



# Lone Star NI 43-101 PEA Technical Report

Washington State, United States

31<sup>st</sup> of October 2023

Prepared for Marquee Resources

## Name and Professional Designation

Scott Britton, P. Eng – Mining Plus US corporation

Lomar Sloane, M. Eng – Mining Plus US Corporation

Brian S. Hartman, P. Geo – Ridge Geoscience LLC

Ben Adaszynski, P. Eng – Sedgman Canada Limited

Ron Espell, Principal Consultant – KTW Environmental Consulting

Glen Zamudio, Senior Principal Consultant – Mining Plus Australia

# Lone Star NI 43-101 PEA Technical Report

## DATE AND SIGNATURE PAGE

This report is effective as of the 31st day of October 2023.

*“Signed and sealed original on file”*

*10/31/2023*

\_\_\_\_\_  
Scott Britton, P. Eng Date

*“Signed and sealed original on file”*

*10/31/2023*

\_\_\_\_\_  
Lomar Sloane, M. Eng Date

*“Signed and sealed original on file”*

*10/31/2023*

\_\_\_\_\_  
Brian S. Hartman, P. Geo Date

*“Signed and sealed original on file”*

*10/31/2023*

\_\_\_\_\_  
Ben Adaszynski, P. Eng Date

*“Signed and sealed original on file”*

*10/31/2023*

\_\_\_\_\_  
Ron Espell, Principal Consultant Date

*“Signed and sealed original on file”*

*10/31/2023*

\_\_\_\_\_  
Glen Zamudio, Snr Principal Cons. Date

## CERTIFICATE OF QUALIFIED PERSON

**Scott Britton, P. Eng.**

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment" of the Lone Star Property, Ferry County, WA, United States" (the "Technical Report"), prepared for Marquee Resources, and effective as of 31 October 2023.

I, Scott Britton, P. Eng., do hereby certify that:

1. I am a Principal Consultant in the consulting firm Mining Plus US Corporation located at 10185 Park Meadows Drive, Office 411, Lone Tree, CO 80124.
2. I am a graduate of the Virginia Polytechnic Institute and State University, Blacksburg, VA U.S.A. and received a Bachelor of Science degree in Minerals Engineering in 1977.
3. I am a Licensed Professional Engineer in the State of Wyoming (PE-8120) and Registered Member in good standing of the Society for Mining, Metallurgy, and Exploration, Inc. (370510 -RM)
4. I have worked as a Mining Engineer for a total of 43 years since graduation from the Virginia Polytechnic Institute and State University, Blacksburg, Virginia in 1977, as an employee of various mining firms and consulting companies. I have more than 30 collective years of experience directly related to mining and or economic and saleable minerals exploration and resource development, including geotechnical exploration, geologic analysis and interpretation, resource evaluation, and technical reporting.
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 personally did not inspect the project site.
7. I am responsible for the preparation of Sections 16, 23, 24 and relevant portions of 1, 18, 19, 21, 22, 25 and 27 of the report, dated 31 Oct 2023, with an effective date of 01 Oct 2023, with specific responsibility for Sections 16, 23, and 24 of this report.
8. I have had no prior involvement with the property that is the subject of this Technical Report.
9. As of the date of this certificate and as of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the report not misleading.
10. I am independent of the issuer applying all of the tests in Section 1.5 of NI 43-101.
11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report Sections for which I am responsible have been prepared in compliance with that instrument and form.

Signed this 30<sup>th</sup> October 2023.

*"Signed and sealed original on file"*

Scott Britton, P. Eng.

### CERTIFICATE OF QUALIFIED PERSON

**Lomar Sloane, M. Eng.**

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment" of the Lone Star Property, Ferry County, WA, United States" (the "Technical Report"), prepared for Marquee Resources, and effective as of 31 October 2023.

I, Lomar Sloane, M. Eng., do hereby certify that:

1. I am a Principal Consultant in the consulting firm Mining Plus US Corporation located at 10185 Park Meadows Drive, Office 411, Lone Tree, CO 80124
2. I graduated from the University of Pretoria in South Africa in 2001 with a B. Eng. In Mining Engineering and again in 2010 with a M. Eng in Mining Engineering.
3. I have practiced my profession continuously since my graduation in 2001. My relevant experience includes underground and open pit mining operations, including commodities such as platinum and PGM's, copper and gold.
4. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
5. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
6. I am author and responsible for Chapters 1,2,3,15,19,23,25 and 26 and co-author of the relevant sections of Chapters 16,18 and 21.
7. I visited the Lone Star Property that is the subject of the Technical Report on the 14<sup>th</sup> of September 2023.
8. I have no prior involvement with the property that is the subject of the Technical Report by having coauthored previous independent reports on the property.
9. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
10. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31<sup>st</sup> October 2023.

*"Signed and sealed original on file"*

---

Lomar Sloane, M. Eng.

### CERTIFICATE OF QUALIFIED PERSON

**Brian S. Hartman, P. Geo.**

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment" of the Lone Star Property, Ferry County, WA, United States" (the "Technical Report"), prepared for Marquee Resources, and effective as of 31 October 2023.

I, Brian S. Hartman, P. Geo., do hereby certify that:

1. I am a Professional Geologist, currently the owner and Principal Consultant with Ridge Geoscience LLC., with an office at 3152 Scanlon Farms Road, Coralville, IA 52241 and I work as a sub-contractor to Mining Plus Consulting Ltd.
2. I graduated from the University of Iowa in Iowa City, IA with a Bachelor of Science in Geoscience in 2001 and a Master of Science in Geoscience in 2004.
3. I am a Professional Geoscientist registered and in good standing with Professional Geoscientists Ontario, membership number 2413, and the Society for Mining, Metallurgy & Exploration, Registered Member #4175655.
4. I have practiced my profession continuously for over 18 years. I have been directly involved in mineral exploration, mine geology and resource estimation.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Chapters 4, 5, 6, 7, 8, 9, 10, 11, 12, and 14 and co-author of the relevant sections of Chapters 1, 25, and 26.
8. I visited the Lone Star Property that is the subject of the Technical Report on April 20, 2022.
9. I have no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31st October 2023.

*"Signed and sealed original on file"*

---

Brian S. Hartman, P. Geo.

### CERTIFICATE OF QUALIFIED PERSON

**Ben Adaszynski, P. Eng.**

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment" of the Lone Star Property, Ferry County, WA, United States" (the "Technical Report"), prepared for Marquee Resources, and effective as of 31 October 2023.

I, Ben Adaszynski, P. Eng., do hereby certify that:

1. I am a Project Development Manager in the consulting firm Sedgman Canada located at 625 Howe St, Suite 840, Vancouver BC, Canada
2. I graduated from The University of British Columbia with a B. APSC. in Chemical Engineering in 2009.
3. I am in good standing as a member of the Engineers and Geoscientists BC
4. I have practiced my profession continuously since my graduation in 2009. My relevant experience includes metallurgy and mineral processing.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Chapters 13 17 18.7.1, and 18.7.2 and co-author of the relevant sections of Chapters, 21, 22, 25 and 26.
8. I did not visit the Property that is the subject of the Technical Report.
9. I have no prior involvement with the property that is the subject of the Technical Report by having coauthored previous independent reports on the property.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31st October 2023.

*"Signed and sealed original on file"*

---

Ben Adaszynski, P. Eng.

**CERTIFICATE OF QUALIFIED PERSON****Ron Espell, Principal Consultant**

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment" of the Lone Star Property, Ferry County, WA, United States" (the "Technical Report"), prepared for Marquee Resources, and effective as of 31 October 2023.

I, Ron Espell, do hereby certify that:

1. I am a Principal Consultant in the consulting firm KTW Environmental Consulting located at 2645 N Fork Ridge Road, Council, Idaho, USA.
2. I graduated from California State University Hayward with a Bachelor of Science in Environmental Geology in 1984.
3. I have practiced my profession continuously since my graduation in 1984. My relevant experience includes open-pit mining operations, and I have worked on many NI 43-101 studies, namely in gold, copper and vanadium commodities.
4. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
5. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
6. I am author and responsible for Chapter 20 and co-author of the relevant sections of Chapters 25 and 26.
7. I have not visited the Lone Star Property that is the subject of the Technical Report.
8. I have no prior involvement with the property that is the subject of the Technical Report by having coauthored previous independent reports on the property.
9. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
10. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 5<sup>th</sup> day October 2023.

*"Signed and sealed original on file"*

---

Ron Espell, Principal Consultant

### CERTIFICATE OF QUALIFIED PERSON

#### **Glen Zamudio, Senior Principal Consultant.**

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment" of the Lone Star Property, Ferry County, WA, United States" (the "Technical Report"), prepared for Marquee Resources, and effective as of 31 October 2023.

I, Glen Zamudio, Senior Principal Consultant., do hereby certify that:

1. I am a Senior Principal in the corporate advisory division of Mining Plus located at Level 1, George Wiencke Dr, Perth Airport, WA6015, Australia
2. I graduated from University of Cape town in 1988 with a BSC. (Chem)Eng. and master's in business administration (Finance) in 1993.
3. I am a fellow as a member of the AUSIMM.
4. I have practiced my profession continuously since my graduation in 1988. My relevant experience includes extensive modelling and due diligence work, and I have worked on many NI 43-101 studies, namely in gold, silver and copper commodities.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Chapters 22.
8. I visited not visited the Lone Star Property that is the subject of the Technical Report.
9. I have / have no prior involvement with the property that is the subject of the Technical Report by having coauthored previous independent reports on the property.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31st October 2023.

*"Signed and sealed original on file"*

Glen Zamudio, Senior Principal Consultant.

## CONTENT

|                                                                |           |
|----------------------------------------------------------------|-----------|
| <b>LIST OF FIGURES .....</b>                                   | <b>18</b> |
| <b>LIST OF TABLES .....</b>                                    | <b>22</b> |
| <b>1 SUMMARY .....</b>                                         | <b>26</b> |
| 1.1 Introduction.....                                          | 26        |
| 1.2 Terms of Service .....                                     | 26        |
| 1.3 Property Description and Location .....                    | 27        |
| 1.4 Project Setting .....                                      | 27        |
| 1.5 Geology and Mineralization .....                           | 28        |
| 1.6 History .....                                              | 29        |
| 1.7 Deposit Types .....                                        | 29        |
| 1.8 Exploration .....                                          | 30        |
| 1.9 Drilling and Sampling .....                                | 30        |
| 1.10 Data Verification.....                                    | 30        |
| 1.11 Metallurgical Test Work.....                              | 31        |
| 1.12 Mineral Resource Estimation .....                         | 31        |
| 1.13 Mining Methods .....                                      | 32        |
| 1.14 Recovery Methods .....                                    | 35        |
| 1.15 Project Infrastructure.....                               | 35        |
| 1.16 Environmental, Permitting and Social Considerations ..... | 37        |
| 1.16.1 Environmental Considerations.....                       | 37        |
| 1.16.2 Project Status .....                                    | 37        |
| 1.16.3 Environmental and Supporting Studies .....              | 38        |
| 1.16.4 Environmental Monitoring.....                           | 38        |
| 1.16.5 Closure Plan .....                                      | 38        |
| 1.16.6 Permitting .....                                        | 38        |
| 1.16.7 Social Considerations .....                             | 39        |
| 1.17 Capital and Operating Costs .....                         | 39        |
| 1.18 Economic Analysis.....                                    | 41        |
| 1.19 Risks and Opportunities .....                             | 42        |
| 1.20 Recommendations .....                                     | 45        |
| <b>2 INTRODUCTION .....</b>                                    | <b>46</b> |
| 2.1 The issuer for the technical report .....                  | 46        |

|          |                                                                                           |           |
|----------|-------------------------------------------------------------------------------------------|-----------|
| 2.2      | Purpose of Technical Report and Terms of Reference.....                                   | 46        |
| 2.3      | Sources of Information and References.....                                                | 47        |
| 2.4      | Summary of Qualified Persons .....                                                        | 47        |
| 2.5      | Site Visits .....                                                                         | 48        |
| 2.6      | Units of Measure and List of Abbreviations .....                                          | 49        |
| 2.7      | Grid coordinate system .....                                                              | 51        |
| <b>3</b> | <b>RELIANCE ON OTHER EXPERTS .....</b>                                                    | <b>52</b> |
| 3.1      | Project Background, History, Ownership and Tenure .....                                   | 52        |
| 3.2      | Geological Setting, Exploration and Sampling .....                                        | 52        |
| 3.3      | Metallurgical Testing .....                                                               | 52        |
| 3.4      | Market Studies and Contracts .....                                                        | 53        |
| <b>4</b> | <b>PROPERTY DESCRIPTION AND LOCATION .....</b>                                            | <b>54</b> |
| 4.1      | Location of Property .....                                                                | 54        |
| 4.2      | Tenure History .....                                                                      | 55        |
| 4.3      | Mineral Tenure .....                                                                      | 55        |
| 4.4      | Encumbrances on Property .....                                                            | 57        |
| 4.5      | Permitting Considerations.....                                                            | 57        |
| 4.5.1    | Exploration .....                                                                         | 57        |
| 4.5.2    | Mining .....                                                                              | 57        |
| 4.6      | Environmental Liabilities and Permits .....                                               | 57        |
| 4.7      | Comment.....                                                                              | 57        |
| <b>5</b> | <b>ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND<br/>PHYSIOGRAPHY .....</b> | <b>58</b> |
| 5.1      | Access to Property .....                                                                  | 58        |
| 5.2      | Climate .....                                                                             | 58        |
| 5.3      | Local Resources.....                                                                      | 58        |
| 5.4      | Infrastructure .....                                                                      | 59        |
| 5.5      | Physiography .....                                                                        | 59        |
| <b>6</b> | <b>HISTORY .....</b>                                                                      | <b>60</b> |
| 6.1      | Prior Ownership.....                                                                      | 60        |
| 6.2      | Work Performed on Property.....                                                           | 60        |
| 6.3      | Historical Mineral Resource and Reserve Estimates .....                                   | 63        |
| 6.4      | Historical Production from the Property .....                                             | 63        |

|           |                                                        |           |
|-----------|--------------------------------------------------------|-----------|
| <b>7</b>  | <b>GEOLOGICAL SETTING AND MINERALIZATION .....</b>     | <b>64</b> |
| 7.1       | Regional and Local Geology.....                        | 64        |
| 7.2       | Property Geology .....                                 | 66        |
| 7.2.1     | Stratigraphy.....                                      | 68        |
| 7.2.2     | Structure .....                                        | 73        |
| 7.3       | Mineralization Zones on Property .....                 | 74        |
| 7.3.1     | TYPE 1 (Syngenetic).....                               | 75        |
| 7.3.2     | TYPE 2 (Epigenetic).....                               | 76        |
| 7.3.3     | TYPE 3 (Epithermal).....                               | 77        |
| <b>8</b>  | <b>DEPOSIT TYPES .....</b>                             | <b>78</b> |
| 8.1       | Introduction.....                                      | 78        |
| 8.2       | Deposit Geology Model.....                             | 78        |
| <b>9</b>  | <b>EXPLORATION.....</b>                                | <b>81</b> |
| 9.1       | Exploration History .....                              | 81        |
| 9.2       | Recent Exploration.....                                | 81        |
| <b>10</b> | <b>DRILLING .....</b>                                  | <b>82</b> |
| 10.1      | Historical Drilling .....                              | 82        |
| 10.2      | Merit Drilling (2006).....                             | 82        |
| 10.3      | Marquee Drilling (2021-2022) .....                     | 83        |
| 10.4      | Summary .....                                          | 84        |
| <b>11</b> | <b>SAMPLE PREPARATION, ANALYSES AND SECURITY .....</b> | <b>85</b> |
| 11.1      | Merit Drilling (2006).....                             | 85        |
| 11.1.1    | Core Logging and Sampling .....                        | 85        |
| 11.1.2    | Security .....                                         | 85        |
| 11.1.3    | Core Preparation and Analysis.....                     | 86        |
| 11.1.4    | Specific Gravity Data .....                            | 86        |
| 11.1.5    | Quality Assurance and Quality Control.....             | 86        |
| 11.1.6    | Certified Reference Materials .....                    | 87        |
| 11.1.7    | Duplicates.....                                        | 88        |
| 11.1.8    | Blanks .....                                           | 89        |
| 11.1.9    | Comments .....                                         | 90        |
| 11.2      | Marquee Drilling (2021-2022) .....                     | 90        |
| 11.2.1    | Core Logging and Sampling .....                        | 90        |

|           |                                                                |            |
|-----------|----------------------------------------------------------------|------------|
| 11.2.2    | Security .....                                                 | 91         |
| 11.2.3    | Core Preparation and Analysis .....                            | 91         |
| 11.2.4    | Specific Gravity Data .....                                    | 92         |
| 11.2.5    | Quality Assurance and Quality Control .....                    | 92         |
| 11.2.6    | Certified Reference Materials .....                            | 93         |
| 11.2.7    | Pulp Duplicates .....                                          | 94         |
| 11.2.8    | Blanks .....                                                   | 96         |
| 11.2.9    | Third-Party Check Assays .....                                 | 97         |
| 11.2.10   | Comments .....                                                 | 97         |
| <b>12</b> | <b>DATA VERIFICATION .....</b>                                 | <b>98</b>  |
| 12.1      | Site Visit.....                                                | 98         |
| 12.2      | Digital Record Storage.....                                    | 100        |
| 12.3      | Database Validation and Verification .....                     | 100        |
| 12.4      | Comments .....                                                 | 100        |
| <b>13</b> | <b>MINERAL PROCESSING AND METALLURGICAL TESTING .....</b>      | <b>101</b> |
| 13.1      | Introduction.....                                              | 101        |
| 13.2      | Head Characteristics .....                                     | 101        |
| 13.3      | Grindability.....                                              | 102        |
| 13.4      | Copper and Gold Gravity & Rougher Flotation – Bench Tests..... | 102        |
| 13.4.1    | Primary Grind Size.....                                        | 103        |
| 13.4.2    | Flotation Chemistry.....                                       | 104        |
| 13.5      | Copper and Gold Cleaner Flotation – Bench Tests .....          | 104        |
| 13.6      | Copper and Locked Cycle Testing .....                          | 106        |
| 13.7      | Presence of Coarse Gold .....                                  | 108        |
| 13.8      | Future Metallurgical Testing .....                             | 108        |
| <b>14</b> | <b>MINERAL RESOURCE ESTIMATES .....</b>                        | <b>109</b> |
| 14.1      | Introduction.....                                              | 109        |
| 14.2      | Resource Database .....                                        | 110        |
| 14.3      | Geological Models and Grade Shells.....                        | 111        |
| 14.4      | Assay Statistics .....                                         | 115        |
| 14.5      | Composites .....                                               | 116        |
| 14.6      | High-Grade Composite Restriction .....                         | 118        |
| 14.7      | Variography .....                                              | 119        |
| 14.8      | Block Model.....                                               | 120        |

|           |                                                              |            |
|-----------|--------------------------------------------------------------|------------|
| 14.9      | Interpolation Methods.....                                   | 120        |
| 14.10     | Density Assignment .....                                     | 122        |
| 14.11     | Block Model Validation .....                                 | 122        |
| 14.12     | Mineral Resource Classification.....                         | 125        |
| 14.13     | Reasonable Prospects for Eventual Economic Extraction .....  | 126        |
| 14.14     | Mineral Resource Statement.....                              | 128        |
| 14.15     | Grade Sensitivity Analysis .....                             | 129        |
| <b>15</b> | <b>MINERAL RESERVE ESTIMATES .....</b>                       | <b>130</b> |
| <b>16</b> | <b>MINING METHODS .....</b>                                  | <b>131</b> |
| 16.1      | Introduction and General Mine Planning Criteria Process..... | 131        |
| 16.2      | Geotechnical Parameters .....                                | 132        |
| 16.3      | Geographic Restrictions .....                                | 133        |
| 16.4      | Pit Optimization Method and Cut-Off Grade .....              | 133        |
| 16.5      | Hydrogeological Considerations .....                         | 135        |
| 16.6      | Mine Design.....                                             | 136        |
| 16.7      | Production Schedule .....                                    | 138        |
| 16.8      | Material Movement.....                                       | 139        |
| 16.8.1    | Ore Handling .....                                           | 140        |
| 16.8.2    | Waste Rock Storage Facility (WRSF) .....                     | 140        |
| 16.8.3    | Topsoil.....                                                 | 140        |
| 16.9      | Mine Equipment Requirements .....                            | 141        |
| 16.10     | Workforce.....                                               | 143        |
| <b>17</b> | <b>RECOVERY METHODS .....</b>                                | <b>146</b> |
| 17.1      | Metallurgical Process Selection.....                         | 146        |
| 17.2      | Metallurgical Flow Sheet Diagram.....                        | 146        |
| 17.3      | Process Design Basis .....                                   | 147        |
| 17.4      | Major Equipment Items .....                                  | 148        |
| 17.4.1    | Crushing - Existing .....                                    | 148        |
| 17.4.2    | Grinding - Existing .....                                    | 148        |
| 17.4.3    | Gravity Circuit - Existing .....                             | 148        |
| 17.4.4    | Flotation Circuit - New .....                                | 148        |
| 17.4.5    | Concentrate Dewatering - New .....                           | 149        |
| <b>18</b> | <b>PROJECT INFRASTRUCTURE .....</b>                          | <b>150</b> |

|             |                                                         |            |
|-------------|---------------------------------------------------------|------------|
| <b>18.1</b> | <b>Site Preparation .....</b>                           | <b>150</b> |
| <b>18.2</b> | <b>Power, Fuel, and Water Utilities.....</b>            | <b>151</b> |
| 18.2.1      | Power .....                                             | 151        |
| 18.2.2      | Fuel.....                                               | 151        |
| 18.2.3      | Water Utilities .....                                   | 151        |
| <b>18.3</b> | <b>Sewage, Grey Water and Stormwater Drainage .....</b> | <b>151</b> |
| <b>18.4</b> | <b>Buildings and Facilities .....</b>                   | <b>151</b> |
| <b>18.5</b> | <b>Transportation Infrastructure .....</b>              | <b>152</b> |
| 18.5.1      | Access Roads .....                                      | 152        |
| 18.5.2      | Interior Roads.....                                     | 153        |
| <b>18.6</b> | <b>Communications Infrastructure .....</b>              | <b>154</b> |
| <b>18.7</b> | <b>Processing Infrastructure .....</b>                  | <b>154</b> |
| 18.7.1      | Facilities.....                                         | 155        |
| 18.7.2      | Power .....                                             | 158        |
| 18.7.3      | Tailings Storage .....                                  | 158        |
| <b>19</b>   | <b>MARKET STUDIES AND CONTRACTS.....</b>                | <b>159</b> |
| 19.1        | Product Specification Requirements .....                | 159        |
| 19.2        | Market Demand Studies .....                             | 159        |
| 19.3        | Commodity Price and Exchange Rate Projections .....     | 160        |
| 19.3.1      | Copper Price .....                                      | 160        |
| 19.3.2      | Gold Price .....                                        | 161        |
| 19.4        | Market Contracts .....                                  | 162        |
| <b>20</b>   | <b>ENVIRONMENTAL STUDIES AND PERMITTING .....</b>       | <b>163</b> |
| 20.1        | Introduction.....                                       | 163        |
| 20.2        | Baseline Studies.....                                   | 164        |
| 20.2.1      | Biological Resources.....                               | 164        |
| 20.2.2      | Cultural Resources .....                                | 165        |
| 20.2.3      | Surface Water Resources .....                           | 165        |
| 20.2.4      | Ground Water Resources.....                             | 165        |
| 20.2.5      | Geochemical Considerations .....                        | 165        |
| 20.3        | Environmental Considerations/Monitoring Programs .....  | 166        |
| 20.4        | Key Environmental Issues .....                          | 166        |
| 20.5        | Proposed Mining Activities .....                        | 166        |
| 20.5.1      | Surface Disturbance .....                               | 167        |

