avg NSR per tonne mined (net of royalty)	\$1,669	\$/metric tonne mined
LOM All-in Sustaining Cost (AISC)	\$1,498	US \$ per ounce payable
Pre-Production CAPEX per Ounce Payable	\$285	US \$ per ounce payable
Initial Capital Payback Period	0.8	years

## 23 ADJACENT PROPERTIES (Item 23)

There is one active claim block in close proximity to the New Amalga Gold Project area. A small three BLM claim block registered by Douglas Toland occurs 2 km south of the Property, adjacent to some private land. Springline Mining and Exploration Inc. dropped some claims within 1 km of the north of the Property in 2013.

## **24 OTHER RELEVANT DATA AND INFORMATION (Item 24)**

The authors are not aware of any other data that has material bearing on the New Amalga Gold Property.

## 25 INTERPRETATION AND CONCLUSIONS (Item 25)

### 25.1 Geology and Exploration

The New Amalga Gold Project is located in the heart of the historic Juneau Gold District, SE Alaska. Mineralization at the property consists of mesothermal quartz-carbonate-gold-base metal veining and is typical to that seen throughout the district. The principal veins have been named from south to north and are the Deep Trench (and splays including Lake Vein), Main, Ridge, Sleeping Giant and Goat veins. Minor veins include the Floyd, North, and Ridge, plus hangingwall equivalents. The principal veins strike N80E and dip steeply to the north. The cumulative strike length of all mapped veins at present is over 3,700 m. Drilling at the New Amalga Gold Project has been used to define an Indicated and Inferred mineral resource along a portion of the Goat, Main and Trench veins (and associated splays).

The New Amalga Gold Project mineralization conforms to a model of orogenic-mesothermal gold mineralization and that such systems in Alaska have potential to develop economically recoverable resources. Work to date has made good progress in identifying mineralized continuity of the Goat, Ridge, Main and Deep Trench veins along a strike lengths of 700 m, 700 m, 840 m and 860 m along strike respectively and down dip extents from surface (mean 50 to 150 m AMSL) down to elevations as deep as -470 m (470 m below sea level). No geological evidence has been found to limit the down dip extension of these veins.

The Goat Vein offers a strong potential for additional resources and four more minor veins are not well tested. Additional vein exposures recently exposed by the retreating Herbert Glacier north of the Goat Vein as well as other east-west trending structures identified in the LiDAR survey suggests substantial additional undocumented potential exists.

This resource estimate is strongly influenced by high-grade shoots along the veins which is not atypical for these types of orogenic gold deposits.

### 25.2 Project Development

This PEA proposes a selective underground mine utilizing ore sorting at the mine site combined with an offsite-processing strategy. The study results are positive, showing an after-tax NPV<sub>5</sub> of \$721M and an after-tax internal rate of return (IRR) of 56% at the base case gold price assumption of \$3,200/oz.

The QP makes the following assessments and conclusions regarding the viability and risk level of various aspects of the project:

- The project is located in a stable jurisdiction (Alaska, USA) and will have direct road access to a regional mining hub (City of Juneau). Jurisdictional risk and logistics challenges are expected to be low.
- The underground mining plan utilizes conventional selective mining methods. These methods are very similar to those in use by other mines in the area and will be familiar to the local mining workforce. The

targeted production rate is within the typical range for other mines utilizing these methods and is appropriate relative to the size of the deposit.

- The relatively shallow depth of the deposit enables access via a short decline instead of requiring a shaft. This simplifies underground operations and reduces risk.
- Geotechnical conditions require further investigation but available data does not indicate a high risk to achieving the mine plan. The limited degree of available hydrogeological information for the site is a risk, and the hydrogeological conditions require significant further investigation in order to define the expected quantity of groundwater inflows and prepare for their mitigation (see Section 26.2).
- Workforce recruitment may be aided by the relatively close proximity of the project to the City of Juneau, in comparison to other regional mines which require either very long daily commutes or rotational stays at an onsite personnel housing camp.
- The project intends to utilize sensor-based ore sorting to remove waste dilution and increase the gold grade of the mined material prior to transport. This reduces logistics costs and increases gold payability under the indicative offtake terms, but incurs some metal loss. The QP assesses that lower-than-expected ore sorter performance is a risk, but not a critical one since if the ore sorter was bypassed and not utilized then the small additional metal content of product shipments would meaningfully offset the increased transportation cost and reduced payability, and project economics would still be positive. Ore sorting is thus an enhancement to the project strategy rather than a critical feature. The ore sorter testwork has shown very positive results but to date has been limited in scope, and additional testwork would further define sorter performance (see Section 26.3)
- Truck haulage rates from the minesite to the barge dock are within industry norms, and daily volumes are significantly less compared to other metal mines in Alaska and the lower-48 United States which truck material longer distances to offsite processing facilities.
- Minesite haulage benefits from full loads moving downhill and returning empty trucks moving uphill.
- The Project is dependent on continued partnership and cooperation with Goldbelt Incorporated, a third-party entity, for access to their private property (Cascade Point) for development of a barge dock. The Project is not dependent on further development of the site by the State of Alaska.
- The Project is dependent on third-party deepwater port facilities for transferring product from the coastal barges to trans-oceanic bulk vessels. Multiple such port facilities exist in the region, avoiding single-location risk.
- The Project is pursuing a diversified set of potential product offtakes to mitigate single-site and single-country risk as appropriate given the current volatility of international trade and tariff policies. Potential deleterious element penalties are a risk which requires further investigation but available information indicates they are likely to be minor and nonmaterial for overall project economics under the base case

smelter processing pathway. The QP recommends continued investigation of all potential processing pathways, and notes that significantly higher gold payabilities and potential for reduced transportation costs might be achieved by instead sending the material to a regional facility for CIP/CIL leaching and refining into doré bars. This has the potential to significantly enhance project cashflows and NPV. Such facilities exist within the region, however their availability has been constrained by various factors and as of the effective date of this study the project has not received indicative commercial terms for such processing nor conducted metallurgical testing for any specific CIP/CIL flowsheet used by a third-party facility.

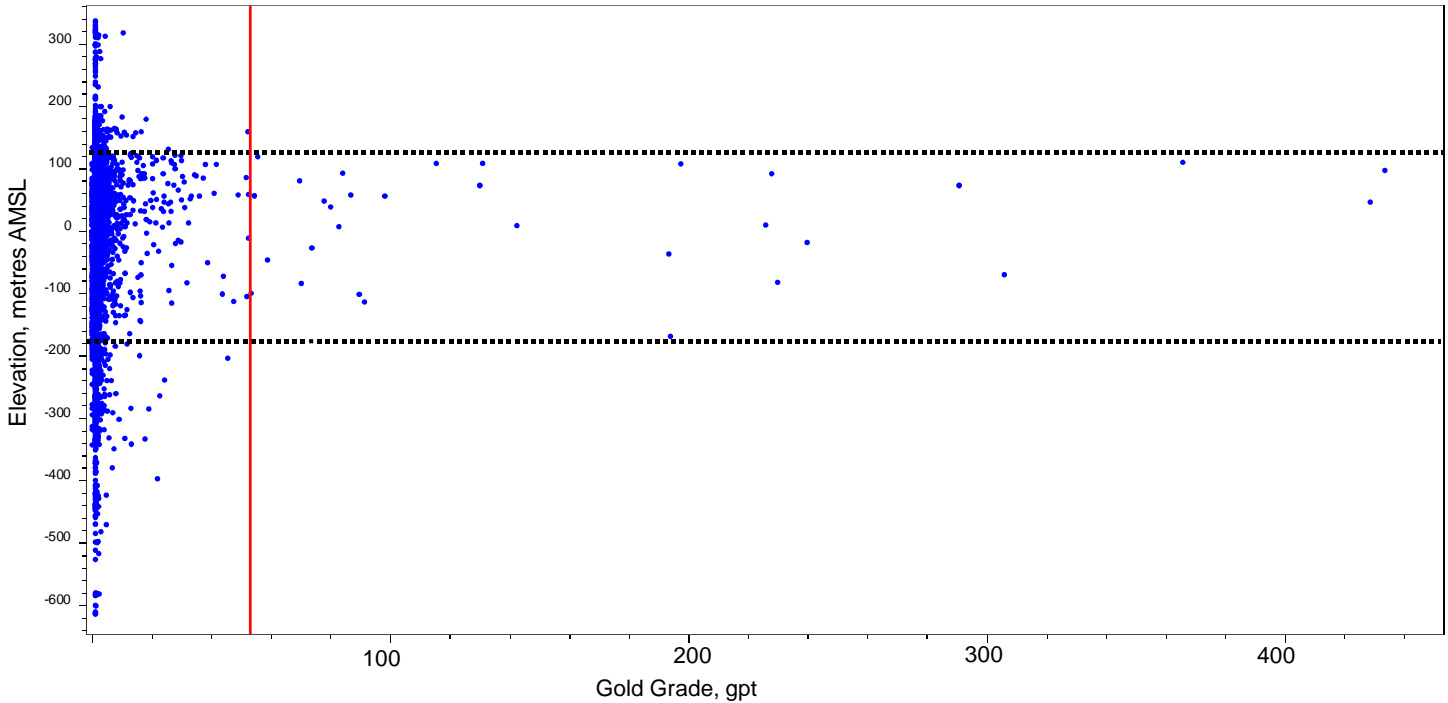
- The Project configuration utilizing off-site processing means that no tailings storage facility is required at the site and also enables all waste rock stockpiles to be placed underground as backfill. This greatly reduces the Project's surface footprint acreage and potential environmental impacts in comparison to a conventional mine with on-site processing and tailings storage. The QP assesses that this should significantly simplify the regulatory approval process in comparison to similar-sized mining projects which involve onsite processing.
- Social risks of the project are anticipated to include potential community concerns regarding truck traffic and impacts to the nearby Herbert Glacier hiking trail. These risks are mitigated by pausing trucking on summertime weekends and holidays and utilizing terrain and vegetation to minimize visibility of mine facilities from the hiking trail.

The following chapter provides recommendations to mitigate project-specific risks and prepare for future, more detailed phases of study as well as the regulatory approval process.

## 26 RECOMMENDATIONS (Item 26)

### 26.1 Future Exploration Programs

An examination of the assays and composites reveals that there may be an influence of gold grades to elevation above mean sea level.



**Figure 26-1: All raw assays vs Elevation in metres AMSL showing all assays >52 gpt occur between -180m and +128m AMSL**

This may be real, or a function of data density.

An exploration program designed to increase resources and improve definition is proposed. Additional targets in the mineralized veins focusing on elevations between +128 m and -180 m is recommended. The total cost of the program is dependent upon on-going success, and the location of drill platforms, as such a significant contingency cost is included. Specific targets would be to:

- a. Deep Trench Vein in the central portion of the vein below -100 m AMSL.
- b. Main Vein in the central portion of the vein below -150m AMSL, and the western portion of the vein up to and into the metasediments.
- c. The Ridge Vein in its shallow portion of the eastern portion.
- d. The Sleeping Giant Vein below -175m AMSL from the central to western edge.

- e. The Goat Vein below -140 m AMSL there is a 250 m long area with no drilling bound by higher grade intercepts that should be tested.
- f. The Goat Hangingwall vein should be tested with shallow holes near the centre of the vein.
- g. All western drill holes should penetrate the metasediments, specifically where vein projections occur.
- h. General prospecting and sampling within the metasedimentary terrain where possible, south of the Deep Trench Vein focusing on the Floyd and Elusive veins, and on LiDAR lineaments is recommended.
- i. Prospecting to the north of the Goat Vein should continue to identify additional veins for follow-up, and drill platforms for those veins can be extended to get deeper cuts on the Goat and potentially Main Vein and their respective splays.
- j. Additional specific gravity analyses should be completed to increase the database, incorporating wall rock as well as vein material.