|           |                                                 |            |
|-----------|-------------------------------------------------|------------|
| 20.5.2    | Stockpiles .....                                | 167        |
| 20.5.3    | Waste Rock Storage Facility (WSRF) .....        | 167        |
| 20.5.4    | Water Management.....                           | 168        |
| 20.6      | Closure Plan.....                               | 168        |
| 20.7      | Permitting Considerations.....                  | 169        |
| 20.7.1    | Permit Requirement Assumptions .....            | 169        |
| 20.7.2    | Permitting Requirements.....                    | 169        |
| 20.8      | Social and Cultural Considerations .....        | 171        |
| 20.9      | Significant Risk Factors.....                   | 171        |
| 20.10     | Social Licence Considerations.....              | 172        |
| 20.11     | Comments .....                                  | 172        |
| <b>21</b> | <b>CAPITAL AND OPERATING COSTS.....</b>         | <b>173</b> |
| 21.1      | Capital Costs .....                             | 173        |
| 21.1.1    | Initial Capital Cost Estimate .....             | 173        |
| 21.1.2    | New Flotation Circuit .....                     | 175        |
| 21.1.3    | Indirect Costs .....                            | 176        |
| 21.1.4    | Contingency .....                               | 176        |
| 21.1.5    | Other Capital Costs .....                       | 176        |
| 21.2      | Operating Costs .....                           | 177        |
| 21.2.1    | Cost Benchmarking .....                         | 177        |
| <b>22</b> | <b>ECONOMIC ANALYSIS .....</b>                  | <b>178</b> |
| 22.1      | Basis of Evaluation .....                       | 178        |
| 22.2      | Economic, Taxation and Royalty Assumptions..... | 178        |
| 22.2.1    | Exchange Rates .....                            | 178        |
| 22.2.2    | Inflation Rate and Escalation .....             | 178        |
| 22.2.3    | Discount Rate .....                             | 178        |
| 22.2.4    | Metal Prices .....                              | 178        |
| 22.2.5    | NSR Royalty .....                               | 179        |
| 22.2.6    | Taxation.....                                   | 179        |
| 22.2.7    | Net Smelter Return .....                        | 179        |
| 22.2.8    | Cash Flow Summary .....                         | 180        |
| 22.2.9    | Base Case Evaluation .....                      | 183        |
| 22.3      | Sensitivity Analysis .....                      | 183        |
| 22.4      | Economic Model Cash Flow Charts .....           | 183        |

|           |                                                                                |            |
|-----------|--------------------------------------------------------------------------------|------------|
| <b>23</b> | <b>ADJACENT PROPERTIES.....</b>                                                | <b>185</b> |
| 23.1      | Sources of Information .....                                                   | 185        |
| 23.2      | Interpretation of this Section .....                                           | 185        |
| 23.3      | Maps of Adjacent Properties and Ownership .....                                | 185        |
| 23.3.1    | Lexington Property.....                                                        | 185        |
| 23.3.2    | Golden Crown Property .....                                                    | 186        |
| 23.3.3    | Vulcan (aka Gold Dike) Property.....                                           | 188        |
| 23.3.4    | Comstock (aka La Fleur, Walla Walla) Property.....                             | 189        |
| <b>24</b> | <b>OTHER RELEVANT DATA AND INFORMATION .....</b>                               | <b>190</b> |
| <b>25</b> | <b>INTERPRETATION AND CONCLUSIONS .....</b>                                    | <b>191</b> |
| 25.1      | Property Description, Location and Access .....                                | 191        |
| 25.2      | Accessibility, Climate, Local Resources, Infrastructure and Physiography ..... | 191        |
| 25.3      | Geological Setting, Mineralization and Deposit Types .....                     | 192        |
| 25.4      | Exploration, Drilling and Data Verification .....                              | 193        |
| 25.5      | Mineral Processing and Metallurgical Testing .....                             | 194        |
| 25.6      | Mineral Resource Estimates.....                                                | 194        |
| 25.7      | Mining Methods .....                                                           | 195        |
| 25.8      | Recovery Methods .....                                                         | 196        |
| 25.9      | Project Infrastructure.....                                                    | 197        |
| 25.9.1    | Mine Site Infrastructure.....                                                  | 197        |
| 25.9.2    | Kettle River Processing Facility Infrastructure .....                          | 197        |
| 25.10     | Environmental Studies, Permitting and Social or Community Initiatives .....    | 198        |
| 25.11     | Capital and Operating Costs .....                                              | 198        |
| 25.12     | Economic Analysis.....                                                         | 199        |
| 25.13     | Risks and Opportunities .....                                                  | 199        |
| <b>26</b> | <b>RECOMMENDATIONS .....</b>                                                   | <b>203</b> |
| 26.1      | Property .....                                                                 | 203        |
| 26.2      | Geology .....                                                                  | 203        |
| 26.3      | Block Model and MRE .....                                                      | 203        |
| 26.4      | Metallurgy and Recovery .....                                                  | 203        |
| 26.5      | Mining .....                                                                   | 204        |
| 26.6      | Environmental, Permitting and Social .....                                     | 204        |
| 26.7      | Project Economics.....                                                         | 204        |

|      |                                  |     |
|------|----------------------------------|-----|
| 26.8 | Summary of Recommendations ..... | 205 |
| 27   | REFERENCES .....                 | 206 |

## LIST OF FIGURES

|                                                                                                                                                                              |    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1.1 - Lone Star Property Location .....                                                                                                                               | 28 |
| Figure 1.2 – 3D View of the Lone Star Pit .....                                                                                                                              | 34 |
| Figure 1.3 – Planned Site Layout.....                                                                                                                                        | 37 |
| Figure 1.4 – Net Cash Flow vs Operating Cash Flows and Capex .....                                                                                                           | 41 |
| Figure 4.1 - Lone Star Property Location .....                                                                                                                               | 54 |
| Figure 4.2 - Lone Star Property Patented Mining Claims .....                                                                                                                 | 55 |
| Figure 7.1 - Lone Star Regional Geology .....                                                                                                                                | 64 |
| Figure 7.2 - Lone Star Local Geology.....                                                                                                                                    | 66 |
| Figure 7.3 - Roadcut outcrop of Jurassic Elise Formation with the distinctive Augite Phyric Basalt blocks.....                                                               | 67 |
| Figure 7.4 – Lone Star Stratigraphic Representation.....                                                                                                                     | 68 |
| Figure 7.5 - Lapilli Tuff with well-mineralized rhyolite clast .....                                                                                                         | 70 |
| Figure 7.6 - Core from drill hole LS-21-011 @ 124.7m. Bedded massive sulphide with interbedded chert.....                                                                    | 72 |
| Figure 7.7 - Core from drill hole LS21-015 at 70.4m. Massive, fine crystalline magnetite with interbedded wispy sulphides.....                                               | 72 |
| Figure 7.8 - Core sample with prominent showing of annabergite in sulphide-bearing chemical sediments. Drill Hole LS21-033, 176.5 m. This is part of the UPPER NW ZONE. .... | 75 |
| Figure 8.1 – Conceptual Model of a Volcanogenic Massive Sulfide (VMS) Deposit (Modified after S. Lavoie, 2003) .....                                                         | 79 |
| Figure 10.1 – Merit (06MLS Holes) and Marquee (LS Holes) Drill Map.....                                                                                                      | 83 |
| Figure 10.2 – Marquee 2021 to 2022 LS Series Drill Map .....                                                                                                                 | 84 |
| Figure 11.1 - Control chart for CDN-CGS-10 Copper .....                                                                                                                      | 88 |
| Figure 11.2 - Control chart for CDN-CGS-10 Gold.....                                                                                                                         | 88 |
| Figure 11.3 - Scatter plot of paired copper and gold values.....                                                                                                             | 89 |

|                                                                                         |     |
|-----------------------------------------------------------------------------------------|-----|
| Figure 11.4 – Results of Copper Blank Assays.....                                       | 89  |
| Figure 11.5 – Results of Gold Blank Assays.....                                         | 90  |
| Figure 11.6 - Control chart for MEG-A106013X Copper .....                               | 94  |
| Figure 11.7 - Control chart for MEG-A106014X Copper .....                               | 94  |
| Figure 11.8 - scatter plot of paired copper and gold values.....                        | 95  |
| Figure 11.9 - Gold comparison shown on a logarithmic scale .....                        | 95  |
| Figure 11.10 – Results of Copper Blank Assays .....                                     | 96  |
| Figure 11.11 – Results of Gold Blank Assays.....                                        | 96  |
| Figure 11.12 – Scatter plots of paired copper and gold values .....                     | 97  |
| Figure 12.1 – Lone Star Core Logging Facility .....                                     | 98  |
| Figure 12.2 – Lone Star Typical Core Storage Conditions .....                           | 99  |
| Figure 13.1 – Primary Gold Size and Flotation Testwork Flowsheet .....                  | 102 |
| Figure 13.2 – Copper Flotation Recovery by Grind Size .....                             | 103 |
| Figure 13.3 – Gold Combined Gravity-Flotation Recovery by Grind Size .....              | 104 |
| Figure 13.4 – Cleaner Flotation Testwork Flowsheet Schematic.....                       | 105 |
| Figure 13.5 – Copper Cleaner Grade vs. Recovery .....                                   | 106 |
| Figure 13.6 – Overall Circuit Recovery.....                                             | 107 |
| Figure 13.7 – Gravity Gold Recovery .....                                               | 108 |
| Figure 14.1 - Representative Section Showing Major Lithologies .....                    | 112 |
| Figure 14.2 - Structural Zones.....                                                     | 112 |
| Figure 14.3 - Representative Section Showing Copper Grade Domains .....                 | 113 |
| Figure 14.4 - Representative Section Showing Copper Grade Domains .....                 | 114 |
| Figure 14.5 - 3D Perspective View Showing Copper Grade Domains.....                     | 114 |
| Figure 14.6 - Representative Section Showing Drillhole and Block Cu and Au Grades ..... | 123 |

|                                                                                      |            |
|--------------------------------------------------------------------------------------|------------|
| Figure 14.7 - Swath Plot by Easting Comparing NN and IDW Copper Grades.....          | 124        |
| Figure 14.8 - Swath Plot by Easting Comparing NN and IDW Gold Grades .....           | 125        |
| Figure 14.9 - Lone Star Resource Classification .....                                | 126        |
| Figure 14.10 - Lone Star Conceptual Pit Shell .....                                  | 127        |
| Figure 16.1 – Whittle Generated Pit Shells for Optimum Shell Selection .....         | 135        |
| Figure 16.2 – Plan View of the Lone Star Pit.....                                    | 137        |
| Figure 16.3 – Section View of the Lone Star Pit.....                                 | 137        |
| Figure 16.4 – 3D View of the Lone Star Pit .....                                     | 138        |
| Figure 16.5 – Total Material Mined per Year .....                                    | 139        |
| Figure 16.6 – Lone Star Pit Proposed WRSF, ROM Pad and Topsoil Storage facility..... | 141        |
| Figure 16.7 – Lone Star Pit Workforce Requirement per Year .....                     | 145        |
| <i>Figure 17.1 – Processing Flowsheet .....</i>                                      | <i>146</i> |
| <i>Figure 18.1 – Planned Site Layout.....</i>                                        | <i>154</i> |
| <i>Figure 18.2 – Kettle River Site Layout .....</i>                                  | <i>155</i> |
| <i>Figure 18.3 – Flotation Building Plan View .....</i>                              | <i>156</i> |
| <i>Figure 18.4 – Flotation Building View 1 .....</i>                                 | <i>156</i> |
| <i>Figure 18.5 – Flotation Building View 2 .....</i>                                 | <i>157</i> |
| <i>Figure 18.6 –Building Inserted on Kettle River Property.....</i>                  | <i>158</i> |
| Figure 19.1 – Forecasted Copper Supply and Demand .....                              | 159        |
| Figure 19.2 – Forecasted Copper Supply, Demand, Balance, and Price .....             | 160        |
| Figure 19.3 – Forecasted Copper Price, Citi Research .....                           | 161        |
| Figure 19.4 – Forecasted Gold Price, S&P Global .....                                | 161        |
| Figure 19.5 – Three Year Gold Price Chart.....                                       | 162        |
| Figure 22.1 – Net Cash Flow vs Operating Cash Flows and Capex .....                  | 184        |

Figure 22.2 – Net Cash Flow vs Operating Cashflows.....184

Figure 23.1 – Location of Adjacent Properties .....188

## LIST OF TABLES

---

|                                                                                        |    |
|----------------------------------------------------------------------------------------|----|
| Table 1.1 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off .....                   | 31 |
| Table 1.2 – Design Pit Quantities .....                                                | 33 |
| Table 1.3 – Summary of Lone Star Production Schedule .....                             | 34 |
| Table 1.4 – Primary Mining Equipment Fleet Requirements .....                          | 34 |
| Table 1.5 – Key Required Permits and Licences .....                                    | 39 |
| Table 1.6 – Summary of Mining Capital Cost Estimate .....                              | 40 |
| Table 1.7 – Summary of Mining Capital Cost Estimate .....                              | 41 |
| Table 1.8 – Lone Star Risks .....                                                      | 42 |
| Table 1.9 – Lone Star Opportunities .....                                              | 44 |
| Table 1.10 – Lone Star Recommendations .....                                           | 45 |
| Table 2.1 - Summary of Qualified Persons .....                                         | 47 |
| Table 2.2 – List of Abbreviations .....                                                | 49 |
| Table 4.1 – Patented Mining Claims .....                                               | 56 |
| Table 6.1 – Summary of Activity at the Lone Star Property .....                        | 60 |
| Table 6.2 – Historic Drilling on the Lone Star Property .....                          | 62 |
| Table 6.3 – Historic Intercepts on the Lone Star Property .....                        | 62 |
| Table 6.4 – P&E Mining Consultants Mineral Resource Estimate, 2007 .....               | 63 |
| Table 7.1 – Differences between Permo-Triassic and Jurassic Age Rocks .....            | 66 |
| Table 7.2 – Upper NW Zone Copper/Nickel Relationships .....                            | 76 |
| Table 10.2 – 2021 to 2022 Marquee Drill Program Highlights .....                       | 83 |
| Table 11.1 - Lone Star QC summary for Merit 2006 Drilling .....                        | 87 |
| Table 11.2 - CRM names and expected values for Cu and Au for Merit 2006 Drilling ..... | 87 |

|                                                                                                   |     |
|---------------------------------------------------------------------------------------------------|-----|
| Table 11.3 - Lone Star QC summary for Marquee 2021-2022 Drilling.....                             | 93  |
| Table 11.4 - CRM names and expected values for Cu and Au for Marquee 2021-2022 Drilling .....     | 93  |
| Table 13.1 – Metallurgical Sample Composition.....                                                | 101 |
| Table 13.2 – Head Assay Results.....                                                              | 101 |
| Table 13.3 – Comminution Testing Summary .....                                                    | 102 |
| Table 13.4 – LCT Test Conditions .....                                                            | 107 |
| Table 13.5 – LCT Product Results.....                                                             | 107 |
| Table 14.1 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off.....                              | 109 |
| Table 14.2 - Lone Star Copper Assay Statistics within Copper Grade Domains.....                   | 115 |
| Table 14.3 - Lone Star Gold Assay Statistics within Gold Grade Domains .....                      | 116 |
| Table 14.4 - Lone Star Copper Composite Statistics within Copper Grade Domains .....              | 117 |
| Table 14.5 - Lone Star Gold Composite Statistics within Gold Grade Domains.....                   | 117 |
| Table 14.6 - Lone Star High-Grade Composite Restriction .....                                     | 118 |
| Table 14.7 - Lone Star Variogram Parameters for Low Grade Copper and Gold Domains.....            | 119 |
| Table 14.8 - Lone Star Block Model Setup.....                                                     | 120 |
| Table 14.9 - Search Parameters .....                                                              | 121 |
| Table 14.10 - Comparison of NN and IDW Estimates at 0% Cutoff for Combined LG and HG Domains..... | 124 |
| Table 14.11 - Parameters Used for Conceptual Pit Shell .....                                      | 127 |
| Table 14.12 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off.....                             | 128 |
| Table 14.13 - Tabulation of tonnes and grades at various CuEq% cutoffs.....                       | 129 |
| Table 16.1 – Design Pit Quantities.....                                                           | 132 |
| Table 16.2 – Design Pit Geometry .....                                                            | 132 |
| Table 16.3 – Design Pit Geometry .....                                                            | 134 |

|                                                                                                                          |     |
|--------------------------------------------------------------------------------------------------------------------------|-----|
| Table 16.4 – Lone Star Mining Schedule.....                                                                              | 139 |
| Table 16.5 – Primary Mining Equipment Fleet Requirements .....                                                           | 142 |
| Table 16.6 – Workforce Summary .....                                                                                     | 144 |
| Table 17.1 – List of Buildings and Facilities .....                                                                      | 147 |
| Table 18.1 – List of Buildings and Facilities .....                                                                      | 152 |
| Table 20.1 – Lone Star Environmental Baseline Studies for Mining Activities .....                                        | 163 |
| Table 20.2 – Key Required Permits and Licences.....                                                                      | 169 |
| Table 20.3 – Estimated Timeframe for Major Permits .....                                                                 | 171 |
| Table 21.1 – Summary of Mining Capital Cost Estimate.....                                                                | 173 |
| Table 21.2 – Breakdown of the individual equipment costs for the main mining and supporting mining equipment fleets..... | 174 |
| Table 21.3 – Breakdown of the cost for the various infrastructure/ building costs.....                                   | 174 |
| Table 21.4 – Flotation Circuit Capital Direct Cost Estimate .....                                                        | 176 |
| Table 21.5 – Summary of the Estimated Operating Costs .....                                                              | 177 |
| Table 22.1 – Financial Model Metal Prices.....                                                                           | 179 |
| Table 22.2 – NSR Calculation Inputs and Results.....                                                                     | 180 |
| Table 22.3 – Economic Model – Financials Section.....                                                                    | 181 |
| Table 22.4 – Economic Model - DCF Section .....                                                                          | 182 |
| Table 22.5 –Mining Cost Sensitivity Analysis on NPV and IRR .....                                                        | 183 |
| Table 23.1 – Lexington-Grenoble MRE .....                                                                                | 186 |
| Table 23.2 – Golden Crown MRE .....                                                                                      | 187 |
| Table 25.1 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off .....                                                    | 194 |
| Table 25.2 – Design Pit Quantities.....                                                                                  | 195 |
| Table 25.3 – Mining Schedule .....                                                                                       | 195 |

|                                                                       |            |
|-----------------------------------------------------------------------|------------|
| <b>Table 25.4 – Primary Mining Equipment Fleet Requirements .....</b> | <b>196</b> |
| <b>Table 25.5 – Summary of Mining Operating Cost Estimate.....</b>    | <b>199</b> |
| <b>Table 25.5 – Lone Star Risks.....</b>                              | <b>200</b> |
| <b>Table 25.6 – Lone Star Opportunities.....</b>                      | <b>202</b> |
| <b>Table 26.1 – Summary of Recommendations .....</b>                  | <b>205</b> |

## 1 SUMMARY

---

### 1.1 Introduction

Marquee Resources commissioned Mining Plus US Corporation (MPUS) to compile a preliminary economic assessment (PEA) of the Lone Star Project. The PEA was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and the requirements of Form 43-101 F1.

The responsibilities of the engineering consultants and firms who are providing qualified persons are as follows:

- Mining Plus US Corporation (MPUS) managed and coordinated the work related to the report. MPUS designed the open pit (OP) production schedules, general site infrastructure and mine capital and operating costs as well as market analysis for this technical report. MPUS was also responsible for the general assembly of this technical report.
- Mining Plus Australia built the cost model and conducted the economic analysis.
- Ridge Geoscience LLC completed the work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, exploration works, sample preparation and analysis, data verification, and mineral resource estimate.
- Ron Espell performed the work relating to environmental planning, assessment, licensing and permitting.
- Sedgman Canada developed the PEA-level design and cost estimate for the process plant, general site infrastructure (insofar processing), site water management infrastructure (insofar processing), mineral processing and metallurgical testing.

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

### 1.2 Terms of Service

Mineral resources and mineral reserves (if applicable) are reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019).

All measurement units used in this report are International System units (SI) and all currencies are expressed in US dollars (\$USD) unless otherwise stated.

The Lone Star Project consists of a single property for which Marquee Resources commissioned Mining Plus US Corporation (MPUS) to compile a preliminary economic

assessment (PEA) in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and the requirements of Form 43-101 F1.

### 1.3 Property Description and Location

The Lone Star copper-gold property is centred on an area 40 km north-northwest of Republic, Washington in Ferry County, Washington, USA. The northern limit of the property is adjacent to the Canada-USA border and is adjacent to CanxGold Mining Corporation's Lexington property in British Columbia. The nearest Canadian towns are Greenwood, British Columbia, 12 km to the north-west and Grand Forks, British Columbia, 12 km to the east north-east. The property is centred at 48°59'45"N and 118°37'00"W. Figure 1.1 illustrates the property location.

The Lone Star Property is comprised of 17 patented mining claims totalling 105.2ha owned by Lema Trust for Children. Sixteen of the claims are contiguous and the seventeenth claims lies approximately 100 m south-east of the contiguous claims. The patented claims are under option to BGP Resources Inc., a Washington State company owned 100% by Belmont Resources. Belmont Resources are in a joint venture agreement with Marquee Resources with regards to the Lone Star Property.

### 1.4 Project Setting

The property is accessible by road from the nearby town of Republic, Washington by traveling paved State Route 20 6.4 km east to Pine Grove Junction, then north on paved State Route 21 for approximately 40 km, then left onto the improved Big Goosmus Creek Road for approximately 6.4 km. The final 1.6 km is unimproved road that leads to the Lone Star Property and is not maintained by the state or county. See Figure 1.1.

The Lone Star Property is within a "Hilly" setting surrounded by Pine Forests. The area is characterized by deep valleys and steep hills and the Goosmus Creek runs just west of the historic open pit within Federal Land. This will adversely affect site access and mining operations in general.