**Table 26-1: Proposed budget and work program to continue to expand New Amalga Gold Project resources**

Item	Description	Cost (\$US)
<b>Phase One</b>		
Drilling	Further expansion in 10 to 20 drill holes, plus pad construction	\$1,500,000
Prospecting	Expand north and south of the known mineralization	\$100,000
Miscellaneous	Administration, support, G&A	\$200,000
<b>Subtotal</b>		<b>\$1,800,000</b>
<b>Phase Two</b>		
Drilling	Conditional upon success in Phase One	\$1,100,000
Contingency		\$150,000
<b>Subtotal</b>		<b>\$1,250,000</b>
<b>Total</b>	<b>Assuming success in Phase One</b>	<b>\$3,050,000</b>

The contingency includes immediate follow-up drill capacity to minimize mobilization and set-up costs. These drill holes would not be drilled if the initial drill holes did not support immediate follow-up.

## 26.2 Geotechnical and Hydrogeological Investigation

A combined geotechnical and hydrogeological drilling investigation is proposed to address data gaps and provide inputs to mine planning, as well as to inform regulatory submissions for the environmental review and permitting process. The investigation would consist of drilling, geotechnical core logging, hydraulic packer testing to establish both the hydraulic properties of the rock mass and any major structures, and hydrogeological instrument installation consisting of vibrating wire piezometers (VWPs) to monitor seasonal changes in groundwater levels. Results from this investigation will inform hydrogeological modelling for estimating groundwater inflows and refine geotechnical parameters for mine design, such as crown pillar size.

A total of twelve HQ3 boreholes are proposed. Five of these boreholes would undergo packer testing and VWP installation. Grande Portage has filed for drill permits and received approval from the US Forest Service to conduct this work.

**Table 26-2: Estimated cost of geotechnical and hydrogeological field investigation**

Item	Description	Cost (US\$)
Drilling	12 holes (incl helicopter support & assays)	\$900,000
Hydrogeological and geotechnical work	Packer testing and piezometer installation on 5 holes, geotechnical logging of 12 holes, modelling and analysis based on data collected	\$800,000
Miscellaneous	Administration, support, G&A	\$100,000
Contingency		\$200,000
<b>Total</b>		<b>\$2,000,000</b>

### 26.3 Ore Sorting, Metallurgy, and Offtake

Additional ore sorting variability testing is proposed to further define the proportion of sorter mass rejection and gold loss at varying feed ratios of vein material versus wall rock waste, as well as to further test the sorter performance with feed of varying grades. Focused spatial variability testing would also define sorter behavior with feed from specific areas of the deposit versus the “mine-wide” blend previously tested.

Separately, the project has received indicative offtake terms involving processing of the sorted material at overseas smelters, as discussed in Chapter 19. These terms are competitive and were used as the basis for the economic analysis in this study. The QP recommends continued investigation of all potential processing pathways, and notes that significantly higher gold payabilities and potential for reduced transportation costs might be achieved by instead sending the material to a regional facility for CIP/CIL leaching and refining into doré bars. This has the potential to significantly enhance project cashflows and NPV. Such facilities exist within the region, however their availability has been constrained by various factors and as of the effective date of this study the project has not received indicative commercial terms for such processing.

If this processing option becomes available, it would require additional metallurgical testing with parameters aligned to the flowsheet of the individual facility. Appropriate samples for this work are already on-hand at the metallurgical lab. The estimated cost of this testwork is shown below.

**Table 26-3: Estimated cost of additional ore sorter and metallurgical testwork**

Item	Description	Cost (US\$)
Additional Ore Sorter Testwork	Sample selection, core retrieval, sorter testing, and assays	\$80,000
Metallurgical Testing for Alternative Processing Pathways	Sample prep, comminution testing, gravity testwork, leaching testwork, tailings characterization, assays	\$70,000

## 26.4 Mine Plan Definition Drilling

The mine plan described in this Preliminary Economic Assessment relies on resources of both indicated and inferred classification. Inferred-class material, which contributes approximately 29% of the gold ounces shipped in the PEA production plan, does not have adequate resource confidence to be included in a Pre-Feasibility Study (PFS). A definition drilling program is proposed for the areas of inferred-class resource which are included in the PEA production plan to achieve the drill spacing necessary for upgrade to Indicated classification, and thus potentially eligible for inclusion in a PFS production plan.

Estimated costs of this program are shown below. The program shown is split into two phases, with “Phase 1” targeting the areas of inferred resource which are higher-grade or more impactful to the PEA production plan, while “Phase 2” targets areas which are lower-grade or deeper. If future PFS-level study determines that not all of this inferred resource is necessary to achieve targeted production economics, portions of this program (particularly “Phase 2”) could be deferred until after mine construction in order to be conducted from underground drill platforms at lower cost.

**Table 26-4: Estimated cost of inferred resource definition drilling program**

Item	Description	Cost (US\$)
Phase 1 Definition Program	32 holes (incl helicopter support & assays)	\$1,800,000
Phase 2 Definition Program	18 holes (incl helicopter support & assays)	\$1,500,000
Miscellaneous	Administration, support, G&A	\$200,000
Contingency		\$400,000
<b>Total</b>		<b>\$3,900,000</b>

## 26.5 Pre-Feasibility Study (PFS)

After completion of a PEA, the next level of 43-101 study is a pre-feasibility study (PFS). This involves a significantly higher level of engineering detail, higher resource confidence requirement, more precise cost estimates, more detailed modelling of deleterious elements, and typically numerous trade-off studies to ensure the project configuration and facilities are optimized.

The estimated costs for completing a pre-feasibility study for the New Amalga project are shown below. The cost could vary significantly depending on the number of trade-off studies identified and performed.

**Table 26-5: Estimated cost of pre-feasibility study**

Item	Cost (US\$)
Resource Update, Deleterious Elements Model, Structural Geology & Geotechnical Modelling, Analysis	\$300,000
Mine Design & Tradeoff Analysis, Production & Development Scheduling	\$350,000
Infrastructure Engineering & Tradeoffs	\$250,000
Cost Estimation	\$200,000
Project Management, Reporting, Miscellaneous	\$100,000
Contingency	\$200,000

<b>Total</b>	<b>\$1,400,000</b>
--------------	--------------------

## 26.6 Environmental Studies & Permitting

A significant number of environmental studies have already been completed, as described in Chapter 20. Cost estimates for further study work identified as being necessary for permitting and the NEPA environmental review process are shown below. Note that this table excludes the cost of the hydrogeological investigation drilling and modelling, which is relevant for permitting but is already detailed in the previous subsections.

**Table 26-6: Estimated cost of environmental studies & permitting**

<b>Item</b>	<b>Cost (US\$)</b>
Water quality sampling, geochemical/ARD characterization, site water balance & modelling	\$400,000
Wetlands, soils, sensitive/invasive plants, fish and wildlife studies	\$300,000
Meteorological data collection stations, emissions modelling, air permitting process	\$750,000
Archeological surveys; cultural, subsistence use, traffic, and socioeconomic assessments; community & governmental engagement	\$300,000
NEPA Reports, Plan of Ops, Risk Management Plans, EIS Contractor, Permit Submissions, Regulatory Agency Cost Recovery	\$600,000
Management, Coordination, Miscellaneous	\$250,000
Contingency	\$250,000
<b>Total</b>	<b>\$2,850,000</b>

## 27 REFERENCES (Item 27)

- Barnett, J.C., and Miller, L.D., 2003, ARDF report for the Juneau Quadrangle. USGS Open File Report 03-456, 587 p.
- Dupre D.G. and Webb, D.R., 2013. Technical Report on the Herbert Gold Project, Juneau District, Southeast Alaska.
- Gehrels, G.E. and Berg, H.C. 1992. Geologic map of Southeastern Alaska. USGS Miscellaneous Investigation Series Map 1-1867. 1:600,000 map sheet and accompanying booklet 24p.
- Gehrels, G.E. and Berg, H.C. 1994, Geology of southeastern Alaska, in: Plafker, G. and Berg, H.C. eds. The Geology of Alaska, Geological Society of America, The Geology of North America, v. G-1.
- Groves, D. I., Goldfarb, R. J., Robert, F., Hart, C. J. R., 2003, Gold Deposits in Metamorphic Belts: Overview of Current Understanding, Outstanding Problems, Future Research, and Exploration Significance. Economic Geology 98: 1-29.
- Goldfarb, R.J., Miller, L.D., Leach, D.L., and Snee, L.W, 1997, Gold deposits in metamorphic rocks in Alaska, in Goldfarb, R.J., and Miller, L.D., eds., Mineral Deposits of Alaska: Economic Geology Monograph 9:151-190.
- G & T Metallurgical Services, Ltd., 2011. Metallurgical testing report on the Herbert Glacier Project, dated March 15, 2011. Internal report, 49 p.
- Hawley Resource Group, 2007 to 2011. Digital data files of sampling and assay results, aerial photography and geologic mapping at 1:2200 at Herbert Glacier Project.
- Light, T.D., Brew, D.A., and Ashley, R.P., 1989, Gold deposits in metamorphic rocks. USGS Bulletin 1857D 27- 36.
- Moerlein, G.A., 1986, Preliminary summary report Herbert Glacier, Juneau, Alaska. Internal report, 17 p.
- Moerlein, G.A., 1988, 1988 diamond drilling, Herbert Vein - Juneau, Alaska. Internal report, 38 p.
- Redman, E.C., Maas, K.M., Kurtak, J.M., and Miller, L.D., 1989, Bureau of Mines Mineral Investigations in the Juneau Mining District, Alaska, 1984-1988, Volume 2--Detailed mine, prospect, and mineral occurrence descriptions, Section D, Juneau Gold Belt Subarea: U.S. Bureau of Mines Special Publication, 424 p.
- Van Wyck, N. and Burnett, W., 2012. Technical Report on the Herbert Glacier Gold Property, Southeast Alaska. Internal corporate report, Grande Portage Resources Ltd. and Quaterra Resources Inc.

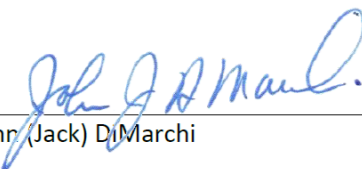
## **28 APPENDIX A: QP Certification Letters**

## Certificate of Qualifications

I, John (Jack) DiMarchi, CPG, PG hereby certify that:

- 1) I am a consulting geologist in the role of Principal Consultant with Core Geoscience an Alaska-registered Limited Liability Company which I operate to provide mine planning and regulatory services, with a business address at 5210 S. Mountain Terrace Way, Port Angeles, WA 98362, USA
- 2) I am a graduate of Colorado State University (1978) in Geology (B.Sc.)
- 3) I am a registered Certified Professional Geologist (#9217) in good standing with the American Institute of Professional Geologist for the last 30 years, and a Registered Professional Geologist (#403) in good standing in the State of Alaska for the last 30 years.
- 4) I have practiced my profession for 40 years. This includes 17 years as an industry economic geologist, 5 years as Large Mine Coordinator for the State of Alaska Department of Natural Resources, and 18 years as an industry consultant focused on mine geology, planning and permitting.
- 5) I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirement to be a "qualified person" for the purposes of NI 43-101.
- 6) I am responsible for Sections 1.6, 20, and 26.6 of this technical report "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" with an effective date of February 11, 2026, prepared for Grande Portage Resources Ltd. (the "Technical Report").
- 7) I visited the property on November 11, 2025.
- 8) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
- 9) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of Grande Portage Resources Ltd as independence is described in Section 1.5 of NI 43-101.
- 10) I consent to the filing of the Technical Report with any stock exchange or other regulatory Authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, provided that I am given the opportunity to read the written disclose before filed to ensure its authenticity.
- 11) I have read this document entitled "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" with an effective date of February 11, 2026.