Mineral exploration can be conducted year-round. However, it must be noted that seasonal variations are extreme with hot summers to extremely cold winters with significant snowfall. Precipitation generally throughout the year with heavier than normal rainfall during May to July and heavier snowfall throughout November to January.

Mining equipment and personnel are likely available regionally as this area supported mining activities as late as 2017. The general area is serviced by modern telecommunications, commercial airlines (Spokane) and truck transportation.

Communications and power are available along Highway 21. Water resources are locally available. Cell phone coverage extends to the property.

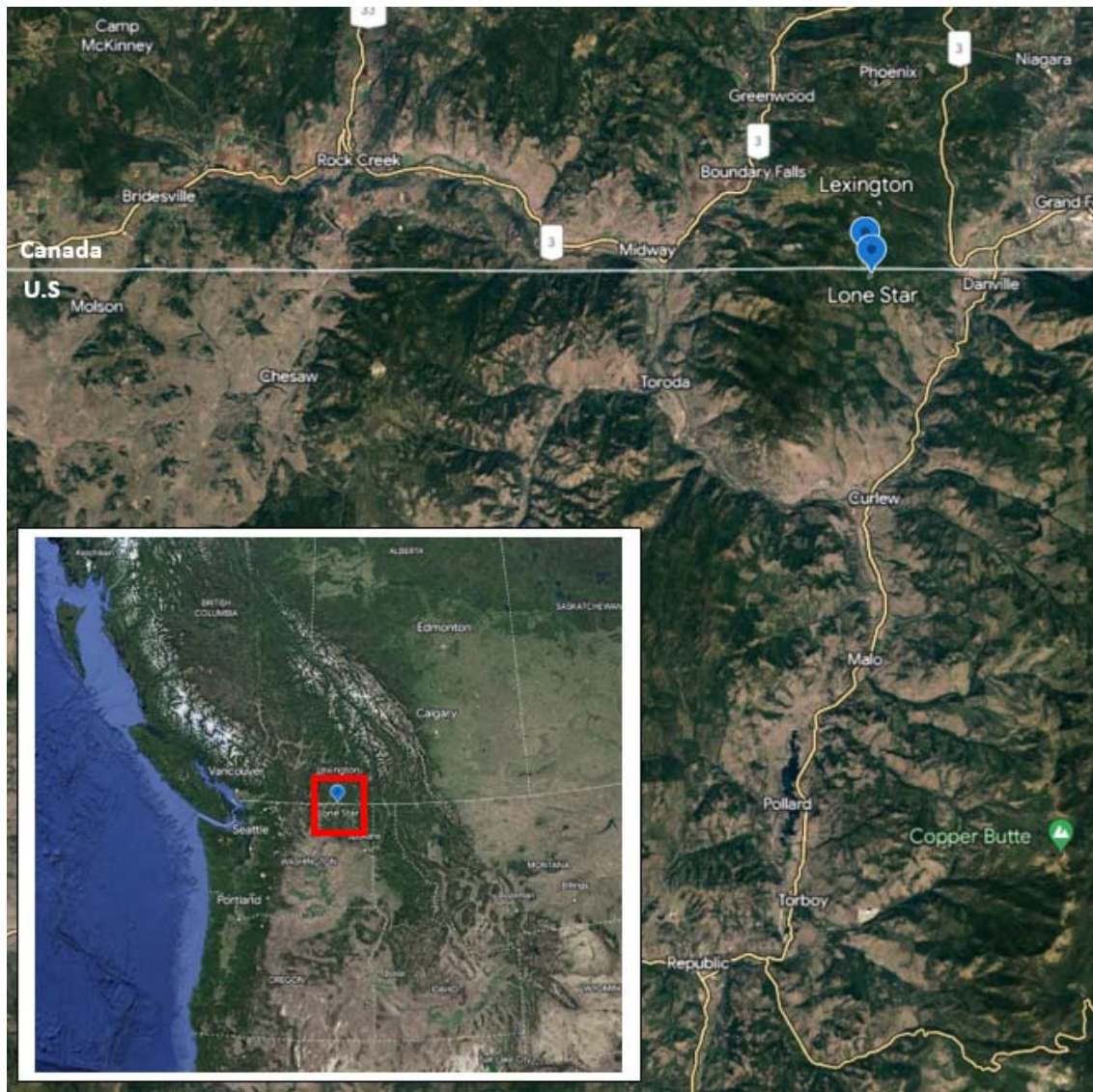


*Figure 1.1 - Lone Star Property Location*

## 1.5 Geology and Mineralization

The geology of northeastern Washington state is characterized primarily by several alternating Tertiary Age, northerly-trending grabens and the high-grade metamorphic terranes that lie adjacent to the grabens. The Republic Graben is a Tertiary Age geologic feature that may have formed due to extensional tectonics which yielded extensive volcanism. The Lone Star Property straddles the Bacon Creek Fault, which lies along the western margin of the Republic Graben. Pearson and Obradovich (1977) have suggested that quartz monzonite plutons found in the horsts between the grabens may be co-magmatic with

Eocene volcanic rocks found in the grabens, and that the quartz monzonite reflects a different crustal level than that of the volcanic rocks in the grabens.

The Lone Star Deposit is likely a Jurassic Age ophiolite complex, which is thought to be laterally extensive beneath a Permo-Triassic upper plate, and gently-dipping to the southeast of the Lone Star Project.

The Lone Star Cu/Au/Ag Deposit lies within a VMS environment. The primary mineralization at the Lone Star Deposit consists of three types of mineralization. The first type of mineralization consists of gently-dipping, syngenetic stratiform chemical sediments in Jurassic Age submarine volcanic rocks. The second type of mineralization may have been derived partly from remobilization of Type 1 mineralization. The first two consist predominantly of sulphide mineralization within a submarine volcanic stratigraphy. The third type of mineralization may be Tertiary Age epithermal gold/silver mineralization but is not the focus of this technical report.

## 1.6 History

Work on the Lone Star property began over a century ago, in 1897. The first shipment of ore from underground mining occurred during this time. That shipment totalled 1,540 tons with an unknown copper content. An additional 145,000 tons averaging 1.25% copper, 1.1 g/t gold, and 6.2 g/t silver were mined from 1910 through 1918. From 1977-1978, Granby Mining Company created the present-day pit at Lone Star, mining approximately 400,000 tons of ore and unknown grades. No mining has occurred since 1978. In 2005, Merit Mining acquired the Lone Star property. In July 2021, Belmont Resources acquired the mine and in November 2021 entered into a joint-venture agreement with Marquee Resources, whereupon further drilling commenced.

## 1.7 Deposit Types

Several deposit types have been identified on the Lone Star Property. Jurassic submarine volcanogenic mineralization constitutes the primary mineralization of interest. Jurassic Age mineralization is both syngenetic and epigenetic. The Jurassic Age mineralization has relatively good continuity, although copper/gold/silver grades are moderately variable. Thanks to a simple technological advance, the use of diamond saws for core splitting, it is now clear that we are dealing with a submarine volcanic pile. The delicate textures seen clearly on the sawn faces of the core provided proof and textbook features that have established a volcanic stratigraphy. The geologic model used for the 2021-2022 exploration program is that of a submarine rhyolite dome and associated volcanogenic massive sulphide (VMS) and chemical sediment occurrence in Jurassic Age rocks. Subsequent drilling confirmed the accuracy of the model.

## 1.8 Exploration

A LIDAR survey was flown in October 2021 by Pioneer Exploration Consultants Ltd. and the resultant digital terrain model is used to constrain the modelled geological interpretation and block model.

Other than drilling, no significant mineral exploration has been undertaken on the Property.

## 1.9 Drilling and Sampling

The Lone Star Property was drill tested during the period 1910 to 1990 by 238 diamond and percussion holes totalling 22,643 m. The historical data are not included in this data compilation and Resource Estimate. Recent drilling has confirmed the mineralized zone and replaces the historical data.

Merit undertook a diamond drill campaign in the fall of 2006. The 13-hole program totalling 834 m was aimed at verifying historic drilling and geological interpretations for a high-grade shoot model. Kettle Drilling Inc. of Coeur d'Alene, Idaho was the drilling contractor for the 2006 program.

A total of 8,201 m of drilling was completed in 47 drill holes from November 15, 2021, through June 1, 2022. The drill program was designed to verify mineralization encountered by previous operators and also produce a resource estimate that complies with modern industry standards. Drilling continued 7 days per week, 24 hours per day except for a ten-day holiday and infrequent equipment breakdowns. All drill holes were completed with HQ size core (63.5 mm diameter). Core recovery was excellent overall. All holes were surveyed using a REFLEX GYRO SPRINT IQ multi-shot survey tool. Surveys were completed roughly every 30 m of hole depth. The tool has an azimuth accuracy of +/- 1 degree and a dip accuracy of +/- 0.3 degrees. One geologist logged all drill core to maintain uniformity of rock type designation.

The QP has examined the logging, sampling, and analytical procedures for both historical (2005 drill program) and modern drilling utilized by Marquee Resources. In the opinion of the QP, Marquee and laboratory personnel have used industry standard best practices in the collection, handling, management and analysis of drill core and assay samples.

The QP is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results presented in this report.

## 1.10 Data Verification

The QP has reviewed the adequacy of the exploration information and the property's physical, visual, and geological characteristics. No significant issues or inconsistencies were discovered

that would call into question the validity of the data. In the QP's opinion, the Lone Star data is adequate and suitable for use in this technical report.

### 1.11 Metallurgical Test Work

The Lone Star metallurgical test program verified that copper and gold could be recovered using a conventional flowsheet arrangement. Testing focused on a single bulk composite that represented the dominant lithology and the average copper and gold grades of the mineral resource.

The bulk composite measured 0.52% Cu, 0.15 g/t Au, 1.8 g/t Ag, and 0.77% S.

The test program included material hardness benchmarking by Bond Ball Work Index which measured 14.3 kWh/t indicating average hardness. Flotation testing was conducted at variable primary grinds and chemistries, followed by regrinding and cleaner flotation. Lock Cycle Testing produced a final concentrate at 27.8% Cu and 11.3 g/t Au with 89.2% copper recovery and a combined gravity-flotation gold recovery of 83.3%. Testing observed the effect of coarse-grained gold in assays.

### 1.12 Mineral Resource Estimation

The Lone Star Mineral Resource estimate was completed using Leapfrog Geo version 2021.2.4 software in UTM coordinates. The parent block size is 5 m x 5 m x 2 m, and blocks were further sub-blocked to a minimum of 1.25 m x 1.25 m x 0.50 m along the lithology and grade domain boundaries. The block model was constrained by interpreted three-dimensional wireframes of the lithologies and mineralized horizons. Copper and gold were estimated into blocks using Inverse Distance Weighting Squared interpolation. The Mineral Resource is reported inside a conceptual pit shell at an internal cutoff grade of 0.10% copper equivalent. Based on these criteria, the Lone Star deposit contains an Indicated Mineral Resource of 9.76 Mt at 0.45% copper and 0.23 g/t gold and an Inferred Mineral Resource of 3.35 Mt at 0.31% copper and 0.20 g/t gold. The Mineral Resource is presented below in Table 1.1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

**Table 1.1 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off**

| Classification   | Tonnes (Mt) | CuEq% | Cu%  | Au g/t |
|------------------|-------------|-------|------|--------|
| <b>Indicated</b> | 9.76        | 0.60  | 0.45 | 0.23   |
| <b>Inferred</b>  | 3.35        | 0.44  | 0.31 | 0.20   |

**Notes:**

1. The Mineral Resource has been compiled by Mr. Brian Hartman of Ridge Geoscience LLC, and subcontractor to Mining Plus. Mr. Hartman is a Registered Member of the Society for Mining, Metallurgy & Exploration, and a Practicing Member with Professional Geoscientists Ontario. Mr. Hartman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined by NI 43-101.
2. All Mineral Resources figures reported in the table above represent estimates at 1 October 2023.
3. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape, and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.
4. Mineral Resources are estimated consistent with CIM Definition Standards and reported in accordance with NI 43-101.
5. Mineral Resources are reported on a dry in-situ basis at a 0.10% CuEq cut-off. Reporting cut-off grade was based on an economic pit shell assuming prices of US\$4.10/lb and US\$1,750/oz for copper and gold, respectively, selling costs of US\$0.10/lb and US\$50/oz, respectively, assumed metallurgical recoveries of 90% and 90% respectively, mining recovery of 90%, mining costs of US\$2.00/tonne and processing costs of US\$7.00/tonne. An internal cutoff grade of 0.10% copper equivalent is needed to overcome processing costs.
6. Average SG values were assigned based on copper grade zones and/or lithologies as follows: waste = 2.74, low-grade zone = 2.80, high-grade zone = 3.05, overburden = 1.90

A total of 60 drill holes were included in the modern Lone Star database, of which 13 were drilled in 2006 and 47 were drilled in 2021-2022. Two holes drilled in 2006 encountered drilling problems and were subsequently twinned. The two original holes were not used in the resource estimate. All 58 remaining drill holes used in the resource estimate are diamond drill holes, with a total combined length of approximately 8,880 m. Assays are available from 56 of the 58 drill holes.

The mineral resources defined in this section are not mineral reserves. Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, market, or other relevant issues.

### 1.13 Mining Methods

Mining will be conducted using conventional truck and excavator methods. Open pit mining will provide the mineral processing plant feed at a rate of 5,000 tpd, which was based on processing capacity inputs assumed for this project. This yields a LOM of approximately 14 years.

At the time that the pit design was conducted, final processing throughputs have not yet been finalised. The assumption of 5000tpd was based on discussions with the QP's of sections 13 and 17, whom advised that early indications are a processing throughput of up to 5000tpd. This number was adopted for Section 16 as excess ore produced can be stockpiled should final throughput numbers be lower. Additionally, this will serve as a buffer to unplanned mine stoppages, which was not accounted for in PEA level production scheduling.

Confirmation was subsequently received that the Kinross Kettle River will indeed only be able to process a maximum of 1.5Mtpa. This equates to 4,110tpd capacity, which falls short of the design 5,000tpd. The current design only achieves 5,000tpd in years 11 through 13. Average ore production over the LOM stands at approximately 1.0Mtpa. With this in mind, future and more detailed mine planning, may alter pit mining sequence to resource level production to ensure the 1.5Mtpa rate is maintained. The current production profile remains as is.

Summary design pit quantities are given in Table 1.2 below.

**Table 1.2 – Design Pit Quantities**

| Material Classification                                                                          | Tonnage (Mt) | Grade Cu % | Grade Au g/t |
|--------------------------------------------------------------------------------------------------|--------------|------------|--------------|
| Indicated                                                                                        | 10,382,270   | 0.42       | 0.22         |
| Inferred                                                                                         | 3,726,286    | 0.27       | 0.21         |
| Total for processing                                                                             | 14,108,556   | 0.38       | 0.21         |
| Total Waste                                                                                      | 58,753,261   | 0.01       | 0.00         |
| Total Material Mined                                                                             | 72,861,818   | -          | -            |
| Note: Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability |              |            |              |

The Lone Star pit is designed for 6 m mining bench heights based on consideration of the loading equipment capabilities (mining height and reach). Additional design considerations include an overall pit slope angle of 55°, an Inter-ramp angle of 60°, Bench face angle of 75° and a catch berm width of 1.9m. Maximum haul road width was set at 18m, which is suitable for the selected mining equipment and a maximum haul road gradient of 10°.

The final pit design was based off the optimization shell template as described in Section 16.4 and a 3D representation shown in Figure 1.2 below.

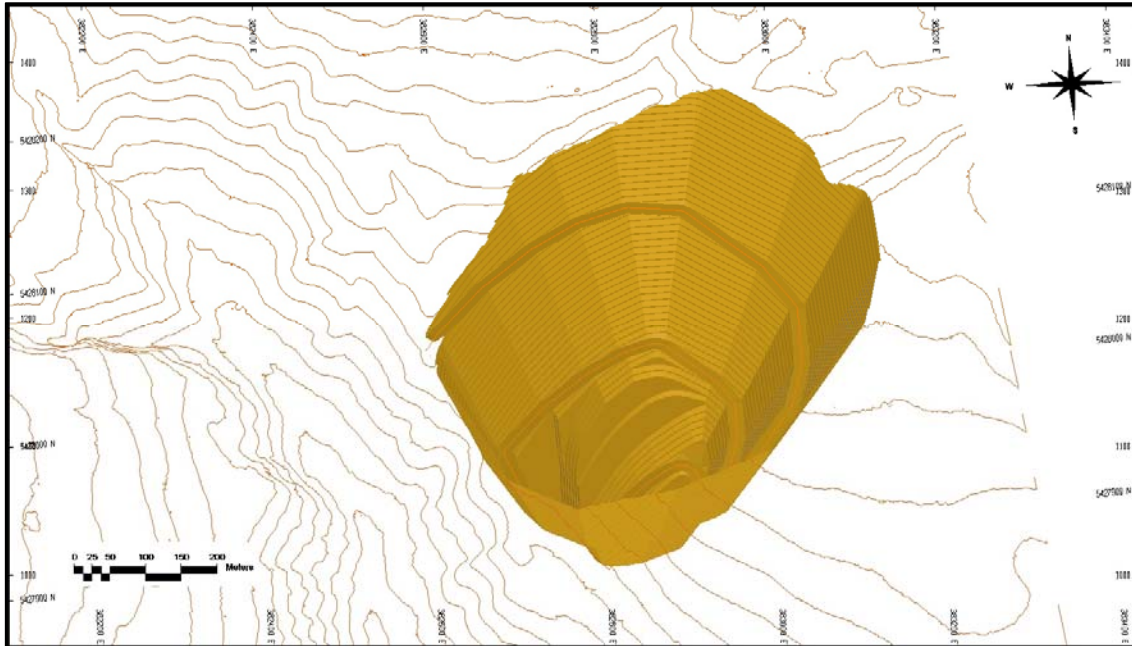


*Figure 1.2 – 3D View of the Lone Star Pit*

The open pit operations are planned to run for fourteen years to pit depletion. Scheduling is based on 5000tpd maximum ore production and 15,000tpd maximum total material movement. See Table 1.3.

**Table 1.3 – Summary of Lone Star Production Schedule**

| Mining Schedule      |      |      |      |       |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Period Ending        | Year | Yr1  | Yr2  | Yr3   | Yr4  | Yr5  | Yr6  | Yr7  | Yr8  | Yr9  | Yr10 | Yr11 | Yr12 | Yr13 | Yr14 |
| Days in Period       |      | 365  | 365  | 365   | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 112  |
| Mine to Mill         | Mt   | 0.00 | 0.15 | 0.40  | 0.57 | 0.74 | 1.00 | 0.94 | 0.86 | 1.20 | 1.71 | 1.83 | 1.83 | 1.83 | 1.08 |
| Average Copper Grade | %    | 0.00 | 0.14 | 0.26  | 0.38 | 0.42 | 0.38 | 0.37 | 0.41 | 0.35 | 0.28 | 0.29 | 0.41 | 0.47 | 0.48 |
| Average Gold Grade   | g/t  | 0.00 | 0.08 | 0.15  | 0.18 | 0.18 | 0.16 | 0.19 | 0.34 | 0.21 | 0.15 | 0.21 | 0.22 | 0.28 | 0.28 |
| Mine to Waste Dump   | Mt   | 5.48 | 5.33 | 5.08  | 4.91 | 4.74 | 4.47 | 4.54 | 4.61 | 4.28 | 3.77 | 3.65 | 3.65 | 3.65 | 0.61 |
| Total Material Mined | Mt   | 5.48 | 5.48 | 5.48  | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 1.69 |
| Strip Ratio          |      |      |      | 12.73 | 8.67 | 6.44 | 4.47 | 4.85 | 5.34 | 3.57 | 2.21 | 2.00 | 2.00 | 2.00 | 0.57 |

The mine equipment selected are based on typical surface equipment fleet operated by North American open pit mine operations. A summary of the primary fleet requirements is shown in Table 1.4.

**Table 1.4 – Primary Mining Equipment Fleet Requirements**

| Equipment                            | Quantity |
|--------------------------------------|----------|
| Scania 8 x 4 Heavy Tipper Haul Truck | 6        |
| Komatsu PC1250SP-11 Excavator        | 2        |

|                               |   |
|-------------------------------|---|
| Flexiroc D50 Production Drill | 1 |
| Komatsu D51PX-22 Dozer        | 1 |
| CAT 120GC Motor Grader        | 1 |
| Komatsu HM300-3 Water Truck   | 1 |

Mining operations is supported with a secondary fleet and this information is further detailed in section 16 of the report.

A contract model is proposed for the Lone Star Operation whereby the owner supplies all facilities and equipment, and a contractor supplies the labour.

Operations would run on two 12 hrs shifts (Day shift and Night shift) and for analysis purposes an effective 20 duty hours out of 24 hours are assumed to account for pre-shift meetings and other downtime hours.

Depending on employment type, rosters will either be 8/6 changing between dayshift and nightshift, or a 5/2 weekday roster on dayshift only.

The Lone Star operation would require an initial workforce of 124 personnel, peaking at 183 in Y11 to Y13. This is largely driven by truck operators hauling ore to the Kettle River Mill. On site personnel remains mostly steady at 127 personnel over most of the LOM.

#### 1.14 Recovery Methods

Milling of the Lone Star mined material is anticipated to be conducted on a toll-milling basis at Kinross' Kettle River facility. The facility has an existing crushing, grinding, and gravity recovery circuit that can be utilized. The processing rate of the crushing circuit has not been evaluated. Assuming a crushed product size P80 10mm the grinding circuit would allow for processing at 1.5 MTPA. The Lone Star mined responded well to conventional flotation processing. A new flotation circuit would need to be built on site. The primary grind ahead of flotation would be 200 µm with a regrind to 30 µm. The flotation plant would recover approximately 89.2% of the copper at a grade of 27.8% Cu and a combined gold gravity-flotation recovery of 83.3%. Approximately 70 TPD of concentrate would be produced.

#### 1.15 Project Infrastructure

Infrastructure to support the Lone Star Project will consist of site civil work, buildings, and site electrical power. Site facilities will include mine facilities predominantly as the current assumption rests on ore being processed off-site at the nearby Kettle River Processing facility.

The Kettle River facility will require upgrades to process the Lone Star copper-gold ore and is summarized below.

Mine facilities include:

- Offices, truck shop, warehouse, and wash bay;
- Common facilities include a gatehouse and administration building;
- Power Farm
- Basic potable water supply and wastewater management;
- Mine facilities will be serviced with potable water, fire water, compressed air, power, diesel, communication, and sanitary systems.

Processing Infrastructure requirements include:

- The Kettle River facility has existing office, laboratory and workshop facilities but requires the addition of a new flotation circuit. The new flotation building has an approximate footprint of 30m x 40m with a height of approximately 20m. There are multiple location options on the property for the new flotation building.
- Kettle River has an existing tailings storage facility and the assessment is still underway. It is assumed that the tailings storage facility would be suitable to receive tailings from the new flotation circuit.