Dated this 11<sup>th</sup> day of February 2026

  
John (Jack) DiMarchi

"signed"

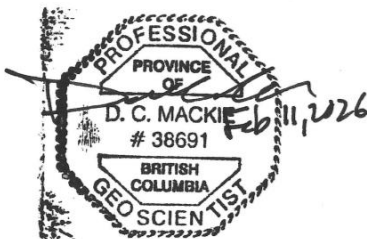


## Certificate of Qualifications

I, Daniel Carl Mackie, P.Ge. (BC), Hydrogeologist, do hereby certify that:

1. I am a Principal Consultant/Practice Leader in the Canada GeoEnvironmental business unit of SRK Consulting (Canada), 2600 – 320 Granville Street Vancouver, British Columbia, V6C 1S0.
2. This certificate applies to the technical report titled "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" (the "Technical Report") with an effective date of February 11, 2026.
3. I graduated with a Bachelor of Science, Geology, from the University of Massachusetts at Amherst in 1997 and a Master of Science, Earth Sciences (Hydrogeology), from Simon Fraser University in 2002. I am a member in good standing with Engineers and Geoscientists BC, License # 38691. I have worked in my profession for a total of 23 years since my graduation from university, including 22 years with SRK Consulting (Canada) Inc. in North America and other areas of the world completing technical studies to support hydrogeology aspects of mine designs.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I have not visited the New Amalga property, but one of SRK's Senior Consultants – Rock Mechanics has..
6. I am responsible for Section 16.3 of the technical report "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA MINE PROJECT" prepared for Grande Portage Resources Ltd.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of Grande Portage Resources Ltd as independence is described in Section 1.5 of NI 43-101.
9. I have not had prior involvement with the property that is the subject of the Technical Report.
10. I consent to the filing of the Technical Report with any stock exchange or other regulatory Authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, provided that I am given the opportunity to read the written disclose before filed to ensure its authenticity.

Dated this 11<sup>th</sup> day of February 2026



Daniel Mackie P.Ge. (BC)

Professional Geoscientist, Province of British Columbia

## Certificate of Qualifications

I, Kyle Mehalek, PE hereby certify that:

1) I am a consulting engineer in the role of Principal Consultant with OreLogic LLC, a Colorado-registered Limited Liability Company which I operate to provide mine planning and development services, with a business address at 110 16th Street, Suite 1460, Denver, CO, 80202, USA

2) I am a graduate of:

- Colorado School of Mines (2009) in Mining Engineering. (B.Sc.)
- Colorado School of Mines (2010) in Mining and Earth Systems Engineering (M.Sc.)

3) I am a registered Professional Engineer in good standing with the State of Colorado, license # 48235.

4) I have worked in mine planning and development for over 15 years since graduation from university. I have work experience in Colorado, Arizona, Minnesota, and multiple regions of Alaska. Specific experience with underground metal deposits has included:

- From 2010 to 2014 I was employed by Sumitomo Metal Mining at the Pogo Gold Mine near Delta Junction, Alaska. This underground mine produced gold utilizing selective mining methods from a quartz vein-hosted deposit. In this capacity I was responsible for short and long range mine planning, reserves determination, ventilation engineering, and utilities/infrastructure engineering.
- From 2014 to 2016 I was employed by Freeport McMoRan at the Henderson Mine near Empire, Colorado. This underground mine produced molybdenum utilizing bulk underground mining methods. In this capacity I was responsible for planning and execution of mine development activities.
- From 2016 to 2017 I was employed by Rio Tinto at the Resolution Project near Superior, Arizona. This study-stage project was proposed to produce copper and molybdenum utilizing bulk underground mining methods. In this capacity I was responsible for mine development design, infrastructure planning, and coordination of engineering and feasibility studies.
- From 2017 to 2021 I was employed by Hecla Mining at the Greens Creek Mine near Juneau, Alaska (located appx 48km from the New Amalga project which is the subject of this report). This underground mine produced silver and other metals using selective mining methods. In this capacity I was responsible for short and long range mine planning, reserves determination, utilities/infrastructure engineering, equipment selection, capital budgeting, and supervision of the engineering department as Chief Engineer.
- From 2021 to 2023 I was employed by Talon Metals Inc advancing the Tamarack Nickel Project near Duluth, Minnesota. This study-stage project was proposed to produce nickel and copper utilizing selective and bulk underground mining methods. In this capacity I was responsible for overseeing all engineering and planning studies for mining, infrastructure, logistics, and processing as Vice President-Engineering and Chief Technical Officer.

- From 2023 to present I have been employed as Principal Consultant for OreLogic LLC, an entity which I control and which provides mine planning and development consulting services to the metals mining industry.

5) I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirement to be a "qualified person" for the purposes of NI 43-101.

6) I am responsible for Sections 1 (except for 1.3, 1.6 and 1.7), 2, 3, 4, 5, 13, 16 (except for 16.2 and 16.3), 17, 18, 19, 22, 25.2, and 26 (except for 26.1 and 26.6) of this technical report "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" with an effective date of February 11, 2026, prepared for Grande Portage Resources Ltd. (the "Technical Report").

7) I have visited the property on several occasions including January 9, 2025, March 18, 2025, June 10-12, 2025, and November 11, 2025. I also visited the core shack on January 7-8, 2025.

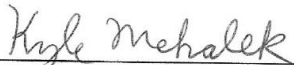
8) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of Grande Portage Resources Ltd as independence is described in Section 1.5 of NI 43-101.

10) I consent to the filing of the Technical Report with any stock exchange or other regulatory Authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, provided that I am given the opportunity to read the written disclose before filed to ensure its authenticity.

11) I have read this document entitled "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" with an effective date of February 11, 2026.

Dated this 12 Day of February, 2026

  
\_\_\_\_\_  
Kyle Mehalek, PE

"signed"

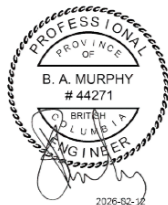


## Certificate of Qualifications

I, Bruce Andrew Murphy, P. Eng., do hereby certify that:

1. I am Principal Consultant/Practice Leader, Mining Rock Mechanics of SRK Consulting (Canada), 2600 –320 Granville Street Vancouver, British Columbia, V6C 1S0.
2. This certificate applies to the technical report titled “PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT” with an Effective Date of February 11, 2026 (the “Technical Report”).
3. I graduated with a degree in MSC Eng. Mining from Witwatersrand in 1996. In addition, I am a member in good standing of Engineers and Geoscientists BC, License # 44271. I am also a registered engineer in Ontario, Manitoba, Northwest Territories and Nunavut, and Newfoundland and Labrador. I have worked in my profession for a total of 35 years since my graduation from university. I have 13 years operational experience in Southern Africa and 22 years’ experience in the consulting field (SRK Consulting) in North America and other areas of the world.
4. I have read the definition of “qualified person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
5. I have not visited the property, but one of SRK’s Senior Consultants – Rock Mechanics has.
6. I am responsible for Section 16.2 of this technical report “PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT” prepared for Grande Portage Resources Ltd.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of Grande Portage Resources Ltd as independence is described in Section 1.5 of NI 43-101.
9. I have not had prior involvement with the property that is the subject of the Technical Report.
10. I consent to the filing of the Technical Report with any stock exchange or other regulatory Authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, provided that I am given the opportunity to read the written disclose before filed to ensure its authenticity.

Dated this 11<sup>th</sup> of February 2026




Bruce Murphy, M.Sc Eng, FSAIMM, PEng

I, Sterling K. Watson, P.Eng., do hereby certify that:

1. I am currently employed as Principal Consulting Mining Engineer with RESPEC Company, LLC, 210 South Rock Blvd, Reno, Nevada 89502, USA.
2. I am a graduate of Queen's University with a B.Sc. Engineer of Mines degree, 2000. I have practiced my profession continuously since 2000.
3. I am a Registered Professional Mining Engineer in good standing with Engineers and Geoscientists of British Columbia, Canada (EGBC) (#29784), the Professional Engineers of Ontario, Canada (PEO) (#100042278), and the Engineers Yukon, Canada (#1514). I am a member of the Society for Mining, Metallurgy, and Exploration, Inc. (SME), Canadian Institute of Mining, Metallurgy, and Petroleum (CIM), Canadian Dam Association (CDA), and the Australasian Institute of Mining and Metallurgy (AusIMM).
4. I have worked in mine planning, technical, operations, and management positions at mines in Canada, Sierra Leone, Burkina Faso, the United States of America, Chile, and Pakistan. I have completed or managed employees completing reserve estimates for gold, copper, Molybdenum, and Iron Ore deposits during the past 25 years of my professional career.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I visited the New Amalga Gold Project site on November 11, 2025.
7. I am responsible for Section 1.7 and Section 21 of the technical report "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" with an effective date of February 11, 2026, prepared for Grand Portage Resources Ltd. (the "Technical Report").
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of Grand Portage Resources Ltd and all of its affiliates and subsidiaries, and the New Amalga Property, as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.

10. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the New Amalga project or securities of Grand Portage Resources Ltd.
11. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the technical report not misleading.
12. I consent to the filing of the Technical Report with any stock exchange or other regulatory Authority and any publication by them, including electronic publications in the public company files on their websites accessible to the public, provided that I am given the opportunity to read the written disclosure before filed to ensure its authenticity.
13. I have read this document entitled "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" with an effective date of February 11, 2026.

Dated this 13 day of 02, 2026.

  
Sterling Keith Watson, P. Eng.  
RESPEC COMPANY, LLC. Reno, Nevada



## Certificate of Qualifications

I, Dave R. Webb, Ph.D., P.Geol., P.Eng. (Lic 601, NAPEG), hereby certify that:

- 1) I am a consulting geologist with a business address at 6120 185A St., Surrey, B.C., V3S 7P9
- 2) I am a graduate of:
  1. the University of Toronto (1981) in Geological Engineering. (B.A.Sc. (Engineering))
  2. Queen's University (1983) in Geological Sciences. (M.Sc.)
  3. The University of Western Ontario (1992) in Geological Sciences. (Ph.D.)
- 3) I am a registered Professional Geologist in good standing with the Association of Professional Engineers and Geoscientists of the Northwest Territories (NAPEG) (L601) and the Association of Professional Engineers and Geoscientists of the Province of British Columbia (APEGA) (49744) and a registered Professional Engineer in good standing with the Association of Professional Engineers and Geoscientists of the Northwest Territories (NAPEG) (L601).
- 4) I have worked as a geologist for over 40 years since graduation from university. I have work experience in Canada, the United States of America, Mexico, Asia, Europe and Africa. Specific experience with mineralization and resource estimation in lode gold deposits has been:
  1. From 1981 to 1986 I was employed part-time by Cominco at the Con Mine in Yellowknife (a lode gold deposit) as a research geologist and production geologist. In this capacity I did reconciliation and reserve forecasts (resource estimation).
  2. My education (item 2; above) included an M.Sc. on structural and stratigraphic controls on gold mineralization at the Con Mine (an orogenic gold deposit, and a Ph.D. on controls on gold mineralization in Yellowknife (an orogenic gold camp with over 14 million ounces of past production).
  3. I staked and vended the Nicholas Lake property and participated in its development to be the largest granite-hosted gold orogenic deposit in the Northwest Territories.
  4. I purchased the Mon Property from Cominco Ltd in 1988 and discovered the down-dip extension of the high-grade A-Zone, completed the ore reserves and with financial and operational support, brought the mine into production. It operated profitably for seven years.
  5. I staked and vended the Discovery Project, and then lead the team as a director and later as CEO to the discovery and development of the Ormsby Zone.
  6. As a consultant, I completed the ore reserve portion of a Feasibility Study (with Cominco Engineering Ltd.) on the orogenic Bumbat Gold Mine in Mongolia.
  7. As CEO, I targeted and then developed with my team, the Clan Lake Main Zone, an orogenic gold deposit in the Yellowknife Gold Belt.
  8. As owner, I completed a re-evaluation of the past-producing Mon Gold Mine and identified additional potential. I obtained all permits and licenses needed to recommence mining on a limited basis, making this the most recently permitted orogenic gold deposit in the Northwest Territories.

9. I completed a Mineral Resource Estimate for clients on orogenic gold deposits in Tanzania and the USA.

10. I completed earlier Mineral Resource estimates for, and then completed an updated report for Grande Portage on the Herbert Gold Project, the topic of this report.

5) I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirement to be a "qualified person" for the purposes of NI 43-101.

6) I am responsible for Sections 1.3, 6, 7, 8, 9, 10, 11, 12, 14, 23, 25.1, and 26.1 of the technical report "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA MINE PROJECT" and dated February 11, 2026, prepared for Grande Portage Resources Ltd. (the "Technical Report"). I was coauthor of a previous technical report on this property in 2013, and authored the previous reports on this property in 2019 and in 2021.

7) I visited the core shack and property on February 26-28, 2018 and subsequently also visited the property on July 31 to August 3, 2021 and again on November 11, 2025.

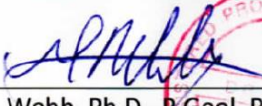
8) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of Grande Portage Resources Ltd as independence is described in Section 1.5 of NI 43-101.

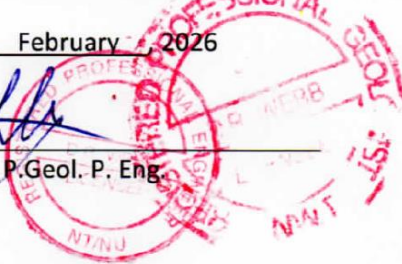
10) I consent to the filing of the Technical Report with any stock exchange or other regulatory Authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, provided that I am given the opportunity to read the written disclose before filed to ensure its authenticity.

11) I have read this document entitled "PRELIMINARY ECONOMIC ASSESSMENT FOR THE NEW AMALGA GOLD PROJECT" with an effective date of February 11, 2026.

Dated this 13 day of February, 2026

  
\_\_\_\_\_  
Dr. D.R. Webb, Ph.D., P.Geol. P. Eng

"signed"



## 29 APPENDIX B: Glossary of Terms and Abbreviations

### Glossary of Technical Terms

Adit – common mining term for a horizontal to sub–horizontal tunnel driven into a hillside to access an ore body.

Agglomerate – a volcanic rock consisting of fragments of *pyroclastic* rocks more than 2 cm in size.

Alkaline – a term applied to igneous rocks which are characterised by relatively high concentrations of sodium and potassium.

Alluvial – deposits of sediment, usually sand and gravel transported and deposited by a river.

Argillaceous rocks – a group of detrital, fine grained, sedimentary rocks subdivided into silt grade (particle size range 1/16 to 1/256 mm) and clay grade (particle size < 1/256 mm).

Arsenide – a mineral formed by the combination of arsenic with another chemical

Barite – a white, yellow or colourless mineral, BaSO<sub>4</sub>. The principal ore of barium used in paints, drilling muds and as filler for paper and textiles. Syn: baryte, barytes.

Basic – describes an igneous rock with relatively low silica content (between 45–52% SiO<sub>2</sub>). Basic rocks are relatively rich in iron, magnesium and calcium and thus include most mafic rocks.

Beneficiation – the process of concentration of the valuable components of an ore or other mineral commodity. Commonly includes multiple stages such as crushing, grinding, washing, screening, flotation, roasting, etc.

Breccia – a rock that has been mechanically, hydraulically or pneumatically broken into angular fragments and re–cemented

Bulk Leach Extractable Gold - more commonly shortened to BLEG is a [geochemical](#) sampling/analysis tool used during exploration for [gold](#). It was developed in the early 1980s to address concerns relating to the accurately measuring fine grained gold, and dealing with problems associated with sample heterogeneity.

Calcite – a very common rock forming mineral comprising calcium, carbon and oxygen (CaCO<sub>3</sub>).

Cenozoic Era – period of geological time extending from 65 million years ago to the present.

Chert – sedimentary rock that is ultra–fine grained and composed almost entirely of silica. May be of organic or inorganic origin.

Core strategy: sets out the long-term spatial vision for the local planning authority area, the spatial objectives and strategic policies to deliver that vision. The core strategy will have the status of a *development plan document*.

Cretaceous – period of geological time from 142 to 65.5 million years ago. Marks the end of the *Mesozoic Era*.

Devonian – period of geological time from 417 to 354 million years ago.

Electrolytic – the process of extracting metal based on passing an electric current through a solution containing dissolved metals, causing the metals to be deposited on the cathode.

Extrusive – describes igneous rocks that have been formed by solidification of magma on or above the Earth's surface.

Felsic – In modern usage, the term felsic rock, although sometimes used as a synonym, refers to a high-silica-content (greater than 63% SiO<sub>2</sub> by weight) volcanic rock, such as rhyolite. In order to be classified as felsic, it generally needs to contain >75% felsic minerals; namely quartz, orthoclase and plagioclase. Rocks with greater than 90% felsic minerals can also be called *leucocratic*, meaning 'light-colored'.

Footwall – the name given to the host rock of an ore deposit that is physically below the ore deposit.

Gangue – the undesirable or unwanted minerals in an ore deposit.

Graben - An elongated block of the earth's crust lying between two faults and displaced downward relative to the blocks on either side, as in a rift valley.

Hangingwall – the name given to the host rock of an ore deposit that is physically above the ore deposit.

Highwall mining – mining method used to maximize the output of an open-pit coal mine. Remotely operated cutting or boring machines are used to penetrate the coal seam at the foot of the highwall (the final wall in an open-pit) to extract coal.

Hydrometallurgy – the treatment of ores by wet processes, resulting in the dissolution of a particular component and its subsequent recovery by precipitation, adsorption or electrolysis.

Igneous – one of the three main groups of rocks on Earth. They have a crystalline texture and appear to have consolidated from a silicate melt (magma).

Inductively coupled plasma mass spectrometry (ICP-MS) -- a type of mass spectrometry that is highly sensitive and capable of the determination of a range of metals and several non-metals at concentrations below one part in 10<sup>12</sup> (part per trillion). It is based on coupling together an inductively coupled plasma as a method of producing ions (ionization) with a mass spectrometer as a method of separating and detecting the ions. ICP-MS is also capable of monitoring isotopic speciation for the ions of choice.

Intrusion – a body of *igneous* rock emplaced into pre-existing rocks, either along some structural feature such as a fault or by deformation and rupturing of the invaded rocks. (Intrusive, *adj*).

Jurassic – period of geological time from 205.1–142 million years ago.

**Kaolin** – group of pale-coloured clay minerals. In the UK kaolin is an industrial mineral extracted from kaolinised granites in south–west England. It is used as a paper filler and coater, and for high grade ceramics and pottery (china clay).

**Lenticular** – lens shaped body of rock.

**Lode** – mining term for a mineralized *vein* (used irrespective of whether the *vein* can be economically extracted).

**Mesozoic Era** – period of geological time from 250 to 65.5 million years ago. Subdivided into the *Triassic*, *Jurassic* and *Cretaceous* periods.

**Miocene** – period of geological time from 23.8 to 5.32 million years ago.

**Mudstone** – fine grained sedimentary rocks that are similar to *shales* in their non–plasticity, cohesion and low water content but lack fissility.

**Neogene** – part of the *Cenozoic Era*, comprising the *Miocene* and *Pliocene* epochs from 23.8 to 1.81 million years ago.

**Oligocene** – period of geological time from 28.5 to 23.8 million years ago.

**Ordovician** – period of geological time from 495 to 440 million years ago.

**Paleogene** – part of the *Cenozoic Era* comprising the *Paleocene*, *Eocene* and *Oligocene* epochs, from 65.5 to 23.8 million years ago.

**Paleozoic Era** – period of geological time from 545 to 245 million years ago. Subdivided into the *Cambrian*, *Ordovician*, *Silurian*, *Devonian*, *Carboniferous* and *Permian Periods*.

**Permian** – period of geological time from 280 to 255 million years ago marks the end of the Paleozoic Era. Globally important source of coal.

**Pliocene** – period of geological time from 5.3 to 1.81 million years ago.

**Precambrian** - an informal name for the span of time before the current Phanerozoic Eon, and is divided into several eons of the geologic time scale. It spans from the formation of Earth around 4600 Ma (million years ago) to the beginning of the Cambrian Period, about 542 Ma, when macroscopic hard-shelled animals first appeared in abundance. Accounts for 90% of all geological time and ends approximately 545 million years ago.

**Proterozoic** - a geological eon representing a period before the first abundant complex life on Earth. The Proterozoic Eon extended from 2500 Ma to 542.0 ± 1.0 Ma (million years ago), and is the most recent part of the old, informally named ‘Precambrian’ time.

**Pyroclastic** – fragmental volcanic material that has been blown into the atmosphere by an explosive eruption.

**Pyrometallurgical** – the treatment of ores by processes involving heating.

Quarrying (mining) – the extraction of rock from an open pit site.

Quaternary – the uppermost part of the *Cenozoic Era* from 1.81 million years ago to present day.

Refractory – a general term for a material that resists chemical or physical change.

Refractory ore – ore from which it is difficult to extract the valuable constituents. This material may require special treatments, such as pressure leaching, to recover the valuable minerals.

Sedimentary rocks – rocks formed from material derived from other rocks by weathering. Deposited by water, wind or ice.

Silurian – period of geological time from 440 to 417 million years ago.

Stope – mining term for the underground void left after ore extraction has taken place.

Stratabound – an ore deposit that is confined to a single stratigraphic bed or horizon but which does not constitute the entire bed.

Stratiform – an ore deposit that occurs as a specific stratigraphic (i.e. sedimentary) bed.

Sulphide – a mineral formed by the combination of sulphur with another chemical element. Most economic deposits of non-ferrous metals occur as sulphide minerals e.g. galena, PbS; sphalerite, ZnS; chalcopyrite, CuFeS<sub>2</sub>.

Triassic – period of geological time from 250 to 205.1 million years ago. This period marks the beginning of the *Mesozoic Era*.

Tuff -- is a type of rock consisting of consolidated volcanic ash ejected from vents during a volcanic eruption.

Tuff Breccia and Volcanic Agglomerate - as distinguished from the true ashes, these tend to occur in angular fragments; and when they form a large part of the mass the rock is more properly a "volcanic breccia" than a tuff. The ashes vary in size from large blocks ten meters or more in diameter to the minutest impalpable dust. Any ash in which large angular blocks are very abundant is called an agglomerate.

Ultrabasic – describes an igneous rock containing less than 45% silica (SiO<sub>2</sub>), including most ultramafic rocks.

Ultramafic – composed chiefly of *ferromagnesian* (Fe-Mg) minerals, such as olivine and pyroxene.

Vein – A tabular or sheet-like assemblage of minerals that has been intruded into a joint or fissure in rocks.

Volcanogenic massive sulphide, VMS – an ore deposit typically comprising a lens of massive sulphide minerals (>60% sulphide) formed by volcanic processes normally on the sea-floor. VMS deposits are important sources of copper, lead and zinc.

Wallrock – an economic geology term used to describe the rock adjacent to an accumulation of ore minerals (veins, layers, disseminations, etc.).

Workings – the current or past underground or surface openings and tunnels of a mine. More specifically, the area where the ore has been extracted.

Zoning – in economic geology, the spatial distribution of distinct mineral assemblages or chemical elements associated with an ore-forming process.

## Abbreviations

Unless otherwise indicated, the metric system of measure has been used throughout this report, including metric tons (tonnes, t), kilograms (kg) or grams (g) for weight, kilometers (km) or metres (m) for distance, hectares (ha) for area, liters (L) for volume and grams per tonne for gold (gpt Au) and silver (gpt Ag) grades. Base metal grades are usually expressed in weight percent (%). Geochemical results or precious metal grades may be expressed in parts per million (ppm) or parts per billion (ppb) (1 ppm = 1 g/t). Precious metal quantities may also be reported in troy ounces (ounces, oz), a common practice in the mining industry. In the Imperial System, significant gold concentrations are reported as troy ounces per short ton. In the metric system, gold concentration is now reported in grams per metric tonne. One troy ounce per short ton= 34.2857 grams per metric tonne. Currency values are in Canadian dollars (\$CDN).