The Lone Star property may provide sufficient area to establish mine infrastructure such as waste storage areas, haul and access roads and ROM pad. Currently, selected infrastructure locations were based on optimum placement rather than considering property boundaries in order to analyse the deposit rather than a “constrained” deposit. This means that portions of current infrastructure fall outside of property boundaries. Marquee may be required to purchase more land to facilitate the current planned layout or more detailed engineering is required to confirm the suitability and sufficiency of the current property area in PFS/FS level studies. These will encompass the required trade-off studies, which is not covered at the PEA level.

The overall site plan is shown in Figure 1.3.



Figure 1.3 – Planned Site Layout

## 1.16 Environmental, Permitting and Social Considerations

### 1.16.1 Environmental Considerations

The Project has not started the mining permitting stage. There do not appear to be any significant impediments to obtaining environmental or operating permits.

There is a reasonable expectation that the company can obtain the necessary permits. However, the geochemical characterization of the low-grade ore stockpiles and the waste rock may require additional testing to satisfy the regulatory agencies that the mine can be operated and closed in a manner protective of human health and the environment. Marquee Resources may be required to design the facility with a higher level of engineering and agency oversight to satisfy the regulatory agencies.

### 1.16.2 Project Status

For projects proposing disturbance of over five acres, a Plan of Operations (PoO) and National Environmental Policy Act (NEPA) compliance is required by the Bureau of Land Management (BLM) together with a reclamation permit issued by the Washington Department of Natural Resources (DNR). The Project is located on private lands (patented mining claims) and public lands administered by the BLM. To date, project permitting has not started.

### 1.16.3 Environmental and Supporting Studies

Baseline studies will be required by both the BLM and DNR and will be the basis to advance exploration and mine permitting. The PoO will be developed to specifically avoid or minimize environmental impacts. A series of Environmental Protection Measures may be required for impacts that could not be avoided but could be minimized by applying management controls. These measures can then be carried into the PoO and included in the NEPA documents. A list of anticipated baseline studies can be found in Table 20-1, Lone Star Environmental Baseline Studies for Mining Activities.

### 1.16.4 Environmental Monitoring

Monitoring programs will be developed based on requirements of the regulatory agencies and the associated permits/approvals issued by those agencies. Some of the major permits driving the monitoring programs would include, DNR water protection permit, Reclamation Permit, Air Quality Operating Permit, NEPA Record of Decision (EIS) or Finding of No Significant Impacts (Environmental Assessment), and various other federal, state and local permits and approvals.

### 1.16.5 Closure Plan

Marquee Resources will need to meet BLM and DNR objectives for post mining land uses. Major land uses occurring in the Project area include mineral exploration and development, livestock grazing, wildlife habitat and dispersed recreation.

Following closure, the Project area will support the multiple land uses of mineral exploration and development, livestock grazing, wildlife habitat, and recreation. Project personnel will need to work with the agencies and local governments to evaluate alternative land uses that could provide long-term socioeconomic benefits from the mine infrastructure. Post-closure land uses will be in conformance with the BLM and Ferry County Land Use Plans.

### 1.16.6 Permitting

The review of permit requirements for the project assumes the specific development scenario outlined in this document which is based on the following assumptions:

- New Project activities would occur on both patented claims and unpatented claims on public lands administered by the BLM.
- DNR will concur that the Project can be operated and closed in a manner protective of human health and the environment through the issuance of the state permits.
- Federal approval received from the BLM following completion of the NEPA analysis (either an Environmental Assessment or an Environmental Impact Statement).
- Goosmus Creek is designated as Waters of the United States and will require a 404 permit from the US Army Corps of Engineers to develop a haulage crossing of the creek.

Anticipated environmental and other permits associated with the proposed project would include those identified in Table 1.5.

**Table 1.5 – Key Required Permits and Licences**

| Permits and Authorizations                                                 | Regulatory Agency                                                         |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Plan of Operations/Record of Decision                                      | Bureau of Land Management                                                 |
| State Environmental Policy Act (SEPA)                                      | Department of Ecology's Environmental Review Section                      |
| Explosives Permit                                                          | U.S. Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms |
| Air Contaminant Source Operation Permit                                    | Washington Department of Ecology                                          |
| Water Pollution Control Act                                                | Washington Department of Ecology                                          |
| Groundwater And Surface-Water withdrawal                                   | Washington Department of Ecology                                          |
| Mining Reclamation Permit                                                  | DNR                                                                       |
| Landfill Permit                                                            | Washington Department of Ecology                                          |
| General Discharge Permit (Stormwater)                                      | Washington Department of Ecology                                          |
| Hazardous Materials Storage Permit                                         | Washington Department of Ecology                                          |
| Hazardous Waste Identification Number                                      | United States Environmental Protection Agency                             |
| Septic Treatment Permit                                                    | Washington Department of Ecology                                          |
| On-site Sewage System Permit                                               |                                                                           |
| Oil Pollution Act- Spill Prevention Control and Countermeasure Plan (SPCC) | U.S. Environmental Protection Agency                                      |
| Potable Water System Permit                                                | Washington Department of Ecology                                          |
| <b>Local Permits</b>                                                       |                                                                           |
| County Road Use and Maintenance Permit/Agreement                           | Ferry County Building Planning Department                                 |

### 1.16.7 Social Considerations

Marquee Resources will need to take all the necessary steps to engage the local community to create awareness regarding the Project. During the NEPA process, the public will have multiple opportunities to engage and comment on the project and express support or concerns.

### 1.17 Capital and Operating Costs

The total estimated capital cost is US\$73.1m and is summarized in Table 1.6 below.

The capital costs estimate is comprised of an initial cost upfront prior to the commencement of operations. This accounts for the acquisition of the main mining equipment, supporting mining equipment, infrastructure/ buildings, and a 10% contingency. It also includes the capital cost to construct a new flotation circuit to produce a copper-gold concentrate. The cost of the new flotation circuit includes a 20% contingency.

A sustaining capital cost estimate has been estimated to occur 7 years after the commencement of operations. It covers the calculated rebuild costs of all mining equipment, 2/3 of the initial main and support equipment costs, and includes a 10% contingency.

**Table 1.6 – Summary of Mining Capital Cost Estimate**

| Initial Capital                  | Unit        | Value               | Source             |
|----------------------------------|-------------|---------------------|--------------------|
| Processing                       | US\$        | 57,815,759.0        | Calculated Sedgman |
| Main mining equipment            | US\$        | 4,273,748.0         | Calculated MPUS    |
| Support Mining                   | US\$        | 3,806,000.0         | Calculated MPUS    |
| Infra/Buildings                  | US\$        | 409,000.0           | Calculated MPUS    |
| Contingency                      | US\$        | 10%                 | Assumption         |
| <b>Total Initial Mining cost</b> | <b>US\$</b> | <b>67,153,381.8</b> | Calculated         |

| Sustaining Capital (Rebuild in 7 years) | Unit          | Value/LOM          | Source     |
|-----------------------------------------|---------------|--------------------|------------|
| Main mining equipment                   | M US\$        | 2,849,165.3        | Calculated |
| Support Mining                          | M US\$        | 2,537,333.3        | Calculated |
| Contingency                             | M US\$        | 10%                | Assumption |
| <b>Total Sustaining Mining cost</b>     | <b>M US\$</b> | <b>5,925,148.5</b> | Calculated |

The mine operating costs have been estimated by utilizing benchmark mining cost data from S&P Capital IQ market intelligence platform.

The processing cost is based on \$/t ore treated through toll treating facility. The transport costs are the cost associated with the freight of the ore to the processing facility.

Costs associated with the treatment and refining of the copper and gold concentrate have also been estimated. This is required to adequately estimate the revenue generated from the sale of concentrate. It essentially discounts the realized gold and copper prices used in estimating the revenue generated. Table 1.7 below summarizes the estimated operating costs.

**Table 1.7 – Summary of Mining Capital Cost Estimate**

| Operating Cost      | Unit          | Unit Cost | Source             |
|---------------------|---------------|-----------|--------------------|
| Mining              | \$/ t mined   | 3.24      | Benchmark Estimate |
| Processing          | \$/ t treated | 14.49     | Estimate           |
| Transport           | \$/ tkm       | 0.1       | Estimate           |
| General & Admin     | \$/ t treated | 1         | Estimate           |
| NSR Treatment       | \$/ dmt       | 88        | Estimate           |
| NSR Gold Refining   | \$/ dmt       | 1.44      | Calculated         |
| NSR Copper Refining | \$/ dmt       | 30.62     | Calculated         |

### 1.18 Economic Analysis

A pre-tax real dollar assessment has been performed on the Lone Star Copper Gold Project by utilizing an excel based financial model from which the Net Present Value (NPV), Internal Rate of Return (IRR), and payback can be determined. The NPV and IRR can assist in the determination of the economic value and viability of the project. Details of exchange rates, inflation rates and escalation, discount rate, metal prices, royalties, taxation, and net smelter return used in the analysis is contained in Section 22 of this Report.

The base case evaluation, which is in real dollars, was evaluated by determining the pre-tax NPV at a discount rate of 12%. The result is a negative NPV of \$123.9m.

The outcome of the economic analysis is a negative NPV. This is largely due to the low revenue generated from a largely low-grade deposit relative to the operating and capital costs. The first positive operating cash flows occur in year 11 of the project, see Figure 1.4.

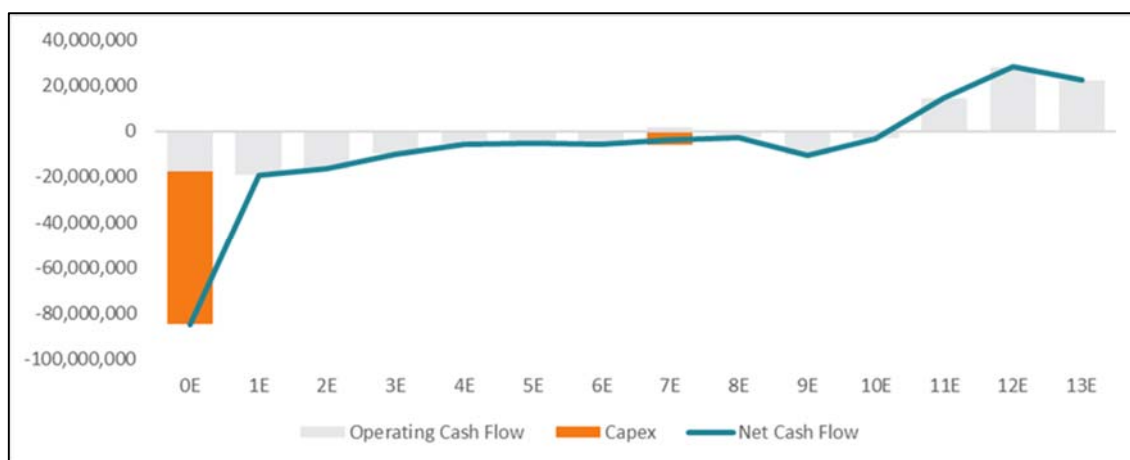


Figure 1.4 – Net Cash Flow vs Operating Cash Flows and Capex

### 1.19 Risks and Opportunities

The Risks and Opportunities relating to the Lone Star Project are summarized in Tables 1.8 and 1.9.

**Table 1.8 – Lone Star Risks**

| Relevant Section(s)                  | Risk                                                                                                                                                                                                                                                   | Explanation/Potential Impact                                                                                                                                                                                                                                                                   | Possible Risk Mitigation                                                                                                                                                                                                                                                              |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.12, 14, 16.3, 25.1                 | Current resource falls within property boundaries, however, constraining pit extends beyond property boundaries.                                                                                                                                       | Current pit design extends outside (towards the east) of current property boundaries. Further resource and exploration drilling may expand current resources, which conflates this risk. Currently, property boundaries will severely limit the allowed pit design and thus project economics. | Marquee should investigate the possibility of purchasing or staking unpatented mining claims on BLM land prior to mineral exploitation to ensure all resources fall within land owned or controlled by the company.                                                                   |
| 1.4, 1.16, 4.5, 5.5, 20, 25.1, 25.2  | Big Goosmus Creek running west of the current Lone Star pit is likely jurisdictional Waters of the United States. Furthermore, the “Pyrtis” claim overlays the creek and any deposit defined within this claim will be at risk.                        | Any extraction of a deposit or associated mining activity that may impact such sensitive areas greatly increases complexity, cost and effort to operations and may in certain cases not be allowed/permitted to proceed.                                                                       | The Company will have to specifically address any disturbance to the creek in both Federal and Washington state permitting and will require Section 404 permitting with the US Army Corps of Engineers prior to any disturbance of the creek or riparian lands adjacent to the creek. |
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | If toll treating or other Kettle River Mill treatment options are not achievable, then a plant will have to be placed on the Lone Star property. The risk includes difficult terrain (very hilly with steep valleys) and environmental considerations. | If toll treating off-site is not possible, a trade-off study will be required to determine on-site or alternative options. Note that with on-site treatment options permitting requirements will be significantly increased by construction of a processing plant on site.                     | The company will have to confirm toll treatment at the Kettle River Mill as soon as possible. This will allow the company to implement alternatives as soon as possible, which includes long lead time permitting.                                                                    |

|                                      |                                                                                                                                                                                                              |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                            |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | Crushing circuit at Kettle River is not sufficient to produce P80 10mm at 1.5 MTPA                                                                                                                           | Reduced plant throughput                                                                                                                                                                                                                             | Supplementary crushing to reduce demands on the crushing circuit.<br><br>Replacement of existing crushing equipment                                                                                        |
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | Kettle River equipment is not suitable for use                                                                                                                                                               | Refurbishment or replacement cost for existing equipment                                                                                                                                                                                             | Refurbishment or Replacement of existing equipment                                                                                                                                                         |
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | Hilly terrain will affect mining operations. Placement of mining infrastructure affected by the terrain.                                                                                                     | Mining operation infrastructure already affected by terrain and property boundary considerations, however, will be possible if ore treated off-site. This will become significantly more problematic if a plant and TSF must be constructed on-site. | The company will have to investigate land purchase options or the staking of claims within BLM lands as soon as possible. Consideration to topography, future resource potential is required in this case. |
| 16                                   | Current PEA level study does not include lower dipping overburden angles. If taken into considerations, this will increase the current pit footprint, which further exacerbates the tenement boundary issue. | When taken into consideration, this will increase the current pit footprint, which further exacerbates the tenement boundary issue. It will also increase the amount of required topsoil storage.                                                    | This issue will have to be quantified further in PFS/FS level studies. The company will have to take this into consideration with staking of new claims and/or land purchases.                             |
| 1.16, 20, 25.2, 25.10                | Dust and noise pollution as a result of mining operations/activities.                                                                                                                                        | Increased traffic in the local area will lead to noise pollution, dust and other negative affects to local residents.                                                                                                                                | The company will have to address community issues at the PFS/FS level and prior to any commencement of activities.                                                                                         |
| 1.16, 20                             | Acid mine drainage risk from ore/waste stockpile areas.                                                                                                                                                      | Given the sulfidic nature of the ore and waste rock, geochemical characterization will be a critical component of the mine planning and permitting efforts.                                                                                          | The company will need to integrate the waste rock management plan into the project design to avoid potential impacts from acid mine drainage from the open pit and waste rock dump.                        |
| 18                                   | Kettle River tailings storage facility cannot                                                                                                                                                                | Tailings storage facility is of insufficient size and cannot be expanded                                                                                                                                                                             | Need alternative location for tailings disposal                                                                                                                                                            |

|  |                                |  |  |
|--|--------------------------------|--|--|
|  | accommodate Lone Star tailings |  |  |
|--|--------------------------------|--|--|

**Table 1.9 – Lone Star Opportunities**

| Relevant Section(s) | Opportunity                                                             | Explanation                                                                                                                                                                                                                                                                                      | Possible Benefit                                                                                                                                                                                                                                                        |
|---------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.2.2               | Potential gold deposit approximately 400m west of the Lone Star deposit | Historic drilling, although not deemed reliable, does indicate a potential gold bearing deposit to the west of the Lone Star deposit. The area, called the SW Zone, that runs along the Bacon Creek Fault, has both historic and more recent drilling corroborating mineralisation in this area. | A drilling program, similar to the 2021 to 2022 program may define additional resources close to the current Lone Star resource, which may positively affect current deposit economics.                                                                                 |
| 7.2.2               | Lone Star deposit open to the east and south                            | Based on the current interpretation of the Lone Star orebody, there is a large area to the east and south of the pit that may warrant exploratory drill tests beneath upper plate and adjacent, semi-tabular, gently-dipping Tertiary Age rhyodacite                                             | A larger deposit will likely ensue a larger pit with increased LOM. It will fundamentally change the project economics and options relating to ore treatment. The likely benefit here is that economics of scale will be beneficial in all KPI relating to the project. |
| 17                  | Procure Processing facility and install on-site                         | With consideration of transporting costs to the processing facility, high estimated toll-treating costs and the capital required to install a floatation circuit at the Kettle River Mill, the opportunity exists that this can be done cheaper than currently modelled.                         | An increased capital outlay initially may potentially negate transport costs for the most part and reduce processing opex.                                                                                                                                              |
| 16, 17              | Ore Sorting Technology                                                  | Due to low grade resource, ore transport and treatment forms a large component of overall cost profile.                                                                                                                                                                                          | Ore sorting on site potentially may decrease the amount of ore required to be transported, therefore the amount that requires processing. This will                                                                                                                     |

|  |  |  |                                              |
|--|--|--|----------------------------------------------|
|  |  |  | result in a corresponding reduction of opex. |
|--|--|--|----------------------------------------------|

## 1.20 Recommendations

A summary of recommendations is given in Table 1.10.

**Table 1.10 – Lone Star Recommendations**

| No | Description                                                                                                                                                                                       |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Trade-off Study to determine land purchase options for optimum infrastructure placement vs altered infrastructure placement within current boundaries                                             |
| 2  | Marquee to consider land purchase or staking of claims on BLM lands to allow for increased resource at higher commodity prices and/or in the event that on-site processing is a favourable option |
| 3  | Further exploration drilling of the SW Zone                                                                                                                                                       |
| 4  | Further exploration drilling of the Lone Star Deposit                                                                                                                                             |
| 5  | Further variography analysis and the use of Ordinary Kriging once additional drilling is complete.                                                                                                |
| 6  | Further SG analysis                                                                                                                                                                               |
| 7  | Hydrogeological drilling and test work                                                                                                                                                            |
| 8  | Hydrogeological Study                                                                                                                                                                             |
| 9  | Water Management Study                                                                                                                                                                            |
| 10 | Geotechnical study to improve on current design assumptions                                                                                                                                       |
| 11 | Further mineralised waste analysis                                                                                                                                                                |
| 12 | Topsoil thickness study                                                                                                                                                                           |
| 13 | Environmental Baseline Studies                                                                                                                                                                    |
| 14 | Early community consultations                                                                                                                                                                     |
| 15 | Continued metallurgical testing considering variability samples from different areas of the resource is required                                                                                  |
| 16 | For major composites and variability samples additional testing is required to determine key design parameters and to optimize performance                                                        |
| 17 | Investigate methods to increase ore grade on-site to reduce total ore hauled for processing needs to be investigated                                                                              |

## 2 INTRODUCTION

---

### 2.1 The issuer for the technical report

Marquee Resources Ltd (ASX:MQR) commissioned Mining Plus US Corporation (MPUS) to compile a preliminary economic assessment (PEA) of the Lone Star Project. The PEA was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and the requirements of Form 43-101 F1.

The responsibilities of the engineering consultants and firms who are providing qualified persons (QP's) are as follows:

- Mining Plus US Corporation (MPUS) managed and coordinated the work related to the report. MPUS designed the open pit (OP) production schedules, and mine capital and operating costs as well as market analysis for this technical report. MPUS was also responsible for the general assembly of this technical report.
- Mining Plus Australia built the cost model and conducted the economic analysis.
- Ridge Geoscience LLC completed the work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, exploration works, sample preparation and analysis, data verification, and mineral resource estimate.
- Ron Espell performed the work relating to environmental planning, assessment, licensing and permitting.
- Sedgman Canada developed the PEA-level design and cost estimate for the process plant, general site infrastructure, site water management infrastructure, mineral processing and metallurgical testing.

### 2.2 Purpose of Technical Report and Terms of Reference

This National Instrument 43-101 (NI 43-101) Technical Report provides a Mineral Resource Estimate and Preliminary Economic Assessment of the copper and gold mineralization at the Lone Star deposit in Ferry County, Washington, USA. The effective date for the Lone Star mineral resource estimate is 1 October 2023. The data cut-off date is 30 September 2022, which includes all data from the 2021-2022 drilling program. No additional drilling has been completed on the property.

This report supports disclosures by Marquee Resources and Belmont Resources on announced mineral resource estimates dated October 2022. The MRE in this technical report has been updated to reflect most recent updated on copper and gold pricing and associated market outlooks as discussed in section 19 of this report.

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic

considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

## 2.3 Sources of Information and References

This technical report is based on internal company reports, maps, published reports and public information as listed under Section 27. Additionally, it is based on Data from the 2006 drill program and the 2021/202 drill program. Further information is cited in Section 3.

## 2.4 Summary of Qualified Persons

Those presented in Table 2.1 serve as the qualified persons for this Technical Report as defined in National Instrument 43- 101, Standards of Disclosure for Mineral Projects, and in compliance with Form 43-101F1.

The authors are not experts with respect to legal, socio-economic, land title, or political issues, and are therefore not qualified to comment on issues related to the status of permitting, legal agreements, and royalties. Information related to these matters has been provided directly by Marquee Resources and include, without limitation, validity of mineral tenure, status of environmental and other liabilities, and permitting to allow completion of environmental assessment work. These matters were not independently verified by the QPs but appear to be reasonable representations that are suitable for inclusion in Chapters 4, 14, 20 and 22 of this report.

**Table 2.1 - Summary of Qualified Persons**

| Qualified Person | Professional Designation | Position             | Employer             | Independent of Marquee Resources | Report Section                            |
|------------------|--------------------------|----------------------|----------------------|----------------------------------|-------------------------------------------|
| Scott Britton    | P. Eng                   | Director - US        | MPUS                 | Yes                              | 1,2,3,15,16,18, 19,21,23,24,25, 26,27     |
| Lomar Sloane     | M. Eng                   | Principal Consultant | MPUS                 | Yes                              | 1,2,3,15,16,18, 19,21,23,24,25, 26,27     |
| Brian S. Hartman | P. Geo.                  | Principal Geologist  | Ridge Geoscience LLC | Yes                              | 4,5,6,7,8,9,10, 11,12,14                  |
| Ben Adaszynski   | P. Eng                   | Manager Project      | Sedgman Canada Ltd   | Yes                              | 1.11, 1.14, 1.15, 13, 17, 18.7.1, 18.7.2, |

|              |                             |                             |                    |     |                          |
|--------------|-----------------------------|-----------------------------|--------------------|-----|--------------------------|
|              |                             | Development                 |                    |     | 25.5, 25.8, 25.9, 26.5   |
| Ron Espell   | Principal Consultant        | Principal Consultant        | KTW Env Consulting | Yes | 1.16,4.5,20,25.10,26.1.6 |
| Glen Zamudio | Senior Principal Consultant | Senior Principal Consultant | MPAus              | Yes | 1.18,22,25.12, 26.7      |

## 2.5 Site Visits

Mr. Brian S. Hartman, P.Geo. conducted a site visit for the Lone Star project on April 20, 2022, for the purposes of verifying and validating geological information. Mr. Hartman is a Qualified Person responsible for the site visit requirement for Lone Star.