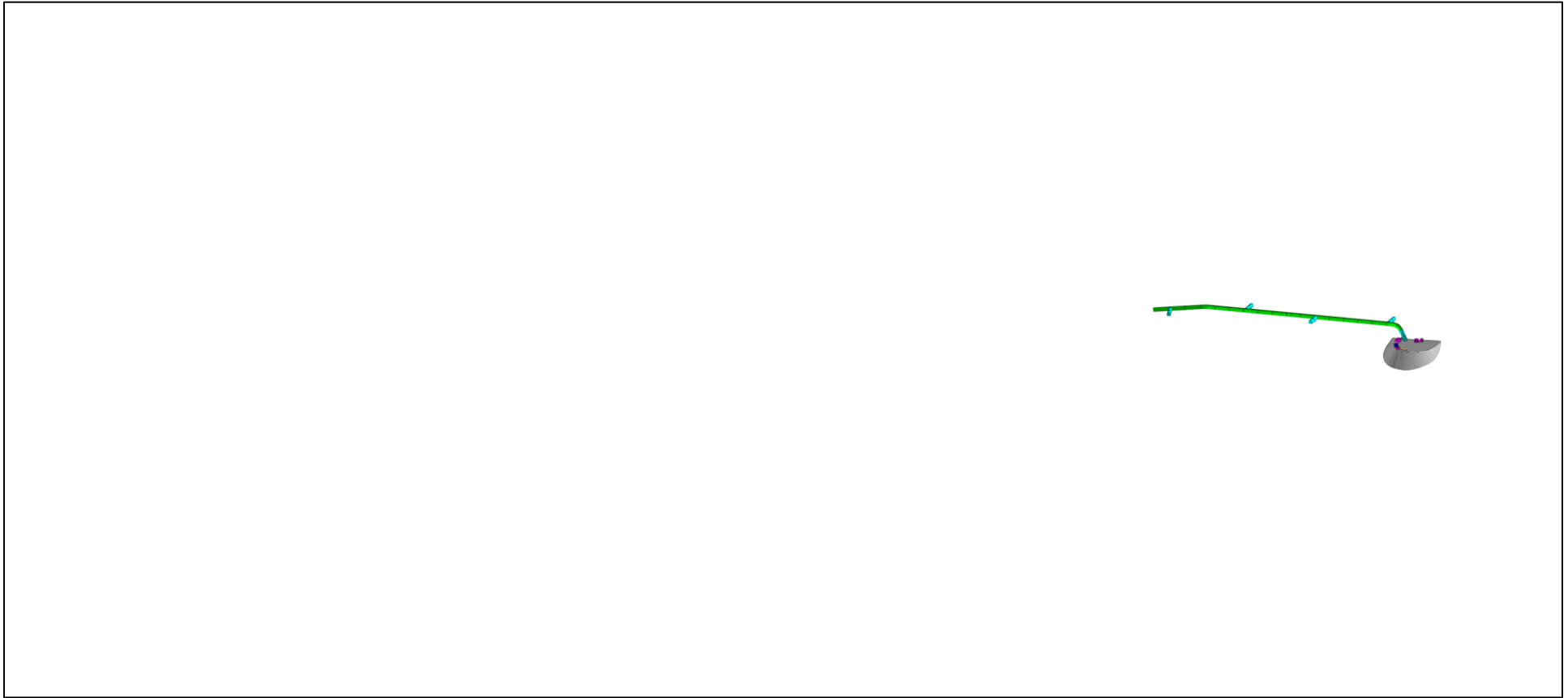
Description	Abbreviation	Description	Abbreviation
Above mean sea level	amsl	Millions of years ago	Ma
Atomic absorption	AA	Inductively coupled plasma mass spectrometry	ICPAR-UT
Banded Iron Formation	BIF	Kilometre(s)	km
Bulk Leach Extractable Gold	BLEG	Lead	Pb
Bureau Veritas Laboratories International	BVI	Methyl isobutyl ketone	MIBK
Canadian Dollars	\$CDN	Ounce(s)/Troy ounce(s)	oz
Canadian National Instrument 43-101	NI 43-101	Ounce per ton	Oz/t
Centimetre(s)	Cm	Parts per billion	ppb
Degree(s)	°	Parts per million	ppm
Degrees Centigrade/Celsius	°C	Percent	%
Foot/feet	ft.	Qualified Person(s)	QP(s)
Fire Assay	FA	Quality Assurance/Quality Control	QA/QC
Geological Survey of Canada	GSC	Reduced Level	RL
Gold	Au	Rock quality designation	RQD
Gram(s)	g	Silver	Ag
Gram-metres per tonne, metres x grams per tonne	g/t	Specific gravity	SG
Grams per tonne	g/t	Square kilometers	km <sup>2</sup>
Inch(es)	in	Three-dimensional	3D
Micron(s)	μ	Tonnes per cubic metre	t/m <sup>3</sup>
Metre(s)	m	Two-dimensional	2D
		Volcanogenic massive sulphide deposits	VMS

## **30 APPENDIX C: Mining Schedule - Images of Semi-Annual Progression for Development and Production**

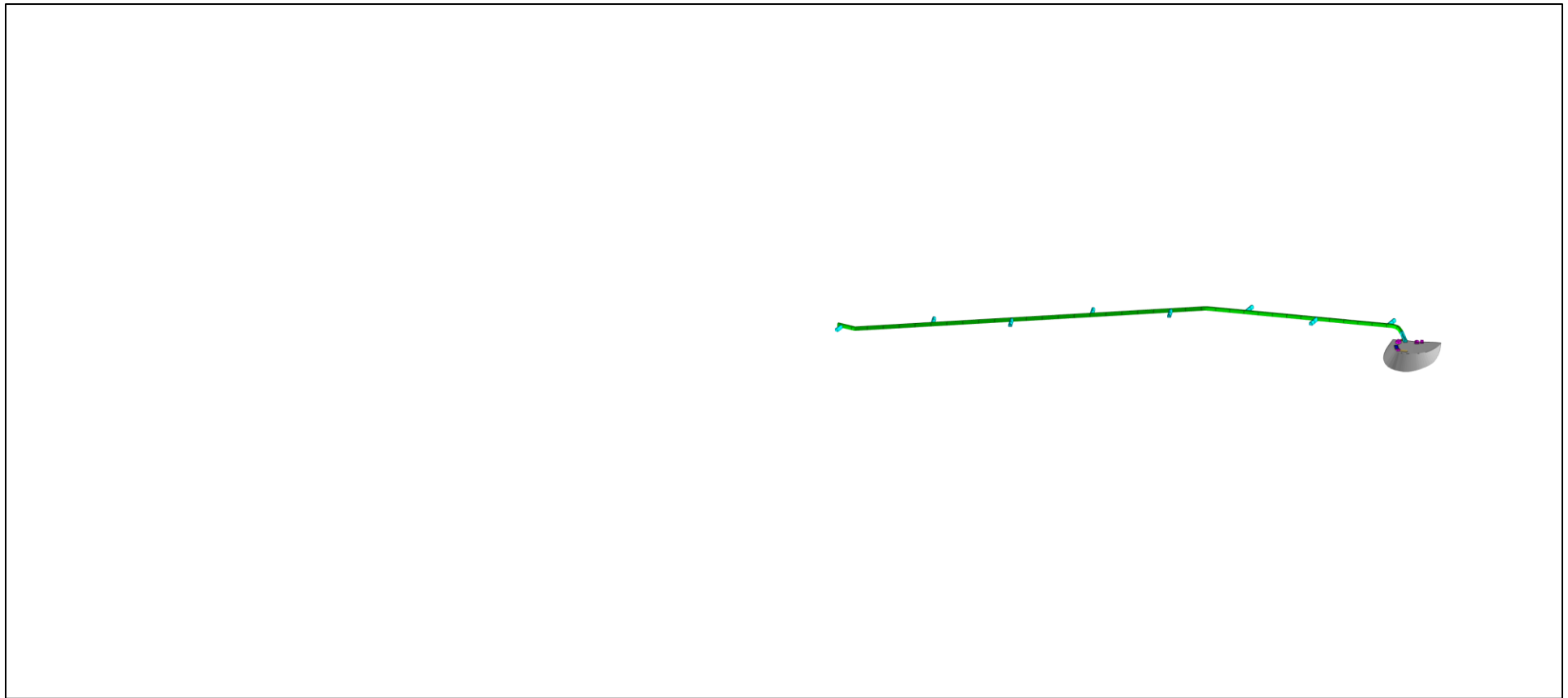
## Start of Year -1 (Pre-Production, Decline Dev't Begins)



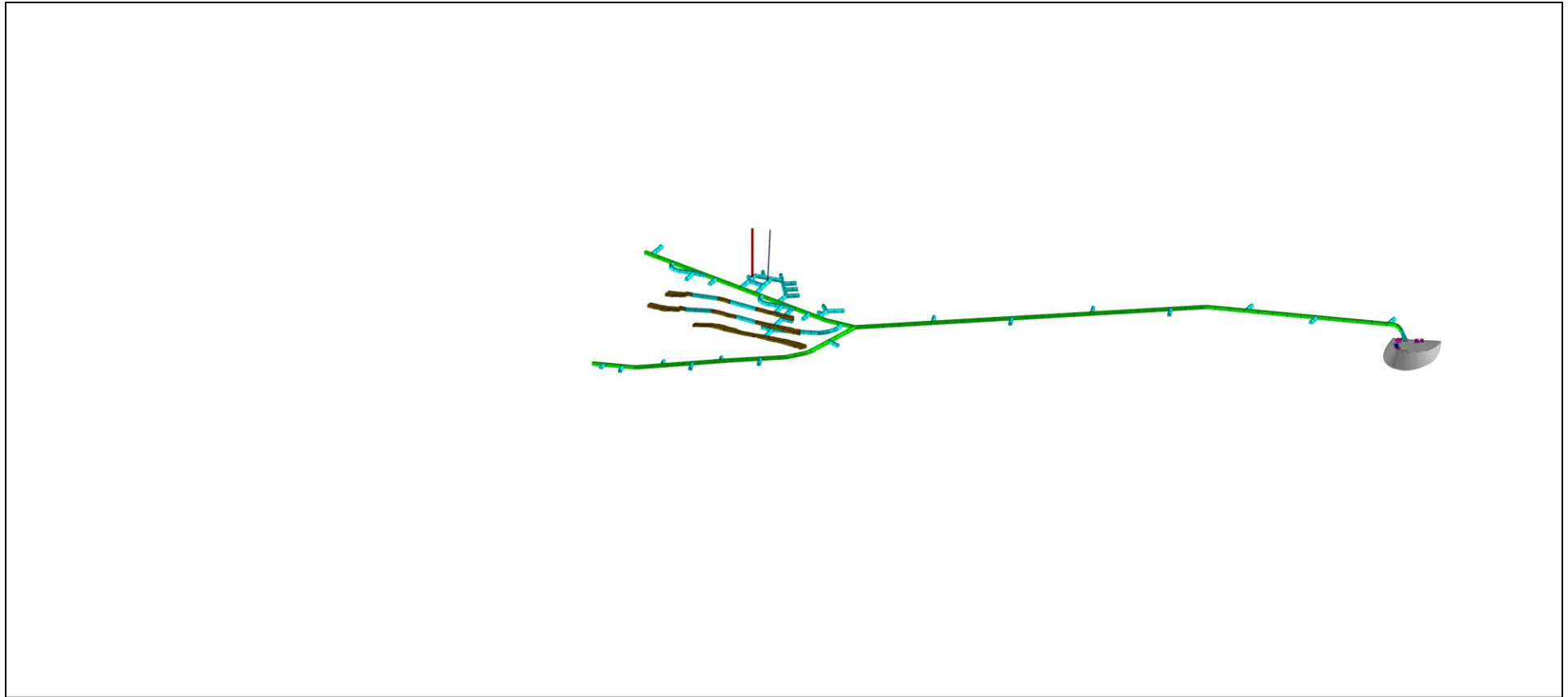
### Year -1, End of H1 (Pre-Production)



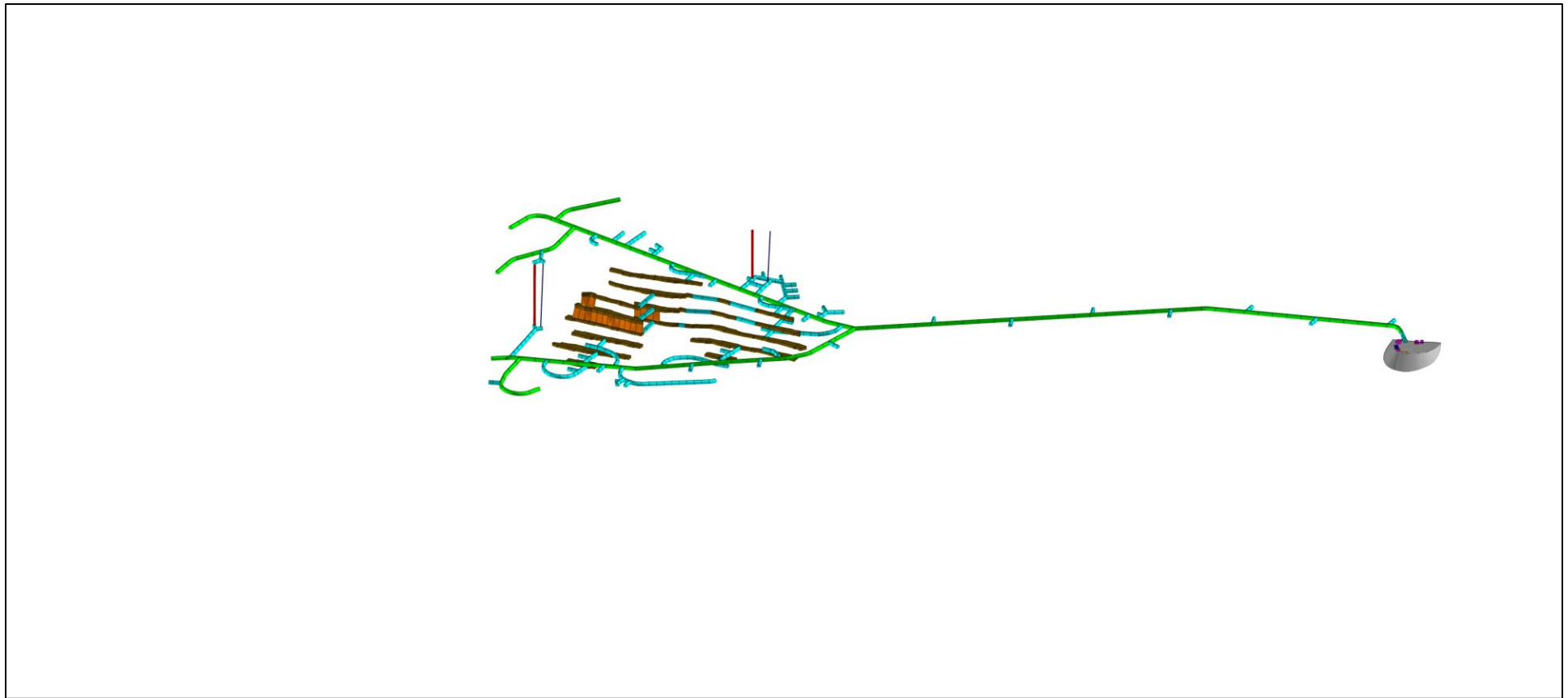
### Year -1, End of H2 (Pre-Production)