The objective of the visit included the following:

- Verification of geology of the property,
- Verification of drilling program, drilling practices, core examination and observation of mineralized intercepts,
- Inspection of site infrastructure (and/or lack thereof),
- Surrounding infrastructure and supporting industry in relation to property,
- Inspection of local topography, site conditions and streams and,
- Identification of potential site infrastructure locations

Mr. Lomar Sloane, M.Eng. conducted a site visit for the Lone Star project on September 14, 2023, for the purposes of general inspection of a potential future mining operation. Mr. Sloane is a Qualified Person responsible for the site visit requirement for Lone Star.

The objective of the visit included the following:

- Inspection of site infrastructure (and/or lack thereof),
- Surrounding infrastructure and supporting industry in relation to property,
- Inspection of local topography, site conditions and streams,
- Identification of potential site infrastructure locations,
- General road conditions and access to/from site and,
- Availability of grid power and communications,

Due to current assumptions and/or other limitations, a site visit was not performed, nor deemed a requirement for the level of this technical report by Mr Ben Adaszynski, Mr. Ron Espell and Mr. Glenn Zamudio.

## 2.6 Units of Measure and List of Abbreviations

Unless otherwise noted, all units used in this report are metric. Copper assay values are in percent (%) and gold assay values are reported in grams per tonne (g/t). All currency in \$US unless otherwise stated.

**Table 2.2 – List of Abbreviations**

| Abbreviation | Description                                                                            |
|--------------|----------------------------------------------------------------------------------------|
| AA           | Atomic Absorption                                                                      |
| AAS          | Atomic Absorption Spectroscopy                                                         |
| ABA          | Acid Base Accounting                                                                   |
| ASX          | Australian Stock Exchange                                                              |
| BC           | British Columbia                                                                       |
| BLM          | Bureau of Land Management                                                              |
| CIM          | Canadian Institute of Mining                                                           |
| CO           | Colorado                                                                               |
| COG          | Cut-Off-Grade                                                                          |
| CRM          | Certified Reference Material(s)                                                        |
| DH           | Downhole                                                                               |
| DNR          | Department of Natural Resources                                                        |
| DTH          | Down the hole                                                                          |
| EA           | Environmental Assessment                                                               |
| EIS          | Environmental Impact Statement                                                         |
| EPM          | Environmental Protection Measure                                                       |
| EV           | Electric Vehicle                                                                       |
| FA           | Fire Assay(ed)                                                                         |
| FS           | Feasibility Study                                                                      |
| FW           | Footwall                                                                               |
| GPS          | Global Positioning Satellite                                                           |
| GRG          | Gravity Recoverable Gold                                                               |
| HG           | High Grade                                                                             |
| HQ           | Diamond drilling system having a core diameter of 63.5 mm and a hole diameter of 96 mm |
| HV           | High Voltage                                                                           |
| IA           | Iowa                                                                                   |
| ICP          | Inductively Coupled Plasma                                                             |
| IDW          | Inverse Distance Weighting                                                             |
| ISO          | International Organization for Standardisation                                         |
| IT           | Integrated Tool carrier                                                                |
| LCT          | Lock Cycle Test                                                                        |

|      |                                             |
|------|---------------------------------------------|
| LG   | LG                                          |
| LLC  | Limited Liability Company                   |
| LOI  | Letter of Intent                            |
| LOM  | Life of Mine                                |
| MIBC | Methyl Isobutyl Carbinol                    |
| MOU  | Memorandum of Understanding                 |
| MPUS | Mining Plus US Corporation                  |
| MQR  | Marquee Resources                           |
| MRE  | Mineral Resource Estimate                   |
| MSHA | Mines Safety and Health Act                 |
| NEPA | National Environmental Policy Act           |
| NHPA | National Historic Preservation Act          |
| NI   | National Instrument                         |
| NN   | Nearest Neighbor                            |
| NOI  | Notice of Intent                            |
| NSR  | Net Smelter Return                          |
| NW   | North-West                                  |
| OES  | Optical Emission Spectroscopy               |
| PEA  | Preliminary Economic Evaluation             |
| PFS  | Pre-Feasibility Study                       |
| pH   | Level of Alkalinity/Acidity                 |
| PoO  | Plan of Operation(s)                        |
| QA   | Quality Assurance                           |
| QC   | Quality Control                             |
| QP   | Qualified Person                            |
| RBF  | Radial Basis Function                       |
| RF   | Revenue Factor                              |
| ROM  | Run-of-Mine                                 |
| RQD  | Rock Quality Designation                    |
| SD   | Standard Deviation                          |
| SE   | South-East                                  |
| SEPA | State Environmental Policy Act              |
| SG   | Specific Gravity                            |
| SHPO | State Historic Preservation Office          |
| SI   | System Units                                |
| SPCC | Spill Prevention Control and Countermeasure |
| SW   | South-West                                  |
| TR   | Technical Report                            |
| TSF  | Tailings Storage Facility                   |
| US   | United States                               |
| USA  | United States of America                    |
| USD  | United States Dollar                        |
| USFS | United States Forestry Service              |
| USGS | United States Geological Survey             |
| UTM  | Universal Transverse Mercator               |

|      |                              |
|------|------------------------------|
| VMS  | Volcanic Massive Sulphide    |
| WA   | Washington State             |
| WPCP | Water Pollution Control Plan |
| WRMP | Waste Rock Management Plan   |
| WRSF | Waste Rock Storage Facility  |

## 2.7 Grid coordinate system

The coordinate system used for the project grid is based upon the Universal Transverse Mercator (UTM) grid coordinate system.

### 3 RELIANCE ON OTHER EXPERTS

---

All Sections of this Report, with the exception of Section 3 were prepared using information provided by Marquee or other third parties and verified by QP's, where applicable, or based on observations made by QP's.

The QP's have relied on and believe there is a reasonable basis for this reliance, upon the contribution by Marquee and specialist consultants engaged by Marquee as noted below. The Qualified Persons do not disclaim any responsibility for this information.

A list of the reports that contributed to the PEA is provided in Section 27.

Except as provided under applicable Canadian and US securities laws, any use of this report by any third party is at that party's sole risk.

#### 3.1 Project Background, History, Ownership and Tenure

Mining Plus has relied on information provided by Marquee including land ownership and tenure status. Mining Plus's scope has specifically excluded all aspects of legal, political, land titles and agreements, excepting such aspects as may directly influence technical, operational, or cost issues. Mining Plus has not conducted land status evaluations.

Information on these technical areas as provided by Marquee forms the basis of Chapters 4 to 6 of this Report.

#### 3.2 Geological Setting, Exploration and Sampling

Mining Plus has not performed any sampling or assaying, geological mapping, excavated any trenches, drilled any holes, or carried out any independent exploration work to assist in validating project assumptions. Mining Plus has relied on geological and sampling information as provided by Marquee. Mining Plus has reviewed the data to confirm and verify there is no material issues and there is a reasonable basis for reliance in the preparation of the Resource estimate and subsequent PEA.

Information on these technical areas as provided by Marquee forms the basis of Sections 7 to 12 of this Report.

#### 3.3 Metallurgical Testing

The investigation into mineral processing and the metallurgical testing of samples was undertaken by Base Metallurgical Laboratories Ltd in Kamloops, British Columbia, Canada. Sedgman completed a review of the data to confirm there is a reasonable basis for reliance in support of the PEA.

Information on this technical area has been provided by Base Metallurgical Laboratories and forms the basis of Section 13 of this Report.

### **3.4 Market Studies and Contracts**

The investigation into commodity future supply and demand and price forecasts relied on such information as made publicly available by S&P Global and Citi Research Group. Mining Plus completed a high-level review of the data to confirm there is a reasonable basis for reliance in support of the PEA.

Information on this technical area has been sourced from S&P Global and Citi Research Group and forms the basis of Section 19 of this Report.

The authors have reviewed, within the scope of their technical expertise, all the available information presented to them by others however, they cannot guarantee its accuracy and completeness. The authors reserve the right, but will not be obligated to, revise the technical report and its conclusions if additional information becomes known to them subsequent to the effective date of this report.

## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Location of Property

The Lone Star copper-gold property is centred on an area 40 km north-northwest of Republic, Washington in Ferry County, Washington, USA. The northern limit of the property is adjacent to the Canada-USA border and is adjacent to CanxGold Mining Corporation's Lexington property in British Columbia. The nearest Canadian towns are Greenwood, British Columbia, 12 km to the north-west and Grand Forks, British Columbia, 12 km to the east north-east (Figure 4.1). The property is centred at 48°59'45"N and 118°37'00"W.

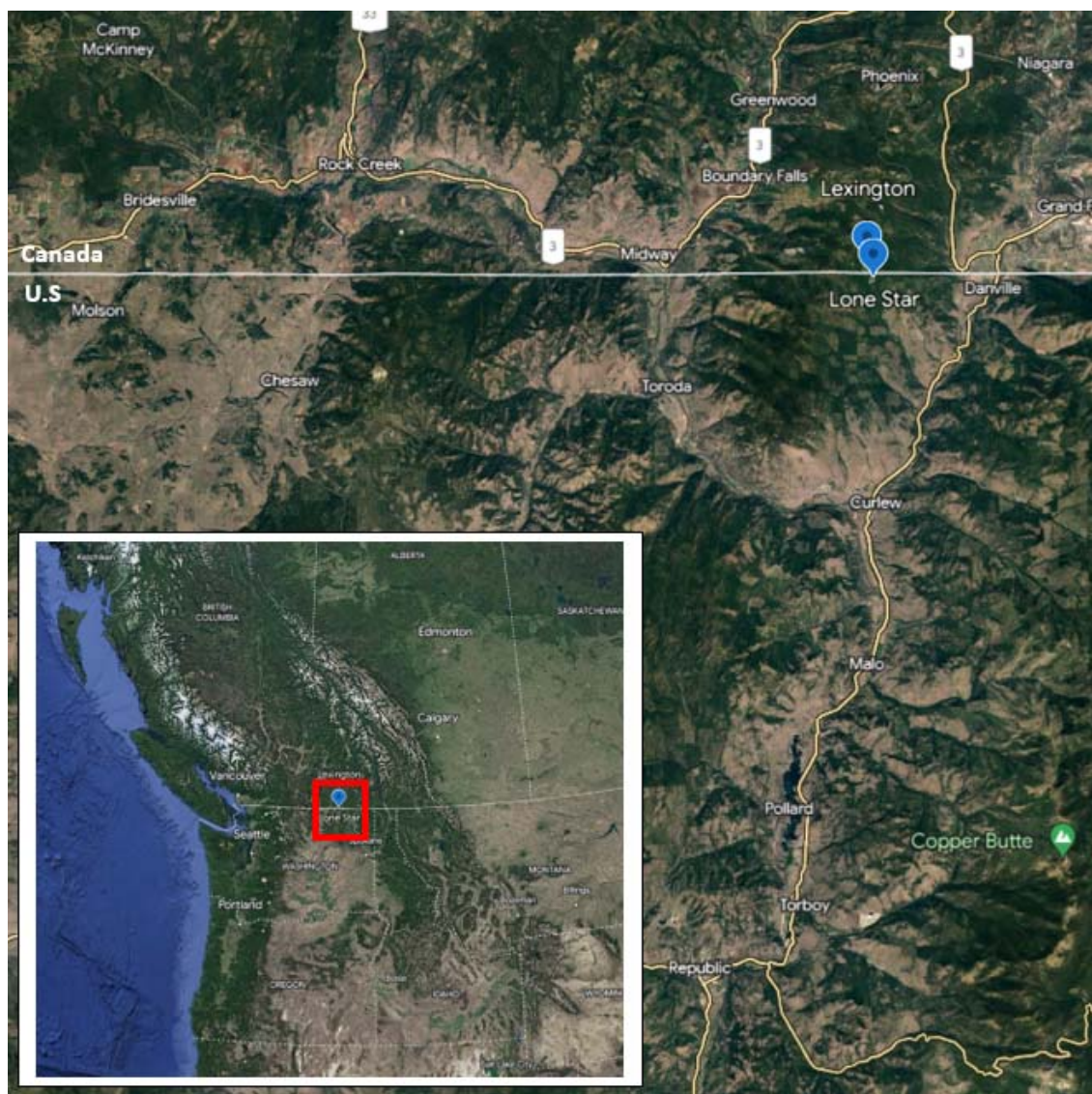


Figure 4.1 - Lone Star Property Location

## 4.2 Tenure History

Work on the Lone Star property began over a century ago, in 1897. Claims in the area have been held by different entities throughout the years as fully described in Section 6. In 2005, Merit Mining acquired the Lone Star property. In 2021, Belmont Resources acquired the project and entered into a joint-venture agreement with Marquee Resources. Belmont Resources are currently in the process of exercising its option to acquire the claims.

## 4.3 Mineral Tenure

The Lone Star Property is comprised of 17 patented mining claims (105.2ha) owned by Lema Trust for Children. Sixteen of the claims are contiguous and the seventeenth claims lies approximately 100 m south-east of the contiguous claims (Figure 4.2).

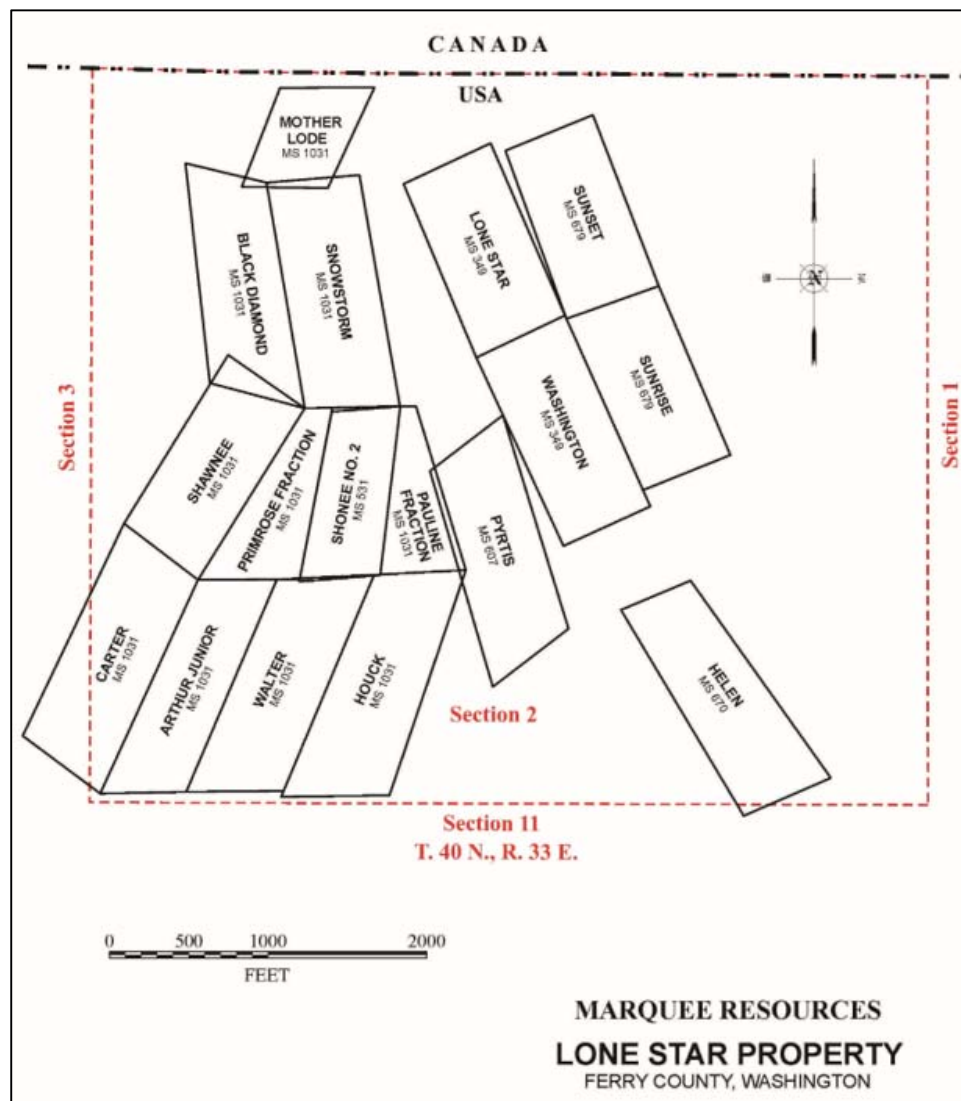


Figure 4.2 - Lone Star Property Patented Mining Claims

The patented claims are under option to BGP Resources Inc., a Washington State company owned 100% by Belmont Resources. See Table 4.1. That 30-year option to purchase was completed on June 5, 1993, and expired on June 5, 2023. The price to exercise the option to purchase is US\$500 per acre, or a total of approximately US\$130,060. As of the date of this report, Belmont is in the process of legally exercising its option to acquire the claims.

**Table 4.1 – Patented Mining Claims**

| Claim Name           | Mineral Survey Number | Granted    |
|----------------------|-----------------------|------------|
| Lone Star            | 349                   | 07/08/2019 |
| Washington           | 349                   | 07/08/2019 |
| Sunset               | 679                   | 07/08/2019 |
| Sunrise              | 679                   | 07/08/2019 |
| Pyrtis               | 607                   | 07/08/2019 |
| Helen                | 670                   | 07/08/2019 |
| Shonee No. 2         | 531                   | 07/08/2019 |
| Shawnee (aka Shonee) | 1031                  | 07/08/2019 |
| Pauline Fraction     | 1031                  | 07/08/2019 |
| Carter               | 1031                  | 07/08/2019 |
| Arthur Jr            | 1031                  | 07/08/2019 |
| Houck                | 1031                  | 07/08/2019 |
| Walter               | 1031                  | 07/08/2019 |
| Primrose Fraction    | 1031                  | 07/08/2019 |
| Black Diamond        | 1031                  | 07/08/2019 |
| Snowstorm            | 1031                  | 07/08/2019 |
| Motherlode           | 1031                  | 07/08/2019 |

#### **4.4 Encumbrances on Property**

The claims are subject to a 2.5% NSR royalty payable to the owners. There are no back-in rights or other agreements or encumbrances to which the property is subject.

#### **4.5 Permitting Considerations**

##### **4.5.1 Exploration**

Continued exploration drilling may require reclamation permitting with the State of Washington Department of Natural Resources (DNR). In Washington State, specifically for mineral exploration, new surface disturbances of more than 1 acre in any 8-acre parcel of private land require reclamation permitting to specific standards. However, this includes only new surface disturbance. The network of existing drill roads and the existing pit at Lone Star reduces the need for new disturbances. New disturbances created thus far by Marquee Resources activities are approximately 0.3 acres. There is no requirement that the 8-acre parcel be any specific shape. In theory, numerous 8-acre parcels could be created in a way to avoid reclamation permitting for an additional limited exploration drilling program.

##### **4.5.2 Mining**

The Project has not started the mining permitting stage. There do not appear to be any significant impediments to obtaining environmental or operating permits.

There is a reasonable expectation that the company can obtain the necessary permits. However, the geochemical characterization of the low-grade ore stockpiles and the waste rock may require additional testing to satisfy the regulatory agencies that the mine can be operated and closed in a manner protective of human health and the environment. Marquee Resources may be required to design the facility with a higher level of engineering and agency oversight to satisfy the regulatory agencies.

#### **4.6 Environmental Liabilities and Permits**

There are no known environmental liabilities on the property. There is both current exploration and drilling related disturbance as well as historic mining disturbance. Some or all of this disturbance may be required by DNR to be included in the reclamation permit based on the age of the disturbance and whether this disturbance will be utilized as part of the Lone Star mining plan.

#### **4.7 Comment**

The authors are unaware of any other significant factors or risks that would affect access, title, or the right or ability to perform work on the Property.

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

---

### 5.1 Access to Property

The property is accessible by road from the nearby town of Republic, Washington by traveling paved State Route 20 6.4 km east to Pine Grove Junction, then north on paved State Route 21 for approximately 40 km, then left onto the improved Big Goosmus Creek Road for approximately 6.4 km. The final 1.6 km is unimproved road that leads to the Lone Star Property and is not maintained by the state or county. Driving time from Republic, Washington is approximately 45 minutes.

There is also a historic haul road that was used during open pit mining in the mid 1970's that linked the Lone Star deposit north to the Phoenix Mine in Canada. Additional improved roads lead from the Phoenix pit to Greenwood, British Columbia where there is an existing mill on care and maintenance. The haul road is currently blocked by boulders at the international border.

### 5.2 Climate

The climate at the project area is semi-arid, with hot summers and cold winters. Temperatures range from a mean minimum temperature of -9°C in December and January to a mean maximum temperature of 29°C in July and August, but temperature extremes can range from -34°C to 38°C. The area receives an average of 460 mm of precipitation per year, with annual snowfall of 1320 mm falling between October and April. The exploration season is typically May through September, but it is possible to drill year-round. A mining operation in this area could operate year-round.

### 5.3 Local Resources

The Lone Star property is in close proximity to the communities of Republic (population 1,100) and Colville (population 4,700), about 40 km and 100km away, respectively. These communities have provided the necessary supplies and services to operate past exploration programs and it is feasible that local populations can be utilised as a local workforce to support mining operations. There is also a large skilled workforce of trades and technical professionals and equipment suppliers throughout the region. The local area supported mining operations as late as 2017.

## 5.4 Infrastructure

The only infrastructure at site is a core logging and storage facility that consists of 5 shipping containers, each 40 feet (12.2 m) in length and 8 feet (2.44 m) in width. The property also has a small open pit (approximately 100 m x 180 m) from mining activities in the mid 1970's.

Limited power is available to the residents that live within the Big Goosmus Creek drainage. Those power lines extend to within approximately 1.6 km of the property. Depending on the life-of-mine grid power options are a possibility or independent power farms can be utilised.

Other infrastructure is available in the area to support mining. The K2 mine near Curlew Washington is operated by Kinross Gold, but is not currently in production. There are existing mills nearby. The mill in Greenwood BC, roughly 18km to the north, it is currently capable of processing only 200 tonnes per day, but might be expandable to 400 tonnes per day. A second mill near Republic is owned by Kinross Gold. It has the capability to process up to 5000 tonnes per day. It is currently on care and maintenance, but this would be the preferred option due to throughput capacity. Marquee is in the process of obtaining a "Letter of Intent" and/or "Memorandum of Understanding" pertaining to the use of the Kinross Kettle River Mill. The economics in the technical report is based on the assumption that this LOI/MOU will be obtained and that ore from the Lone Star project will be treated at the Kinross Mill.