### Year +1, End of H1 (surface raisebores established, production begins with initial sill cuts)



## Year +1, End of H2 (first longhole stopes, first internal raisebores)



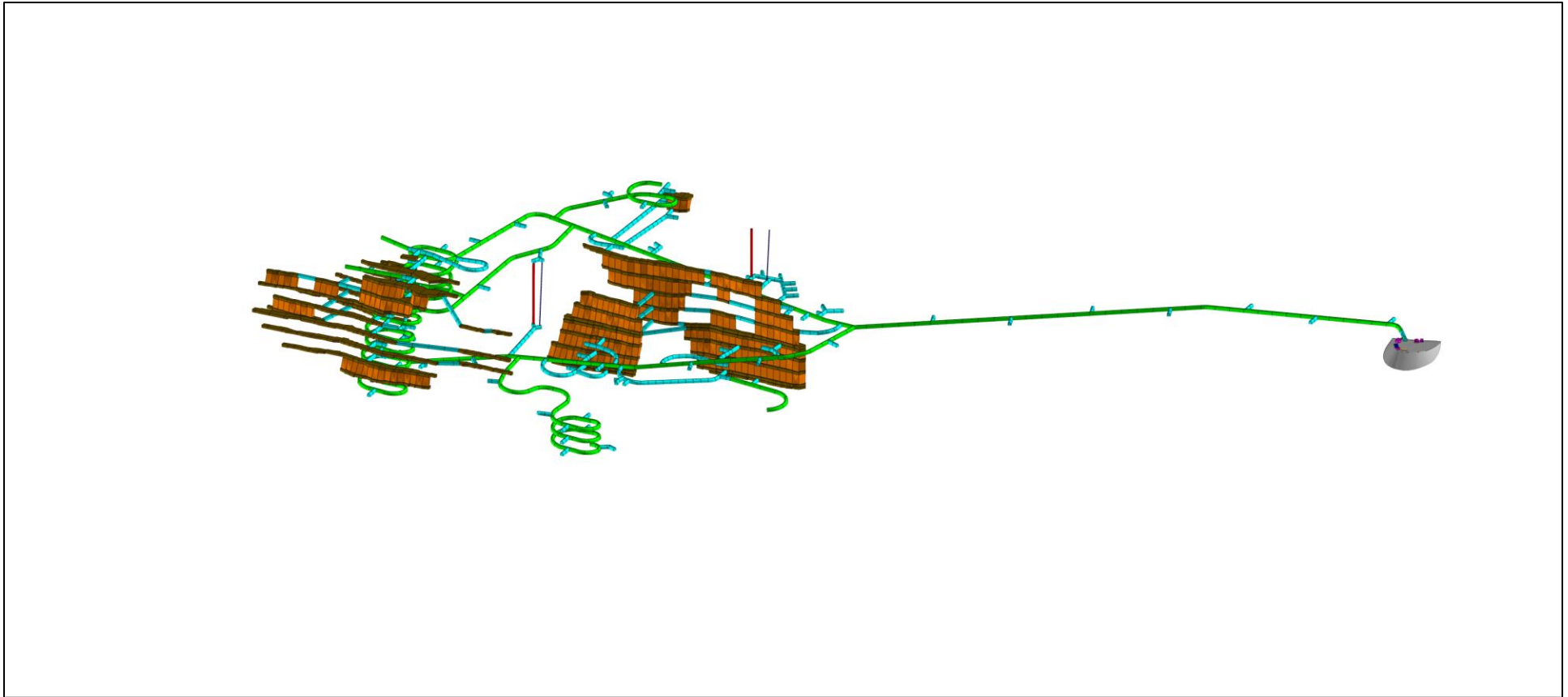
### Year +2, End of H1



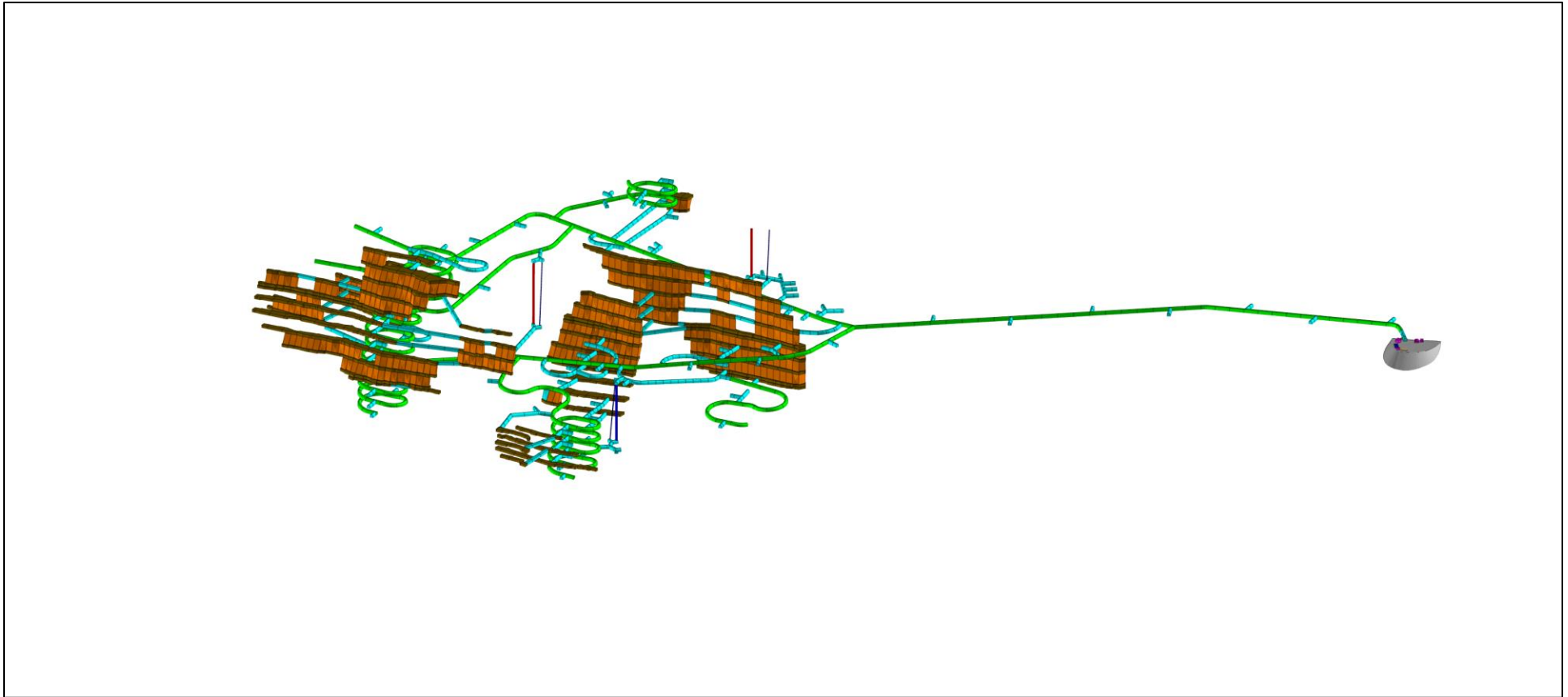
### Year +2, End of H2



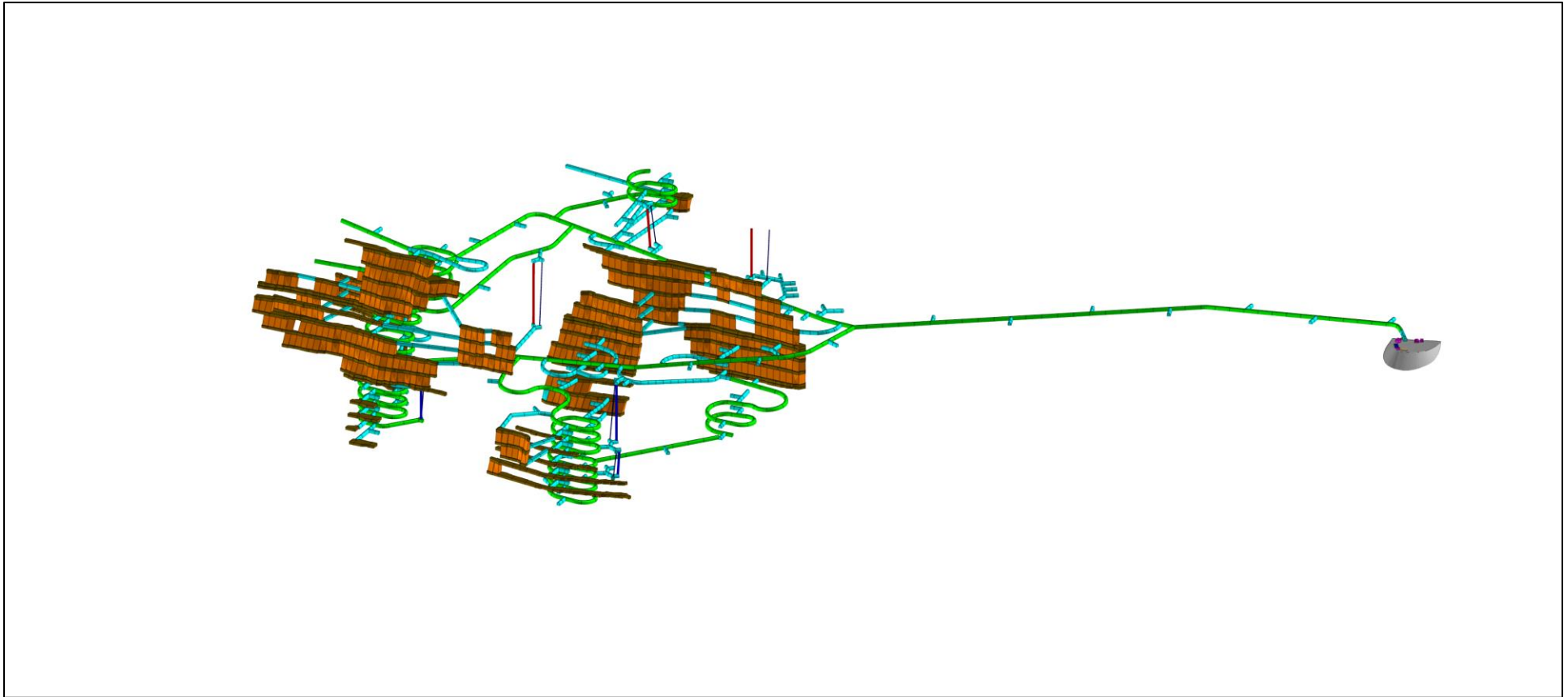
### Year +3, End of H1



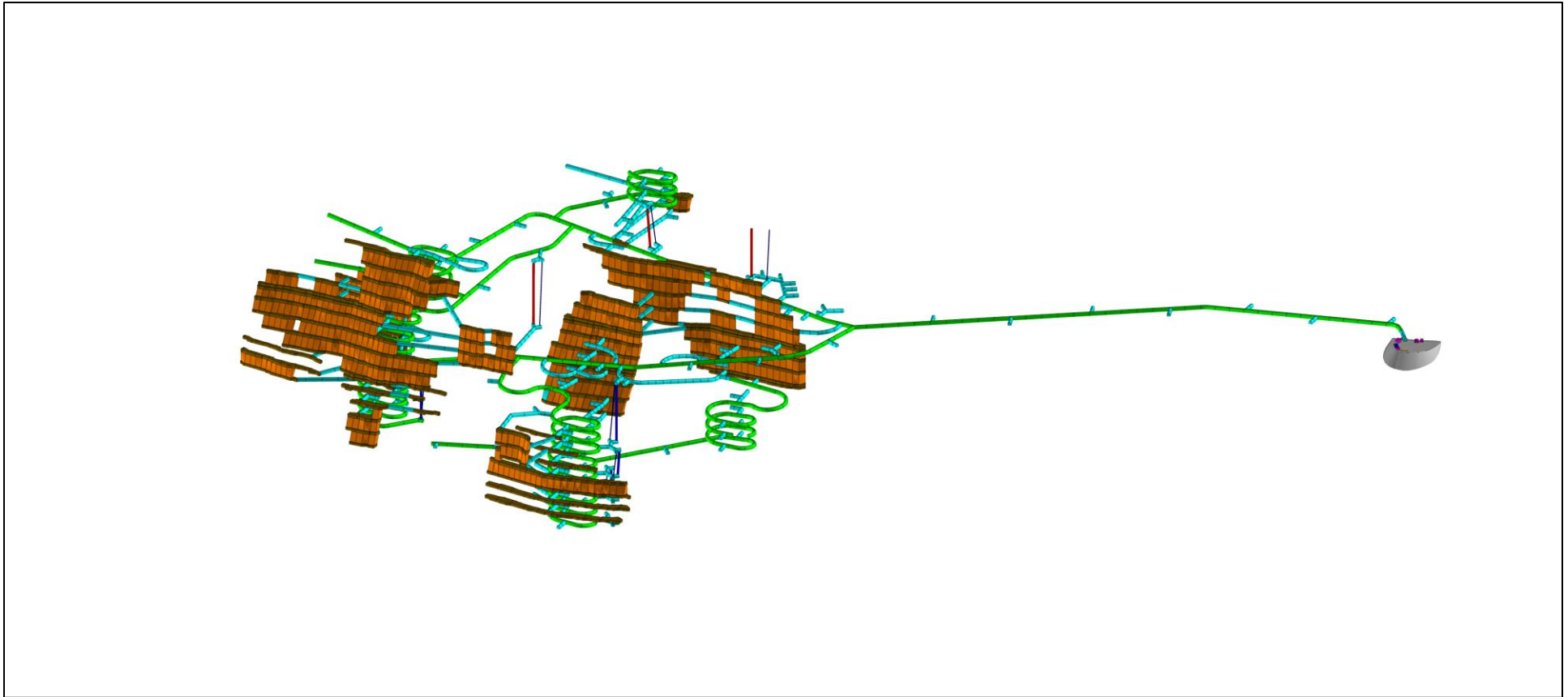