## 5.5 Physiography

The regional terrain is mountainous. Elevation ranges from 900 m (3,000 ft) to 1,200 m (4000 ft). The higher elevations are generally forest-covered while lower elevations are often grassland with interspersed forest. The forest cover consists primarily of second growth Ponderosa Pine, Douglas Fir, and Larch. Big Goosmus Creek passes through the property. The Kettle River lies about 7 km to the east of the property.

## 6 HISTORY

### 6.1 Prior Ownership

Work on the Lone Star property began over a century ago, in 1897. Claims in the area have been held by different entities throughout the years. This is described in more detail in Section 6.2. In 2005, Merit Mining acquired the Lone Star property. In July 2021, Belmont Resources acquired the mine and in November 2021 entered into a joint-venture agreement with Marquee Resources, whereupon further drilling commenced.

### 6.2 Work Performed on Property

Early work on the Lone Star property over a century ago was substantial. The first shipment of ore occurred in 1897. That shipment totalled 1,540 tons with an unknown copper content (Cowley and Puritch, 2007). By 1910, a significant amount of development work had been completed. That development consisted of over 762 m of underground workings and at least 1095 m of diamond drilling in 26 drill holes (Bancroft, 1914). A brief summary of the entire history of the property gleaned from Cowley and Puritch (2007) is shown in Table 6.1 below.

**Table 6.1 – Summary of Activity at the Lone Star Property**

| Year | Description                                                                                                                                                                                            |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1897 | Lone Star produced 1,540 tons of copper ore.                                                                                                                                                           |
| 1908 | B.C. Copper Company acquired the Lone Star property and built an 8.7 km long cable aerial tramway from the Lone Star Mine to the Boundary Falls Smelter in Canada.                                     |
| 1909 | Consolidated Mining and Smelting Co. acquired the property, continued underground development, installed an aerial tram to the Boundary Falls mill, and shipped over 4,500 tons between 1910 and 1913. |
| 1910 | Ore was shipped from 1910 through 1918. Those shipments totalled 145,000 tons averaging 1.25% copper, 0.036 opt (1.1 g/t) gold, and 0.20 opt (6.2 g/t) silver.                                         |
| 1953 | Attwood Copper Mines acquired the Lone Star property from Eugene Mining Company. Attwood opened the old underground workings and conducted mapping, sampling, and a diamond drill program.             |
| 1955 | Granby Mining optioned the Lone Star and nearby Richmond property from Attwood and conducted a diamond drilling program.                                                                               |

|      |                                                                                                                                                                                                                                                                      |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1961 | The Lone Star and Richmond properties were optioned to Moneta Porcupine. They conducted drilling and geophysical surveys.                                                                                                                                            |
| 1969 | Falconbridge surveyed the Lone Star and claims to the south.                                                                                                                                                                                                         |
| 1970 | From 1970-1971, Israel Continental conducted a drill program on the Lone Star and Richmond properties.                                                                                                                                                               |
| 1972 | Granby Mining optioned the Lone Star and Richmond properties. Drilling was conducted from 1973 to 1975.                                                                                                                                                              |
| 1977 | From 1977-1978, Granby Mining Company created the present-day pit at Lone Star. They shipped about 400,000 tons of mineralized material to the Phoenix Mill.                                                                                                         |
| 1980 | Azure Resources acquired the Lone Star and conducted surface exploration and drilling from 1981-1985.                                                                                                                                                                |
| 1989 | From 1989-1991, US Borax and Kennecott Exploration carried out a mapping and drilling program on the Lone Star property                                                                                                                                              |
| 2002 | Gold City Industries acquired the Lexington and Lone Star properties. No work was completed on the Lone Star property.                                                                                                                                               |
| 2005 | Merit Mining acquired the Lone Star and Lexington properties. In 2006, Merit Mining conducted an 11-hole diamond drill program on Lone Star that totalled 2,736 feet (834 m). From that drilling, a resource calculation was prepared by P&E Mining Consultants Inc. |
| 2021 | Belmont Resources acquired the project and entered into a joint-venture agreement with Marquee Resources.                                                                                                                                                            |

Table 6.2 below shows a summary of historic drilling on the Lone Star Property. All holes were drilled from surface except for the Attwood holes in 1954 which were drilled from underground workings.

**Table 6.2 – Historic Drilling on the Lone Star Property**

| Year         | Diamond Holes | Drill | Percussion Holes | Total Meters  | Company        |
|--------------|---------------|-------|------------------|---------------|----------------|
| 1908         | 25            |       |                  | 1,222         | Unknown        |
| 1954         | 28 (UG)       |       |                  | 851           | Attwood        |
| 1955         | 56            |       |                  | 2,685         | Granby         |
| 1970         | 24            |       |                  | 5,446         | Israel         |
| 1973         |               |       | 13               | 1,098         | Granby-Coastal |
| 1974         |               |       | 4                | 460           | Granby-Coastal |
| 1975         | 7             |       |                  | 588           | Granby         |
| 1981         | 3             |       |                  | 427           | Azure          |
| 1981         |               |       | 14               | 1,166         | Azure          |
| 1982         | 2             |       |                  | 226           | Azure          |
| 1982         |               |       | 35               | 3,371         | Azure          |
| 1985         |               |       | 16               | 1,650         | Azure          |
| 1989         | 8             |       |                  | 1,639         | US Borax       |
| 1990         | 7             |       |                  | 1,814         | Kennecott      |
| 2006         | 13            |       |                  | 834           | Merit          |
| <b>Total</b> | <b>173</b>    |       | <b>82</b>        | <b>23,477</b> |                |

A selection of high-grade intercepts from the historic drilling are shown below in Table 6.3.

**Table 6.3 – Historic Intercepts on the Lone Star Property**

| Year | Hole ID | From (m) | To (m) | Thickness (m) | Cu %  | Au g/t |
|------|---------|----------|--------|---------------|-------|--------|
| 1970 | IC-2    | 55.5     | 60.8   | 5.3           | 5.8   | -      |
| 1970 | IC-4    | 70.1     | 73.2   | 3.1           | 16.25 | -      |
| 1970 | IC-7    | 106      | 122.6  | 16.6          | 3.71  | -      |

|      |       |       |       |      |      |      |
|------|-------|-------|-------|------|------|------|
| 1970 | IC-13 | 166.1 | 176.8 | 10.7 | 3.73 | -    |
| 1981 | L81-3 | 68.9  | 83.2  | 14.3 | 3.01 | 1.06 |
| 1908 | K-9   | 6.1   | 13.7  | 7.6  | 4.05 | 1.7  |
| 1908 | K-13  | 32    | 36.6  | 4.6  | 2.97 | 2.56 |
| 1955 | G-55  | 32.3  | 35.7  | 3.4  | 6.69 | 4.58 |

### 6.3 Historical Mineral Resource and Reserve Estimates

A Mineral Resource Estimate and NI 43-101 Technical Report were completed in 2007 by P&E Mining Consultants Inc. of Vancouver, British Columbia (Cowley and Puritch, 2007). Assumed metal prices were US\$2.84/lb for copper and US\$593/oz for gold. An underground mining operation was assumed with total mining, processing, G&A, and downstream costs equalling \$104.50/tonne. The reported Mineral Resource using a cutoff grade of 1.5% CuEq is shown in Table 6.4 below.

**Table 6.4 – P&E Mining Consultants Mineral Resource Estimate, 2007**

| Classification | Tonnes (kt) | Cu%  | Au g/t | CuEq% |
|----------------|-------------|------|--------|-------|
| Indicated      | 63          | 2.30 | 1.28   | 2.69  |
| Inferred       | 682         | 2.00 | 1.46   | 2.44  |

### 6.4 Historical Production from the Property

The first shipment of ore from underground mining occurred in 1897. That shipment totalled 1,540 tons with an unknown copper content. An additional 145,000 tons averaging 1.25% copper, 1.1 g/t gold, and 6.2 g/t silver were mined from 1910 through 1918. From 1977-1978, Granby Mining Company created the present-day pit at Lone Star, mining approximately 400,000 tons of ore and unknown grades. No mining has occurred since 1978.

## 7 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 Regional and Local Geology

The geology of northeastern Washington state is characterized primarily by several alternating Tertiary Age, northerly-trending grabens and the high-grade metamorphic terranes that lie adjacent to the grabens. The Republic Graben is a Tertiary Age geologic feature that may have formed due to extensional tectonics which yielded extensive volcanism. The Lone Star Property straddles the Bacon Creek Fault, which lies along the western margin of the Republic Graben (Figure 7.1). Pearson and Obradovich (1977) have suggested that quartz monzonite plutons found in the horsts between the grabens may be co-magmatic with Eocene volcanic rocks found in the grabens, and that the quartz monzonite reflects a different crustal level than that of the volcanic rocks in the grabens.

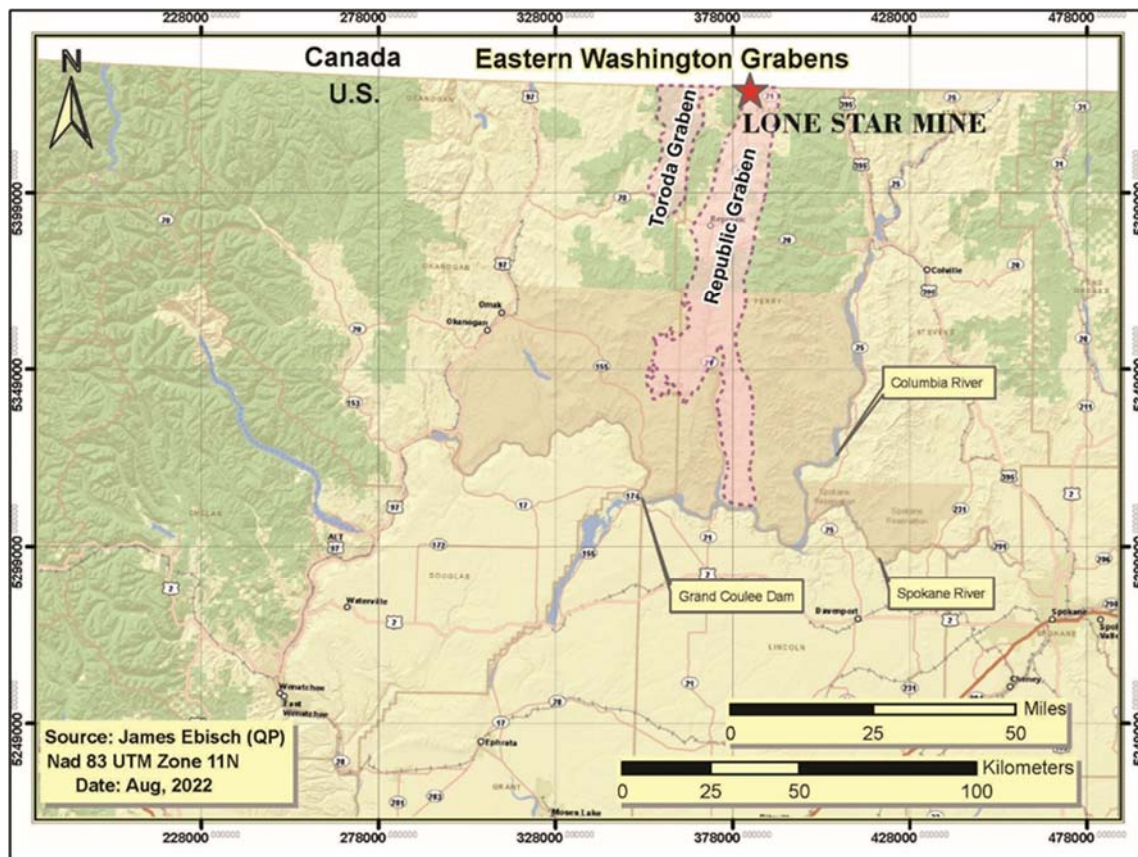


Figure 7.1 - Lone Star Regional Geology

An alternative interpretation is that the “grabens” could possibly be part of a folded upper plate allochthon. Limited evidence for this includes the existence of gently dipping faults such as the Lambert Creek Thrust in the Republic Graben, the Chesaw Thrust Fault, and the fact that there are virtually no volcanic dikes in the horsts between the grabens, despite the

isolated remnants of Eocene volcanic rocks cover an extensive area of northeast Washington and southeast British Columbia (Pearson and Obradovich, 1977). The vast lateral extent of Eocene rocks would suggest that, without an allochthon, the rocks were extruded from a great number of vents rather than from a few large volcanoes.

The grabens are filled primarily with Tertiary volcanic rocks, subordinate amounts of Permo-Triassic sedimentary rocks, and sparse Jurassic Age rocks. The intervening metamorphic core complexes contain gneissic, metamorphic rocks of uncertain age that have been intruded by un-metamorphosed igneous rocks.

The Toroda and Republic grabens are linear features that both average about 12 km in width. The Republic Graben at least 129 km in length , and likely extends further to the south than is presently known under the younger volcanic flows of the Columbia River Basalt south of Lake Roosevelt. The Toroda Graben is about 72 km in length (Figure 7.1).

The Lone Star Deposit lies at the very western edge of the Republic Graben where it was down-dropped and partially preserved from erosion. The regional geology has been very supportive of mining operations, including the low-sulfidation epithermal sulphide veins of the Knob Hill Mine area that lies about 3.2 km to the northwest of the town of Republic along the Bacon Creek Fault, and the skarn/replacement deposits found just east of Curlew Lake (Lamefoot Deposit) and near Cooke Mountain (Overlook Deposit). The nearby Toroda Graben has seen only limited gold production. The Buckhorn (Crown Jewel) Mine lies outside the graben but is proximal to the graben-margin fault.

It is observed that the grabens of northeastern and central Washington are important locations for gold occurrence, especially along the deep-seated faults that mark the graben margins.

Based upon the recent drill program, the rocks of the local area are thought to be a Jurassic Age ophiolite complex, which is thought to be laterally extensive beneath a Permo-Triassic upper plate, and gently-dipping to the southeast of the Lone Star Project (Figure 7.2).

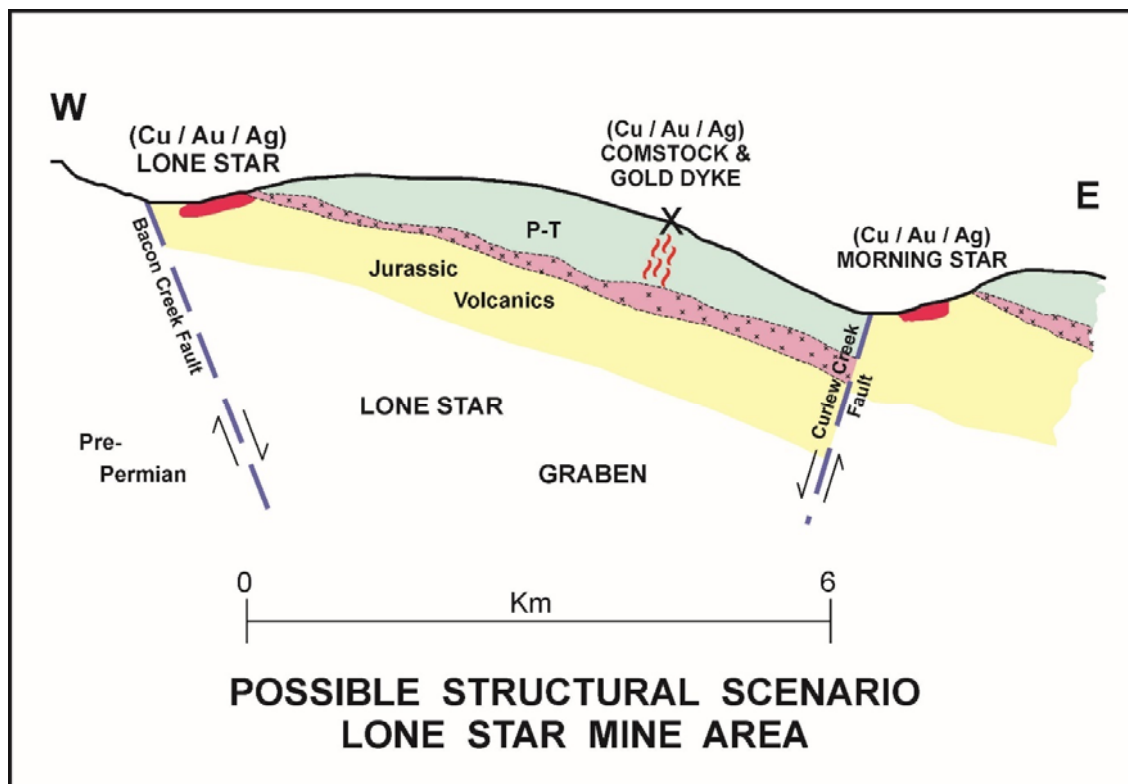


Figure 7.2 - Lone Star Local Geology

## 7.2 Property Geology

The Lone Star Deposit is likely a Jurassic Age ophiolite complex, which is thought to be laterally extensive beneath a Permo-Triassic upper plate, and gently-dipping to the southeast of the Lone Star Project. These Jurassic Age rocks at Lone Star seem to be exposed in small window beneath an upper plate of Permo-Triassic Age rocks (Figure 7.2). The main differences between the Permo-Triassic rocks of the region and the Jurassic Age rocks are as follows:

Table 7.1 – Differences between Permo-Triassic and Jurassic Age Rocks

|                       | Limestone | Clastics | Serpentinite | Copper | Molybdenite |
|-----------------------|-----------|----------|--------------|--------|-------------|
| <b>Permo-Triassic</b> | Yes       | Abundant | No           | No     | No          |
| <b>Jurassic</b>       | No        | Sparse   | Yes          | Yes    | Yes         |

The primary host rocks at the Lone Star Deposit are likely part of the early Jurassic Rossland Group, first defined at Rossland, B.C., Canada. The Rossland Mining District that lies roughly 90 km to the east of the Lone Star contains similar rocks. One of the most distinctive rocks of the Rossland Group is an Augite Phyric Basalt that is part of the Elise Formation (Figure 7.3).

It has been seen in the deeper stratigraphic test hole LS21-013 from 203.0 – 252.1 m. The figure illustrating drill hole locations are shown in section 10.3, Figure 10.2

It crops out about 1.6 km south of Danville, WA, roughly 6 km east of the Lone Star Deposit. It is also well-exposed on the top Buckhorn Mountain approximately 30 km to the west of Lone Star just above a Jurassic/Permian Age unconformity. The megascopic appearance of this rock is unmistakable and unforgettable, with up to 30% euhedral, blocky augite phenocrysts up to 5 mm in size in a finer grained chloritic groundmass.

The Rossland Group records Early Jurassic arc volcanism on the eastern margin of Quesnellia. The Elise Formation consists primarily of submarine shoshonitic flows and mafic tuffs. The mafic, primitive character of this early Elise Formation volcanism, dominated by augite phyric flows and tuffs (Figure 7.3), suggests minimal contamination by continental crustal rocks. The potential for VMS discoveries continues to attract interest to the Elise Formation. (Hoy and Dunne, 1997). These rocks are probably accreted terranes.

Figure 7.3 shows a roadcut outcrop of Jurassic Elise Formation with the distinctive augite phyric basalt blocks. Coin for scale.



*Figure 7.3 - Roadcut outcrop of Jurassic Elise Formation with the distinctive Augite Phyric Basalt blocks.*

### 7.2.1 Stratigraphy

Most of the rocks on the property are submarine extrusive and intrusive rocks, with subordinate amounts of volcanoclastic rocks and chemical sediments. This is illustrated in Figure 7.4.

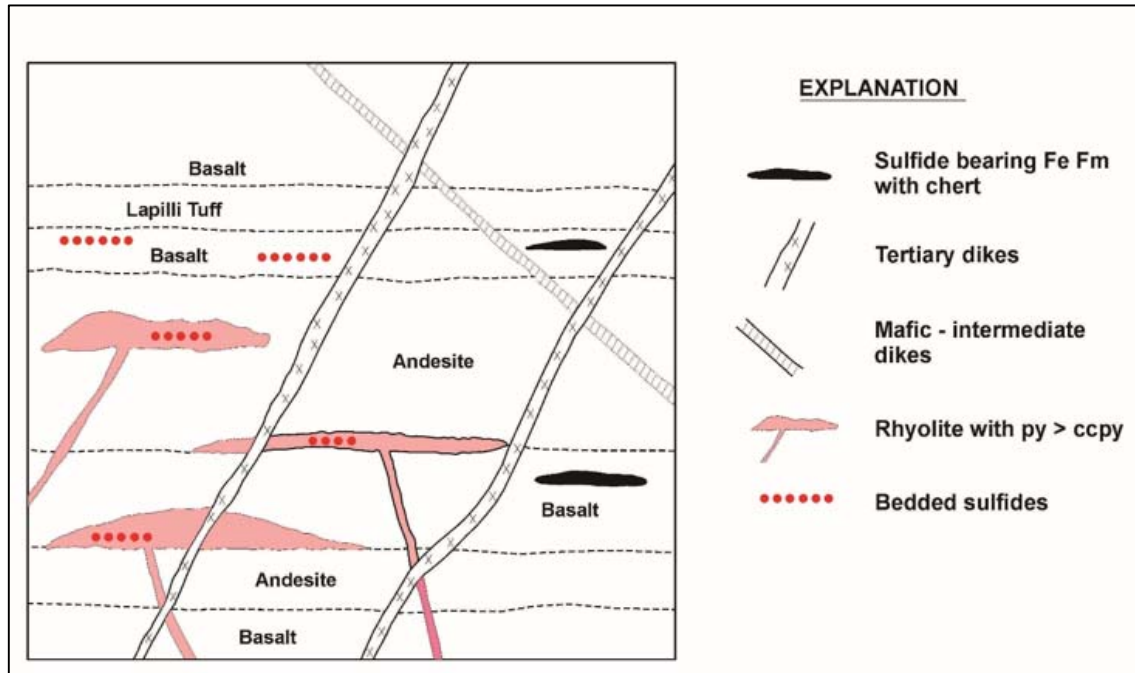


*Figure 7.4 – Lone Star Stratigraphic Representation*

They appear to be part of a Jurassic Age ophiolite complex that is exposed in a small window adjacent to the Bacon Creek Fault. Mapping by the USGS roughly six decades ago mistakenly included the Lone Star rocks in the Permo-Triassic age rocks prevalent in the region. The USGS could not benefit from the study of the rocks at Lone Star since there was no open pit at that time and the underground workings were not accessible. There was little outcrop to examine at that time due to the thick glacial till which is laterally extensive.

Tentatively, the Jurassic Age rocks seem to be covered by an upper plate of Permo-Triassic rocks and gently-dipping Tertiary Age dikes to the east and south (Figure 7.2). The Upper Plate probably lies immediately above the regionally important Chesaw Thrust Fault. Therefore, there may be laterally extensive exploration potential at shallow depths beneath that upper plate that has not yet been recognized (Figure 7.2). Roughly 7 km to the southeast in the Kettle River valley, the Morning Star Deposit contains similar rock types and mineralization to that of the Lone Star (Cheney, 2004).

### Quaternary Overburden

The Quaternary cover at Lone Star consists almost entirely of glacial till. The till is poorly sorted, ranging in grain size from clay to boulders greater than 1 meter in diameter. It is up to 45 m thick in some of the drill holes.

### Tertiary Rocks

The Tertiary rocks seen thus far at Lone Star are intrusive and mostly discordant. They range in composition from rhyodacite to basalt. For geologic classification, they have all been grouped into one unit.

### Cretaceous Rocks

The Cretaceous rocks identified thus far are intrusive and discordant. Only one Cretaceous rock type has been identified. That is Quartz Monzonite, which locally has been called the Herron Creek Quartz Monzonite. It is a light grey green colour with a uniform fine crystalline phaneritic texture.

### Jurassic Rocks

Several Jurassic Age rock types were intercepted by the 2021-2022 drill program. They are listed as follows:

- Serpentine: The serpentinites are concordant, gently-dipping, tabular units that appear to be altered basalt flows. Locally, the serpentinites are unaltered and are clearly basalt or gabbro. The serpentinite units are host to chemical sediments that contain appreciable amounts of gold, silver, and copper. The Upper Serpentine, which is near the top of many of the eastern drill holes, may be part of a thrust plane (possibly the Chesaw Thrust Fault).
- Lapilli Tuff: The Lapilli Tuff unit appears to be discordant. It is found near the base of the Upper Serpentine. Tuff clasts range in size from pebble to cobble. The clasts have variable compositions, from rhyolite to siltstone. It often has a mylonitic texture, with well-pronounced, stretched clasts. The tuff appears to mark an angular unconformity. See figure 7.5.



*Figure 7.5 - Lapilli Tuff with well-mineralized rhyolite clast*

- **Rhyolite:** The main ore body that was exploited from 1977-1978 by Granby Mining Co. using open pit methods at Lone Star is hosted by a possible submarine rhyolite dome. The rhyolite is light grey to grey green in colour and relatively equigranular. Quartz eyes are rare. Although some bedded sulphides exist, much of the sulphide mineralization occurs in veins, veinlets, and disseminations. Most of the copper sulphides in the rhyolite are epigenetic, although sparse, thin, massive chalcopyrite>pyrite beds are present.
- **Quartz Eye Rhyolite:** The quartz eye rhyolite is light green to beige in colour and contains prominent disseminated quartz eyes. The quartz eye rhyolite contains an estimated 2-3% average of quartz eyes. The quartz eye rhyolite contains sparse sulphide mineralization when compared to the rhyolite. It may be post-mineral and discordant. No bedded sulphides have been noted in the quartz eye rhyolite.
- **Rhyolite Porphyry:** The rhyolite porphyry has only been seen in two deeper drill holes. These were drill holes collared near the bottom of the open pit that were intended as a stratigraphic test far below the existing open pit. Drill hole LS21-013 intercepted rhyolite porphyry from 176.5 – 185.3 m and drill hole LS21-018 intercepted rhyolite porphyry from 186.6 – 197.2m. Refer Figure 10.2 for drill hole locations. These intercepts have been

interpreted to be concordant stratigraphy. The rhyolite porphyry contains 2-5% disseminated sulphides, predominantly pyrite.

- Andesite: The andesite seen thus far seems predominantly to consist of numerous extrusive submarine volcanic flows (Figure 7.4). The andesite is a dark olive-green colour with a fine grained phaneritic texture. It has only very minor sulphide content. The “FW” andesite is an important stratigraphic marker since it marks the base of the NW ZONE and is the basis of the structure contours and the collapse structure proposed.
- Siltstone/volcaniclastics: Volcaniclastics with local siltstone/wacke beds are sparse but are a very noticeable part of the stratigraphy. These clastics can be found occasionally throughout the stratigraphic section.
- Augite Phyric Basalt: The augite phyric basalt has been seen in only one drill hole. It was intercepted in deeper stratigraphic test hole LS21-013 from 203.0 – 252.1 m. The distinctive appearance of the augite phyric basalt (Figure 7.3), with the unique augite phenocrysts in the epidote-coloured groundmass, makes it a distinctive marker unit of The Jurassic Age volcanic stratigraphy.
- Gabbro: Several gabbro dikes that contain sulphide mineralization have been found, but they are limited in width and seem to be late-mineral in age.
- Chemical sediments: The primary chemical sediments noted thus far consist of volcanogenic massive sulphides, opaque porcelaneous white chert, fine crystalline magnetite, and translucent microcrystalline silica (Figures 7.6 and 7.7). These chemical sediments make up a significant portion of the potential economic mineralization at Lone Star in the pit area.



Figure 7.6 - Core from drill hole LS-21-011 @ 124.7m. Bedded massive sulphide with interbedded chert



Figure 7.7 - Core from drill hole LS21-015 at 70.4m. Massive, fine crystalline magnetite with interbedded wispy sulphides.

### 7.2.2 Structure

#### Bacon Creek Fault

The Bacon Creek Fault is the most significant fault on the Lone Star Property. It marks the western edge of the Republic Graben (Figures 7.1 and 7.2). The Bacon Creek Fault lies about 400 m west of the Lone Star open pit.

A second phase of gold mineralization that lies immediately adjacent to the Bacon Creek Fault may be Tertiary in age, concomitant with graben development. That mineralized area is called the SW ZONE. That area has several historic adits and shafts, including the Imperial Tunnel, a 250 m long adit driven in a westerly direction from the creek valley.

In 1981 in the SW ZONE, Azure Resources reportedly intercepted a 15.2 m interval from 250-76.2 – 91.5 m in percussion drill hole RC81-14 that averaged 26.8 g/t gold (Cowley and Puritch, 2007). Follow-up drilling was met with generally negative results with the exception of hole RC82-6 which reported a 19.8 m intercept of 4.0 g/t gold from 71.6 m - 91.5 m. It should be mentioned that most of the drill holes completed on the SW ZONE were vertical or angle holes oriented sub-parallel to the Bacon Creek Fault, which could have resulted in a poor test of steeply-dipping gold mineralization.

The SW ZONE was not a target of the 2021-2022 drill program because continuity appears to be less than the Jurassic Age mineralization. This mineralization is not the focus of this technical report.

This apparent lack of continuity might be overcome by a closely-spaced drill program similar to the 47-hole drill program completed by Marquee Resources from 2021-2022. Any follow-up drilling on the SW ZONE should be completed using HQ size core rather than RC rotary drilling to dispel any doubts about sample contamination and help define the specific mode(s) of gold mineralization. Initial drill holes should be drilled westerly at angles of -45 to -60 degrees.

Roughly 20 km to the south, Kinross Gold's K2 Project lies in a similar structural location as the SW ZONE, immediately adjacent to the Bacon Creek Fault. Approximately 40 km to the south at Knob Hill lie high-grade epithermal veins in nearly the same structural location as the SW ZONE.

#### Chesaw Thrust Fault

The Chesaw Thrust fault is a gently-dipping regional structure. Although this idea is tentative, it seems likely the structure that is proposed between the Jurassic Age rocks and the overlying Permo-Triassic (P-T) Age rocks shown in Figure 7.2 is the Chesaw Thrust Fault. If the structural interpretation shown in Figure 7.2 is correct, there is a large area to the east and south of the pit that may warrant exploratory drill tests beneath upper plate and adjacent, semi-tabular,

gently-dipping Tertiary Age rhyodacite. Recent drilling throughout the Republic Graben has shown that laterally extensive occurrences of Tertiary Age Scatter Creek Rhyodacite are often actually semi-tabular, gently-dipping dikes that have been intruded along thrust (or detachment) faults.

Evidence for Jurassic Age rocks to the south of the pit can be seen on the USGS 15-minute Curlew Quadrangle geologic map produced six decades ago (Parker and Calkins, 1964). The USGS geologists made no structural interpretation then since they did not realize that the rocks at Lone Star were Jurassic Age. They did not have the available pit outcrops and current drill information. There was no pit at that time and the old underground workings were inaccessible at the time of their study. However, they did map serpentine outcrops to the south of the Lone Star pit for 6 km, and it is now known that the upper serpentinite is likely near the top of the Jurassic rock package, not far beneath the upper plate. The mylonitic texture of the lapilli tuff (Figure 7.5) adjacent to the upper serpentinite further supports the thrust fault concept.

#### Semi-circular Depression

A semi-circular collapse structure is proposed to exist in the southeast portion of the Marquee Resources LS 21 series drill pattern (refer Figure 10.2). Its existence is based upon structure contours on the top of the FW (footwall) Andesite. Previous workers named the NE-trending boundary of the collapse structure the Grant Fault, named after A.R. Grant, one of the geologists involved with the project 40-50 years ago (Cowley and Puritch, 2007) They did not recognize that the Grant Fault was part of a semi-circular margin of a collapse structure at that time. That lack of recognition may be due to the fact that historic drilling was widely-spaced, and some holes may not have been drilled deep enough. If the collapse structure was penecontemporaneous with the volcanism, it might make an attractive area for enhanced hydrothermal fluid venting and deposition of economic mineralization. If the interpretation seen in Figure 10.2 is correct, then drilling to date have only tested the edges of the collapse structure.

### **7.3 Mineralization Zones on Property**

The Lone Star Cu/Au/Ag Deposit was formed in a VMS environment. The primary mineralization at the Lone Star Deposit consists of three types of mineralization. These have been called Type 1, Type 2, and Type 3 mineralization. The first two consist predominantly of sulphide mineralization within a submarine volcanic stratigraphy. Type 2 mineralization may have been derived partly from remobilization of Type 1 mineralization. Type 3 mineralization lies adjacent to the Bacon Creek Fault and may be Tertiary Age epithermal gold/silver mineralization.

### 7.3.1 TYPE 1 (Syngenetic)

The first type of mineralization consists of gently-dipping, syngenetic stratiform chemical sediments in Jurassic Age submarine volcanic rocks. Numerous thin beds of chemical sediments have been intersected by the LS21 series drill holes. The chemical sediments consist primarily of bedded sulphides (py/po/ccpy), often accompanied by very fine crystalline magnetite and chert (Figures 7.6 and 7.7). These are thought to have been precipitated on or near the seafloor proximal to hydrothermal vents found along fractures. Type 1 mineralization contains copper, significant amounts of accessory gold/silver, and locally anomalous nickel (see Table 7.2). Although the nickel mineralization might be in silicate form, there exists the possibility that nickel-bearing sulphides may have formed from hydrothermal alteration. The nickel seems, in at least some cases, to occur where there is more abundant chalcopyrite. The nickel/copper relationship shown in Table 7.2, although not conclusive, lends some credence to this notion. The nickel might occur as the pyrrhotite/pentlandite solid solution series. One spectacular showing of annabergite (nickel bloom) can be seen in Figure 7.8. Annabergite often occurs as an alteration product of nickel arsenides. Although some erythrite (cobalt bloom) was also noted, cobalt values were not significant thus far. However, until nickel and cobalt can be shown to be of economic significance, they should not be considered valuable accessory minerals.

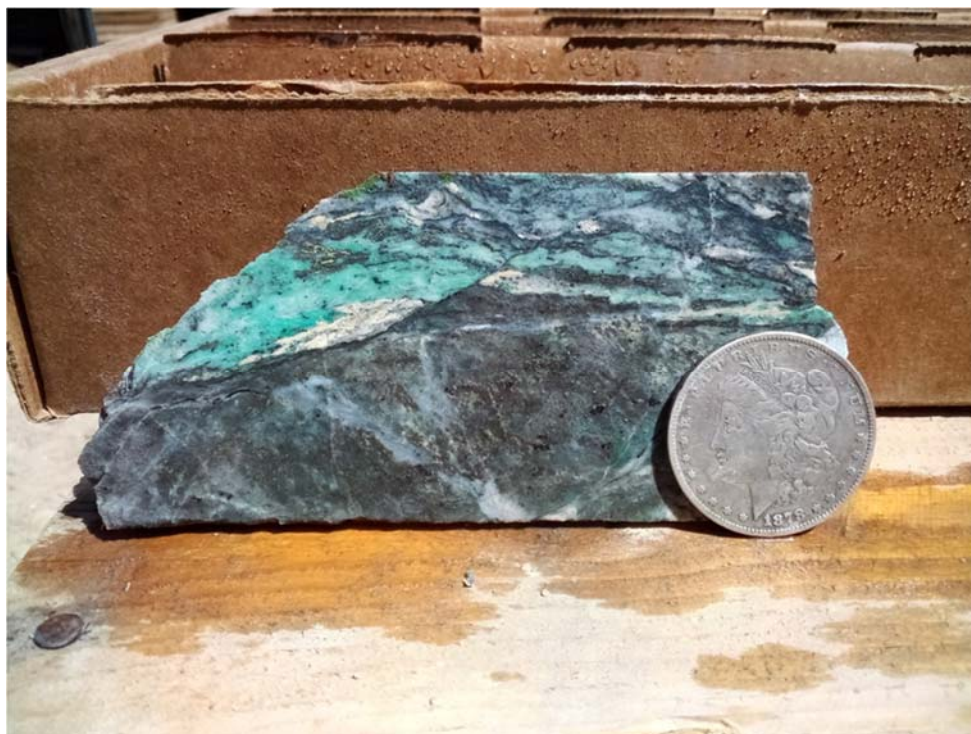


*Figure 7.8 - Core sample with prominent showing of annabergite in sulphide-bearing chemical sediments. Drill Hole LS21-033, 176.5 m. This is part of the UPPER NW ZONE.*

Two separate zones of significant thicknesses of Type 1 mineralization have been found thus far. These are the UPPER NW ZONE and the NW ZONE. They are separated by about 60-90 m of intervening strata. The UPPER NW ZONE is found only in the collapse structure that lies in the SE ¼ of the LS21 drill pattern (Figure 10.2). Either it was never deposited elsewhere, or it has been eroded away adjacent to the collapse structure in which it is preserved. Since the UPPER NW ZONE and the NW ZONE are separated by 60-90 m of strata, and the offset of the collapse structure, based upon structure contours, is about 90 m, the UPPER NW ZONE could have been mistaken for the NW ZONE in the collapse structure by previous operators.

**Table 7.2 – Upper NW Zone Copper/Nickel Relationships**

| LS21-033 UPPER NW ZONE               |           |          |          |
|--------------------------------------|-----------|----------|----------|
| SELECTED COPPER/NICKEL RELATIONSHIPS |           |          |          |
| Interval (m)                         | Sample ID | Copper % | Nickel % |
| 170.69-172.21                        | 1819855   | 0.05     | 0.17     |
| 172.21-173.74                        | 1819856   | 0.46     | 0.15     |
| 173.74-175.26                        | 1819857   | 0.32     | 0.15     |
| 175.26-176.78                        | 1819858   | 0.34     | 0.16     |
| 176.78-178.31                        | 1819859   | 0.36     | 0.16     |
| 178.31-179.22                        | 1819860   | 0.63     | 0.17     |
| 179.22-180.44                        | 1819861   | 0.61     | 0.16     |
| 180.44-181.97                        | 1819862   | 0.23     | 0.006    |
| 181.97-183.49                        | 1819863   | 0.23     | 0.003    |

### 7.3.2 TYPE 2 (Epigenetic)

The second type of mineralization consists primarily of structurally controlled epigenetic veins and disseminations in Jurassic Age submarine volcanic rocks that contain pyrite, chalcopyrite, occasional bornite, and sparse molybdenite. These minerals may have been remobilized into late fractures, primarily within brittle rhyolite domes, although some bedded sulphides also exist within the rhyolite domes. Alternatively, the stockwork sulphides may be part of the root zone of the rhyolite domes. Type 2 mineralization contains copper with only minor amounts of accessory gold, silver, and molybdenum.

### 7.3.3 TYPE 3 (Epithermal)

The third type of mineralization consists of gold mineralization adjacent to the Bacon Creek Fault (SW ZONE) which may be epithermal in nature. Previous drilling on the SW ZONE was completed four decades ago. No work was completed on this target during the Marquee Resources 2021-2022 drill program, but the SW ZONE should be studied to see if more drilling is warranted. Limited soil sampling in that area was considered in late September 2022, but the ubiquitous glacial till cover in that area precluded any meaningful soil sampling.

## 8 DEPOSIT TYPES

---

### 8.1 Introduction

Jurassic submarine volcanogenic mineralization constitutes the primary mineralization of interest. Jurassic Age mineralization is both syngenetic and epigenetic. The Jurassic Age mineralization has relatively good continuity, although copper/gold/silver grades are moderately variable.

### 8.2 Deposit Geology Model

Some of the previous operators invoked a modified porphyry deposit model for genesis of the Lone Star Deposit because of the widespread occurrence of small amounts of molybdenite along with the copper and uncertain identification of host rocks. Many previous operators also drilled rotary holes or used hydraulic core splitters, resulting in uncertain host rock identification.

Thanks to a simple technological advance, the use of diamond saws for core splitting, it is now clear that we are dealing with a submarine volcanic pile. The delicate textures seen clearly on the sawn faces of the core provided solid proof and textbook features that have established a volcanic stratigraphy. The geologic model used for the 2021-2022 exploration program is that of a submarine rhyolite dome and associated volcanogenic massive sulphide (VMS) and chemical sediment occurrence in Jurassic Age rocks (Figure 7.4 and 8.1). As drilling progressed during late 2021, the new model was developed. Subsequent drilling confirmed the accuracy of the model.

VMS deposits are an important source of copper, zinc, lead, gold and silver (Cu, Zn, Pb, Au and Ag) and form at or near the seafloor where circulating hydrothermal fluids driven by magmatic heat that have quenched through mixing with bottom waters or porewaters in near-seafloor lithologies.

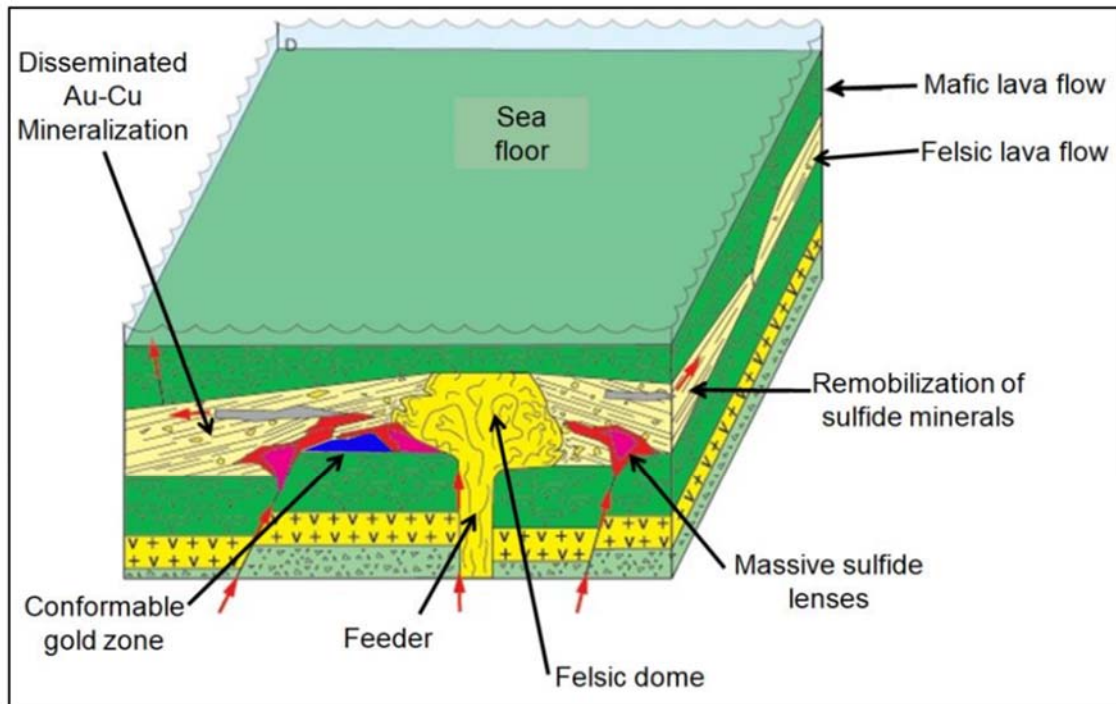


*Figure 8.1 – Conceptual Model of a Volcanogenic Massive Sulphide (VMS) Deposit (Modified after S. Lavoie, 2003)*

Massive sulphide lenses vary widely in shape and size and may be podlike or sheetlike. They are generally stratiform and may occur as multiple lenses from small pods of less than a ton (which are commonly scattered through prospective terrains) to giant accumulations like the Rio Tinto mine (Spain), Kholodrina (Russia), Windy Craggy (Canada), Brunswick No. 12 (Canada) or Ducktown (United States). Volcanogenic massive sulphide deposits are actively forming in extensional settings on the seafloor, especially mid-ocean ridges, island arcs, and back-arc spreading basins.

The location of VMS deposits is often controlled by synvolcanic faults and fissures, which permit a focused discharge of hydrothermal fluids. As illustrated on Figure 8.1, a typical VMS deposit will include the massive mineralization located proximal to the active hydrothermal vent, footwall stockwork mineralization, and distal products, which are typically thin but extensive. Footwall, and less commonly, hanging wall semiconformable alteration zones are produced by high temperature water-rock interactions (Franklin et al., 2005).

Massive sulphide ore in VMS deposits consists of usually more than 40 percent sulphides, dominated by pyrite, pyrrhotite, chalcopyrite, sphalerite, and galena. Non-sulphide gangue typically consists of quartz, barite, anhydrite, iron (Fe) oxides, chlorite, sericite, talc, and their metamorphosed equivalents. Sulphide ore composition may vary from Pb-Zn- to Cu-Zn-, or Pb-Cu-Zn-dominated, and some deposits are zoned vertically and laterally. VMS deposits have

stringer or feeder zones beneath the massive zone that consist of crosscutting veins and veinlets of sulphides in a matrix of pervasively altered host rock.

## 9 EXPLORATION

---

### 9.1 Exploration History

A summary of the historical exploration on the Property is found in Section 6.2 of this report. Exploration work was limited to drilling and some limited mapping in the underground development in the 1950's.

### 9.2 Recent Exploration

A LIDAR survey was flown in October 2021 by Pioneer Exploration Consultants Ltd. and the resultant digital terrain model is used to constrain the modelled geological interpretation and block model.

Other than drilling, no significant mineral exploration has been undertaken on the Property. Drilling is discussed in Section 10 of this report.

## 10 DRILLING

### 10.1 Historical Drilling

The Lone Star Property was drill tested during the period 1908 to 1990 by 242 diamond and percussion holes totalling 22,643 m. Approximately 150 of these holes are the in the direct vicinity of the current mineral resource. The historical data are not included in this data compilation and Resource Estimate, as verification and validation efforts were unable to meet modern industry standards. Recent drilling has confirmed the mineralized zone and replaces the historical data. A summary of the historical drilling is discussed in the History section and are not included the resource estimation for Lone Star.