### Year +3, End of H2



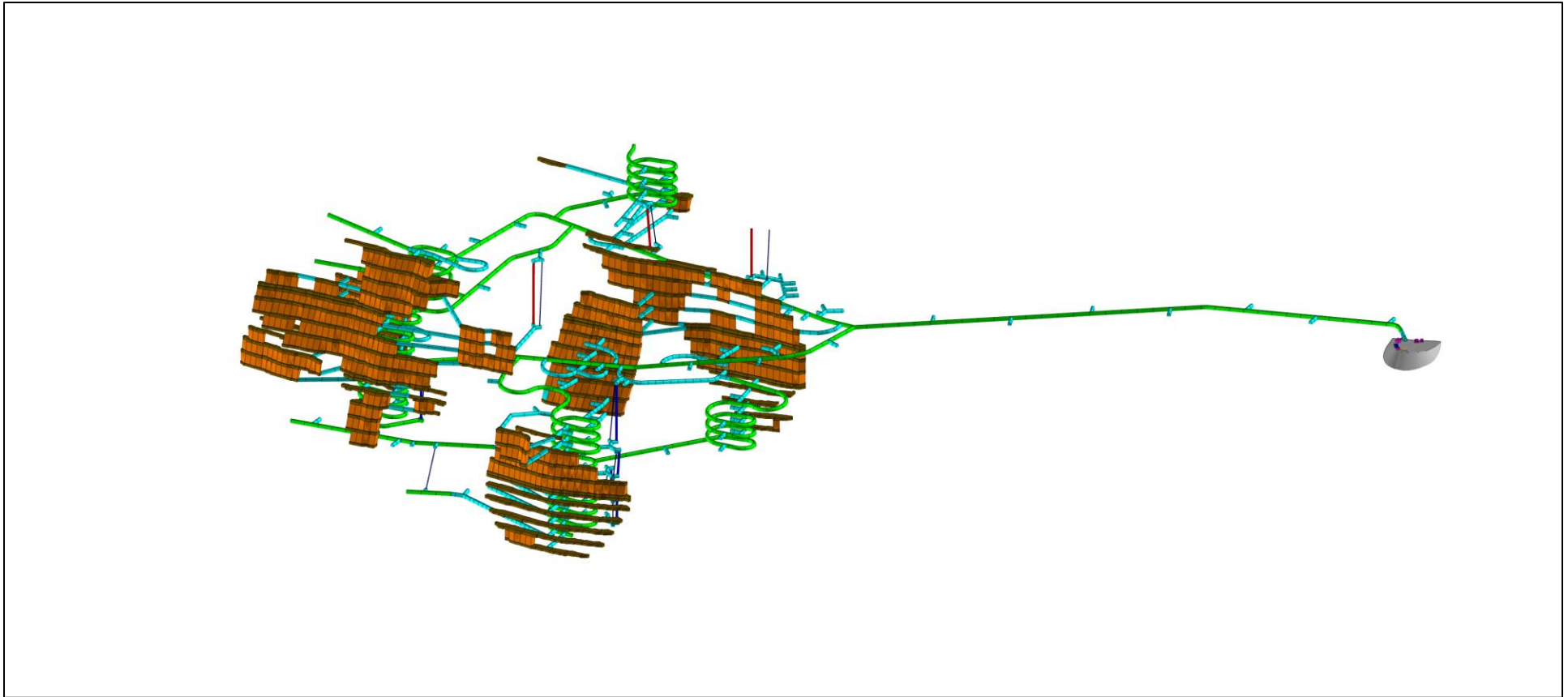
### Year +4, End of H1



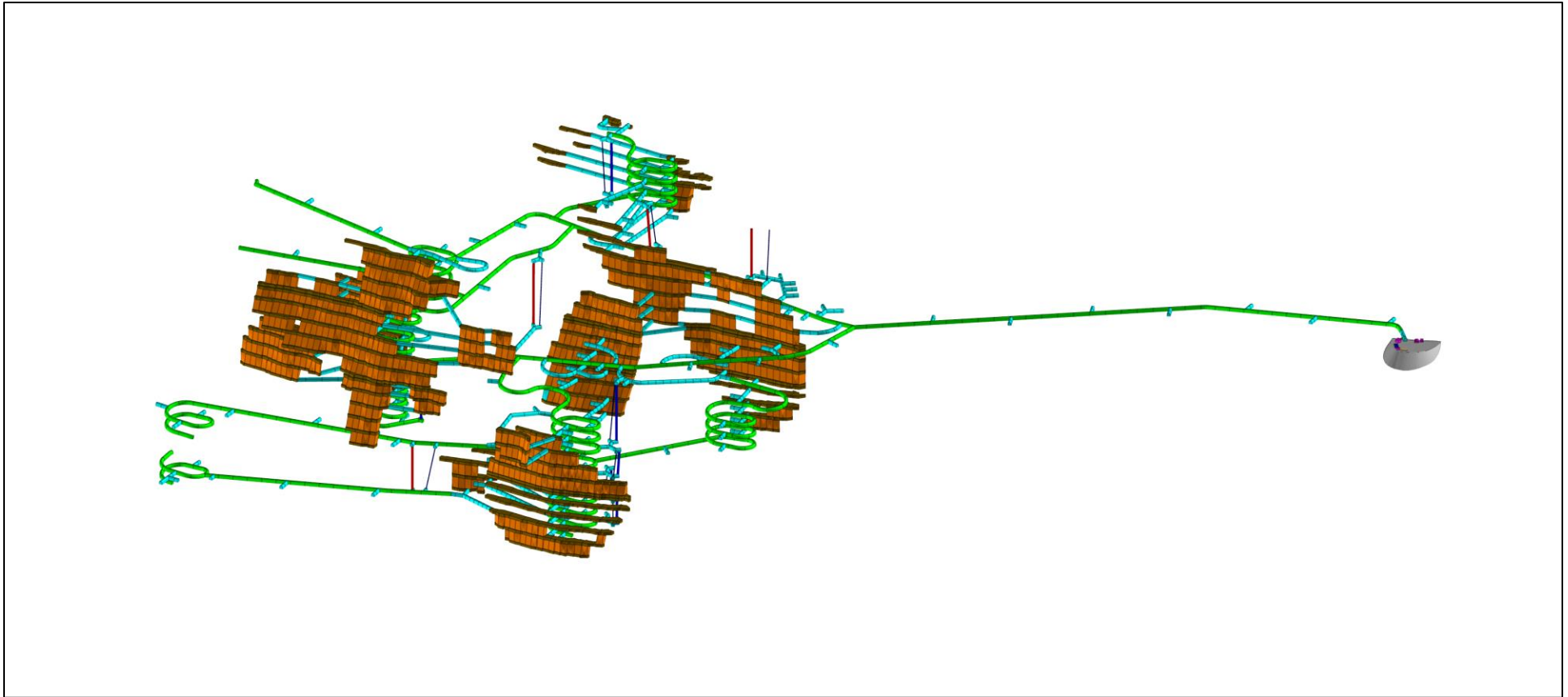
### Year +4, End of H2



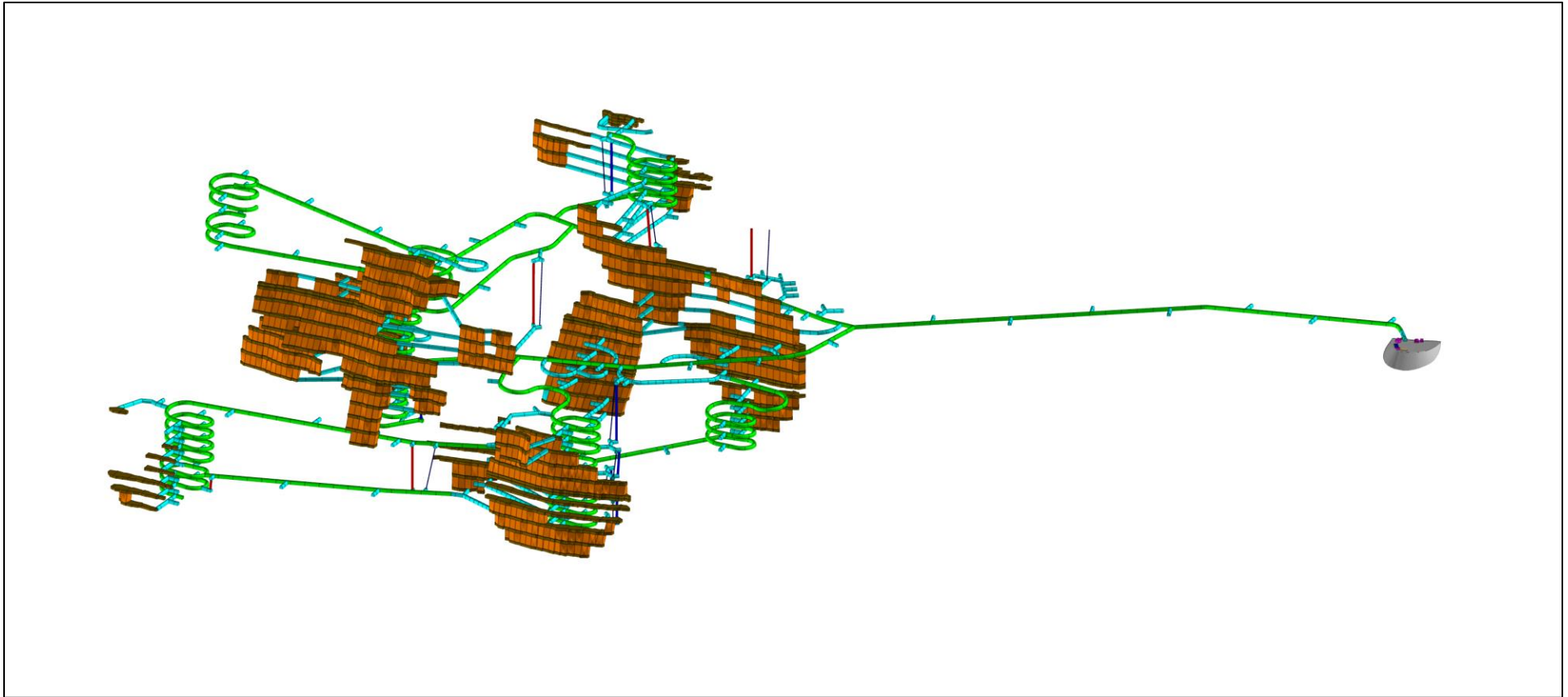
### Year +5, End of H1



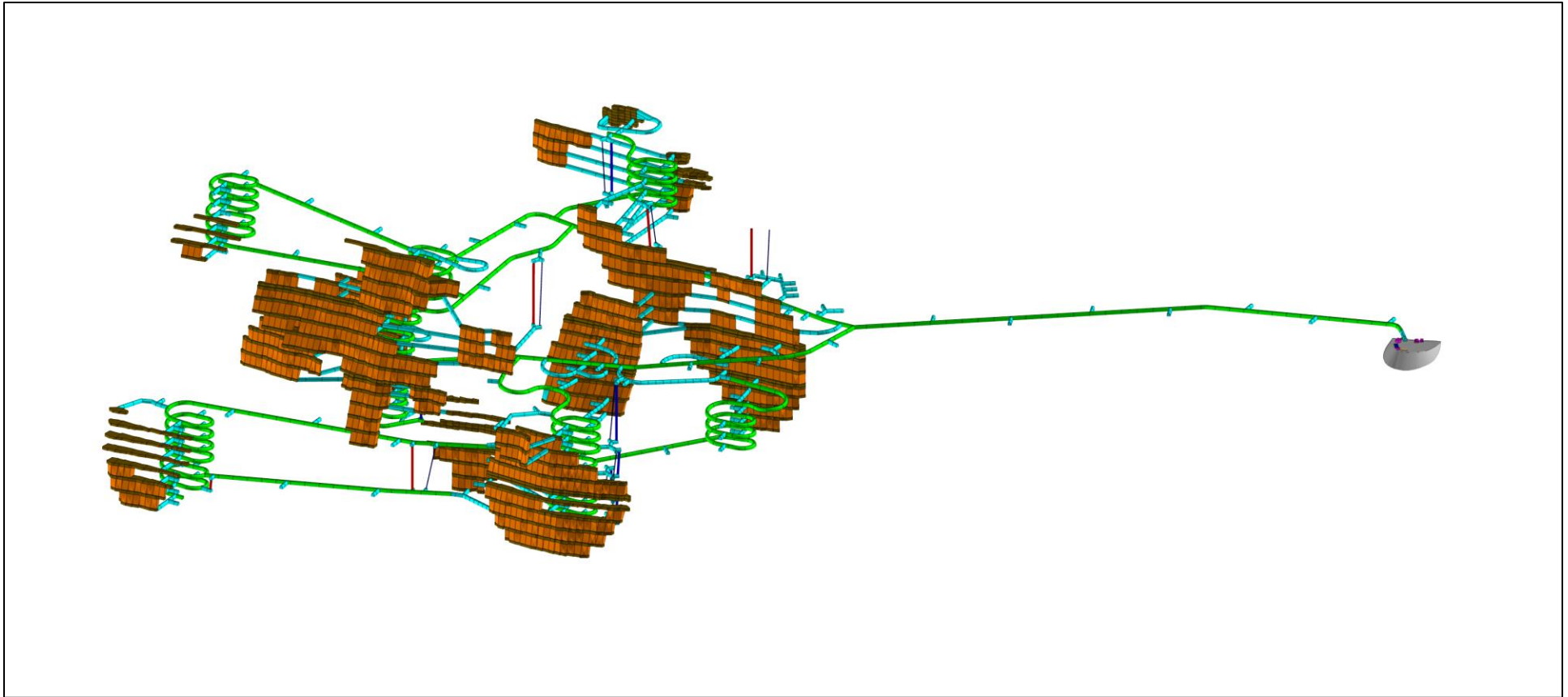
### Year +5, End of H2



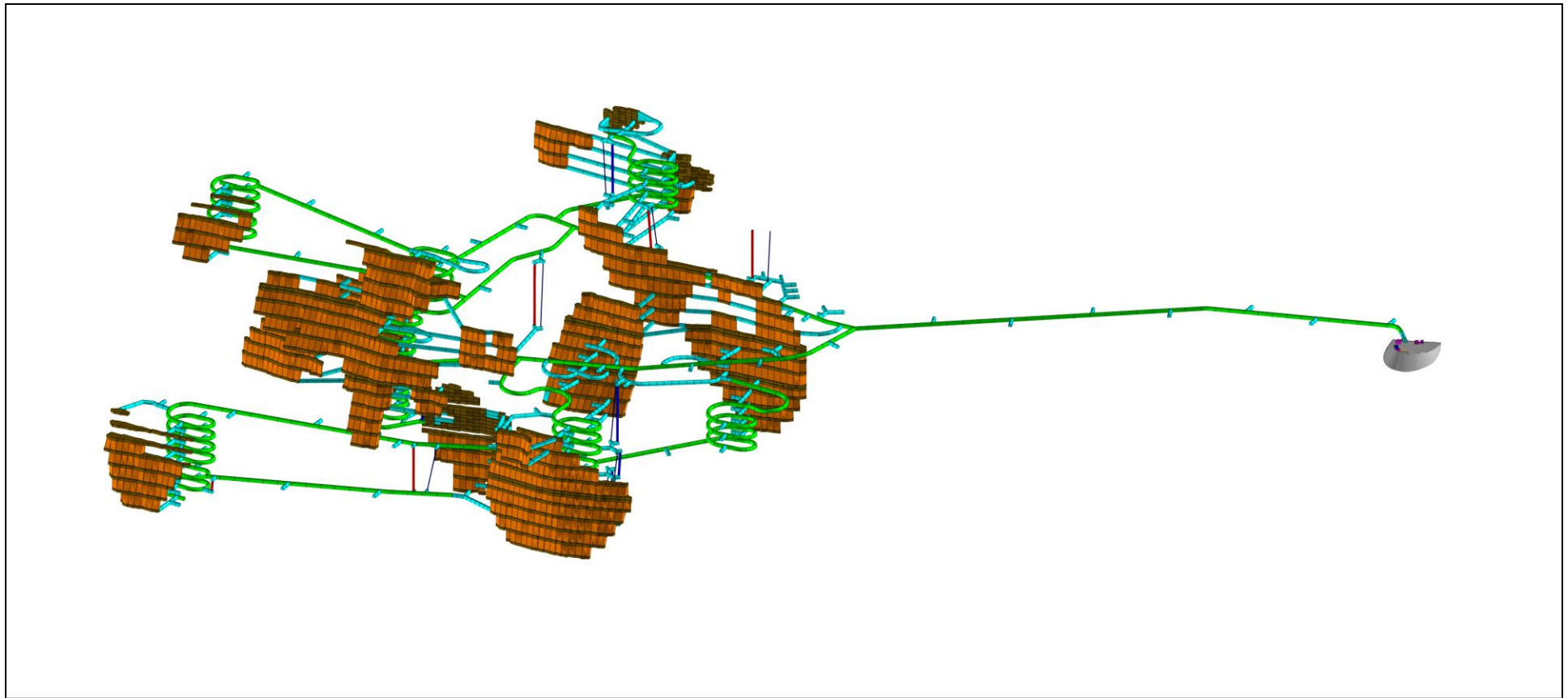
### Year +6, End of H1



## Year +6, End of H2



### Year +7, End of H1



### Year +7, End of H2 (Mine Plan Complete)