### 10.2 Merit Drilling (2006)

Merit undertook a diamond drill campaign in the fall of 2006. The 13-hole program totalling 834 m was aimed at verifying historic drilling and geological interpretations for a high-grade shoot model. Kettle Drilling Inc. of Coeur d'Alene, Idaho was the drilling contractor for the 2006 program. Drilling took place on two twelve-hour shifts using a truck mounted drill rig. Drill hole collar locations for all holes were surveyed by a registered land surveyor. Downhole surveying utilized the Reflex Easyshot system. Measurements were taken at the hole toes. Core recoveries in mineralized zones were excellent and generally >90%.

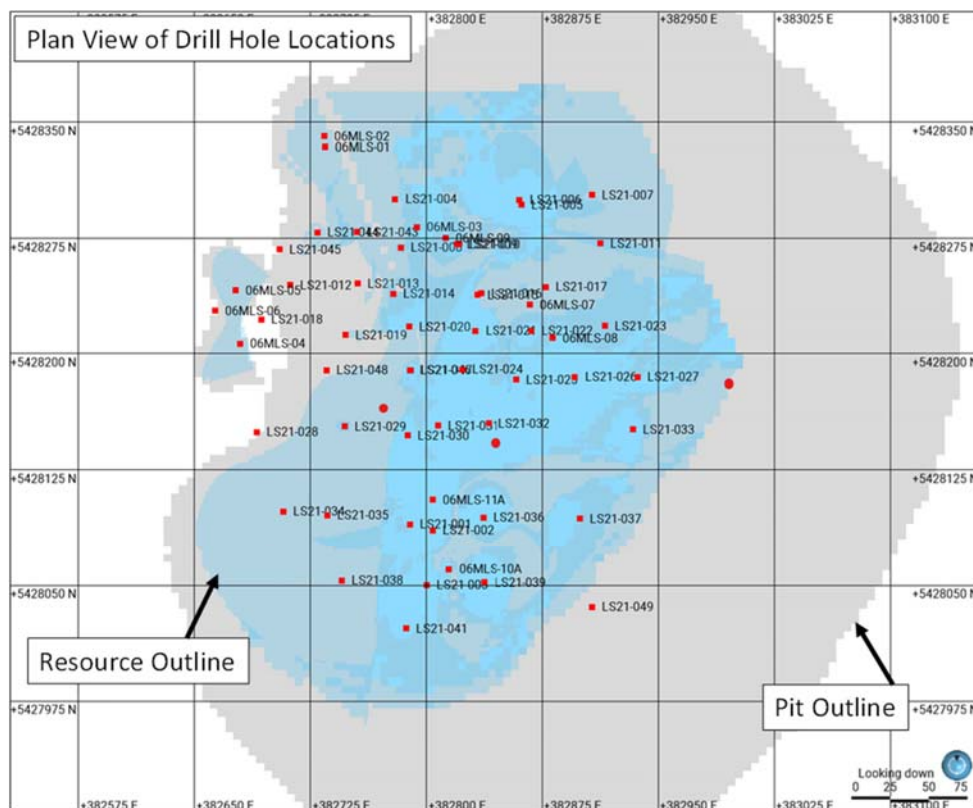


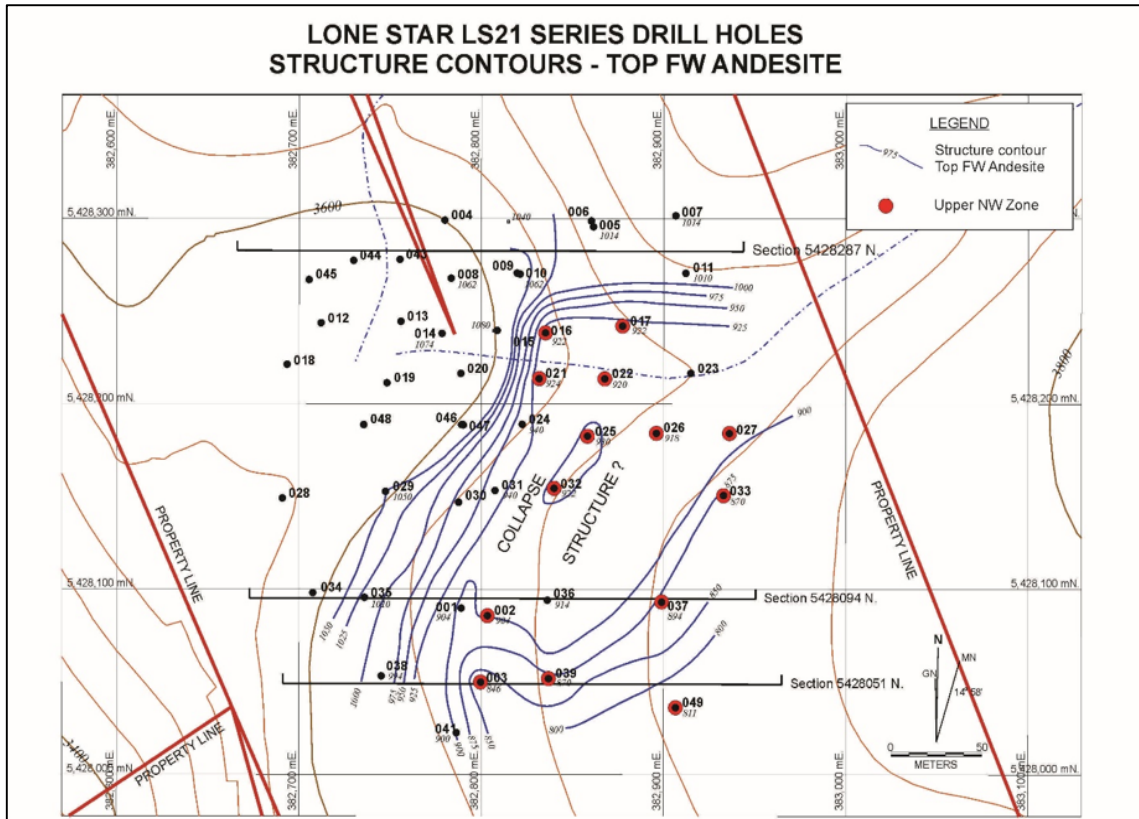
*Figure 10.1 – Merit (06MLS Holes) and Marquee (LS Holes) Drill Map*

### 10.3 Marquee Drilling (2021-2022)

A total of 8,201 m of drilling was completed in 47 drill holes from November 15, 2021, through June 1, 2022 (Figure 10.2). The drill program was designed to verify mineralization encountered by previous operators and also produce a resource estimate that complies with modern industry standards. Drilling continued 7 days per week, 24 hours per day except for a ten-day holiday and infrequent equipment breakdowns. All drill holes were completed with HQ size core (63.5 mm diameter). Core recovery was excellent overall. All holes were surveyed using a REFLEX GYRO SPRINT IQ multi-shot survey tool. Surveys were completed roughly every 30 m of hole depth. The tool has an azimuth accuracy of +/- 1 degree and a dip accuracy of +/- 0.3 degrees. One geologist logged all drill core to maintain uniformity of rock type designation.

**Table 10.1 – 2021 to 2022 Marquee Drill Program Highlights**

| Hole ID  | From  | To    | Thickness (m) | Cu % | Au g/t | Ag g/t |
|----------|-------|-------|---------------|------|--------|--------|
| LS21-007 | 107.9 | 125.6 | 17.7          | 1.7  | 2.8    | 5.9    |
| LS21-011 | 108.8 | 111.9 | 3.1           | 2.6  | 1.0    | 8.6    |
| LS21-011 | 119.5 | 127.7 | 8.2           | 1.3  | 1.0    | 4.7    |
| LS21-017 | 112.8 | 116.4 | 3.6           | 1.8  | 0.8    | 4.4    |
| LS21-017 | 192.6 | 194.5 | 1.9           | 1.2  | 0.8    | -      |
| LS21-023 | 179.8 | 198.1 | 18.3          | 0.5  | 0.4    | -      |
| LS21-027 | 117.0 | 122.2 | 5.2           | 4.1  | 1.9    | 9.6    |
| LS21-027 | 226.0 | 232.3 | 6.3           | 0.8  | 2.3    | -      |
| LS21-033 | 172.2 | 180.4 | 8.2           | 0.4  | 0.1    | -      |
| LS21-033 | 247.2 | 250.2 | 3.0           | 0.7  | 0.5    | -      |
| LS21-037 | 232.3 | 241.7 | 9.4           | 2.3  | 1.2    | -      |
| LS21-049 | 232.3 | 232.4 | 0.2           | 4.0  | 1.1    | 24.0   |
| LS21-049 | 285.1 | 297.5 | 12.3          | 1.6  | 0.7    | -      |



## 10.4 Summary

## 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

---

### 11.1 Merit Drilling (2006)

#### 11.1.1 Core Logging and Sampling

After taking custody of the drill core, geologists conducted geological and geotechnical logging, photography, density measurements, and core sampling.

- Core was transported to Merit's logging facilities in Grand Forks, BC;
- Core was first cleaned, organized and photographed;
- Geotechnical logging was undertaken by a trained technician;
- Core boxes were labelled using permanent marker on the waxed cardboard boxes;
- Core logging and sample selection was performed by the site geologist;
- In areas of porphyry copper style mineralization, sampling intervals were determined by general chalcopyrite abundance. Samples were generally between 1 and 2 m in length;
- Sampling within and around the Lone Star mineralized zones of the Lone Star deposit, was normally done at 0.5 m intervals but varied depending on similar mineralization characteristics or lithology;
- Every 19th and 20th sample tags were designated as a standard and blank. Splitters retained the standards and blanks and placed the entire pouch of material into the labelled plastic sample bag in the corresponding tag order;
- Core was cut, sample dispatching and storage at Merit's Grand Fork office/facilities;
- Prior to cutting, the core was adjusted to identify any important fabrics;
- The core was cut in half, bisecting fabric or vein material evenly;
- Technicians were instructed to place the same side of core back into the box and the other into a labelled clean plastic sample bag;
- Sample bags were placed in address-labelled rice bags, sealed and shipped to Eco Tech Laboratory Ltd. of Kamloops, BC.;
- Sample shipment records were maintained. Records were also kept of sample preparation, analyses requested, and the person intended to receive the results;
- Daily visits were made by the site geologist to the core cutting facilities to ensure the quality of the sampling was maintained; and
- No samples were cut by an employee, officer, director or associate of Merit.

#### 11.1.2 Security

There are no detailed records of the security measures taken during Merit's 2006 drilling campaign. However, there is no evidence to suggest that the manner in which core samples were stored, transported, and shipped differed from industry standard practices at the time.

Assay data from this campaign accounts for less than 10% of the data used in the mineral resource estimate. In the QP's opinion, there are no material issues related to security of the 2006 Merit drilling core samples.

#### **11.1.3 Core Preparation and Analysis**

Analytical work for the 2006 drill program was carried out by Eco-Tech Laboratory Ltd. (Eco Tech) of Kamloops, B.C. Merit archived all of the original assay certificates for the program.

Eco-Tech's sample preparation and analysis procedures were as follows:

- Samples were crushed in their entirety to pass -6 mesh;
- The crushed sample was then split in half;
- Half of the sample was stored for Acid Base Accounting or metallurgical testing and the other half was further crushed to pass -10 mesh;
- A 250 g sub-sample was taken from the -10 mesh material and pulverized to pass -100 mesh;
- A 30 g sample was taken from the -100 mesh material and Fire Assayed (FA) with an Atomic Absorption (AA) finish for gold;
- A 15 g sample was also taken from the -100 mesh material for 28 element ICP analysis;
- Selective samples were requested for screen metallic assay to determine the degree of coarse gold present and as a secondary check on samples with greater than 3 g/t gold;
- Eco-Tech Laboratory Ltd. inserted its suite of standards for QC purposes. Individual sample batches were subjected to 10-65% repeats (average 30%), 2-4% re-splits and 3-5% internal standards.

#### **11.1.4 Specific Gravity Data**

SG measurements were completed on 115 core samples by Merit using industry standard water immersion methods. The average SG from these samples varied from 2.51 to 4.32 and averaged 2.82.

#### **11.1.5 Quality Assurance and Quality Control**

A total of 72 quality control (QC) samples comprising Certified Reference Materials (CRMs), twin samples (quarter core), and blanks were inserted into the stream of drill core samples submitted for assay, for an insertion rate of approximately 16%. The QC summary is shown in Table 11.1.

**Table 11.1 - Lone Star QC summary for Merit 2006 Drilling**

| QC Type                      | Count |
|------------------------------|-------|
| Certified Reference Material | 24    |
| Twin Sample (Quarter Core)   | 24    |
| Blank                        | 24    |
| Total Primary Core Samples   | 438   |
| Total QC Insertion Rate      | 16%   |

#### 11.1.6 Certified Reference Materials

A total of 24 certified reference material samples were included in the QC samples from the 2006 Merit drilling. Two different certified reference materials were obtained from CDN Resource Laboratories Ltd. of British Columbia, Canada and inserted into the sample stream. The CRM names and expected values for Cu and Au are shown in Table 11.2.

**Table 11.2 - CRM names and expected values for Cu and Au for Merit 2006 Drilling**

| CRM Name   | Cu Expected Value<br>(%) | Cu 2 SD (%) | Au Expected Value<br>(g/t) | Au 2 SD (g/t) |
|------------|--------------------------|-------------|----------------------------|---------------|
| CDN-CGS-10 | 1.55                     | 0.07        | 1.73                       | 0.15          |
| CDN-HLHC   | 5.07                     | 0.27        | 1.97                       | 0.22          |

CRM performance is good with all samples except for one being within acceptable performance gates. The one exception is most likely a mis-labelled sample. Control charts for CDN-CGS-10 copper and gold are presented in Figures 11.1 and 11.2, respectively.

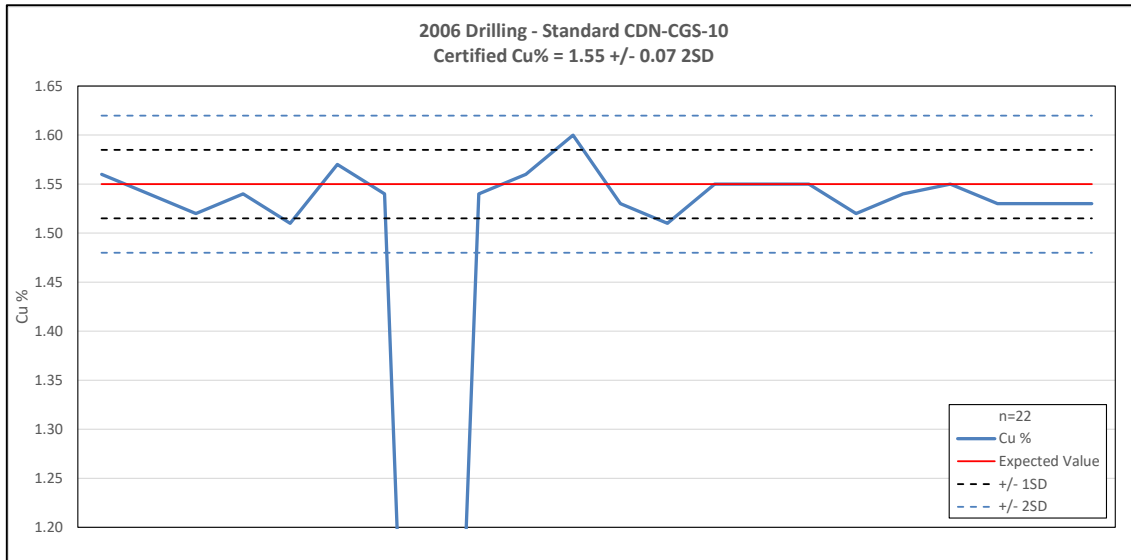


Figure 11.1 - Control chart for CDN-CGS-10 Copper

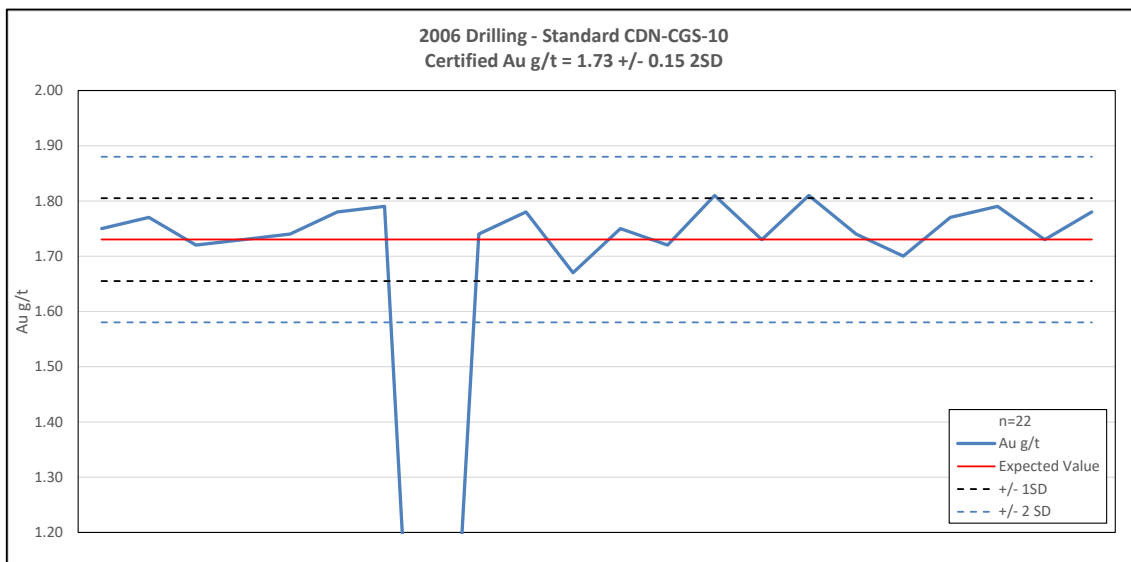


Figure 11.2 - Control chart for CDN-CGS-10 Gold

### 11.1.7 Duplicates

A total of 24 twin samples (quarter core) were inserted. The scatter plot of paired copper and gold values is shown in Figure 11.3. The values show poor precision about the 1:1 line, which is likely attributable to the difference in sample size and the inherent geologic variability in the core. No significant high or low bias is noted from the limited number of analyses.

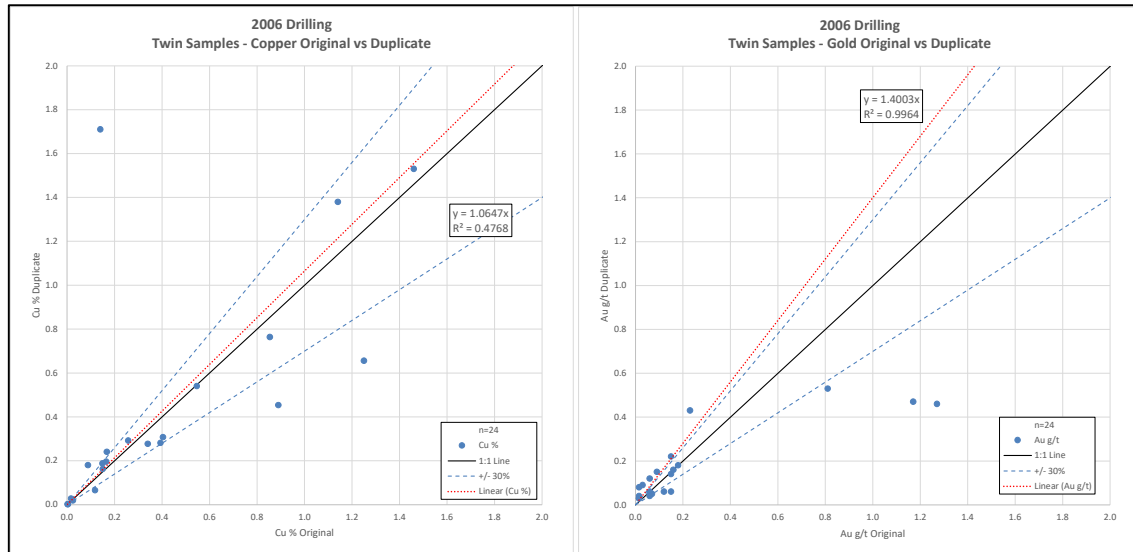


Figure 11.3 - Scatter plot of paired copper and gold values

### 11.1.8 Blanks

Blanks consisted of 24 certified pulp blanks (CDN-BL2). The results of the copper and gold assays are shown in Figures 11.4 and 11.5, respectively. Results show acceptable performance with very low levels of both copper and gold, indicating no issues with contamination.

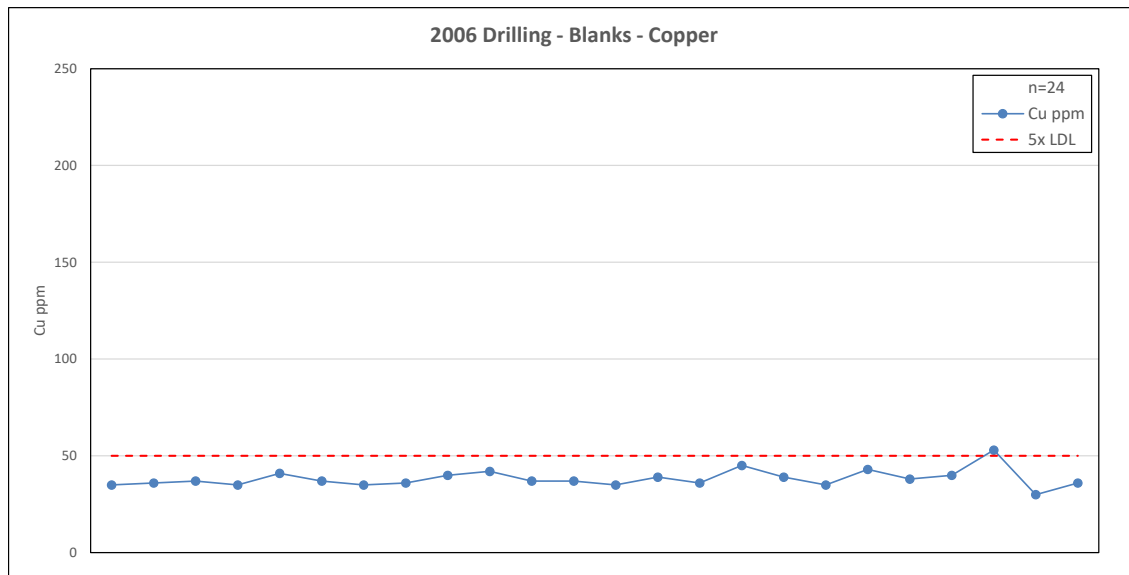


Figure 11.4 – Results of Copper Blank Assays

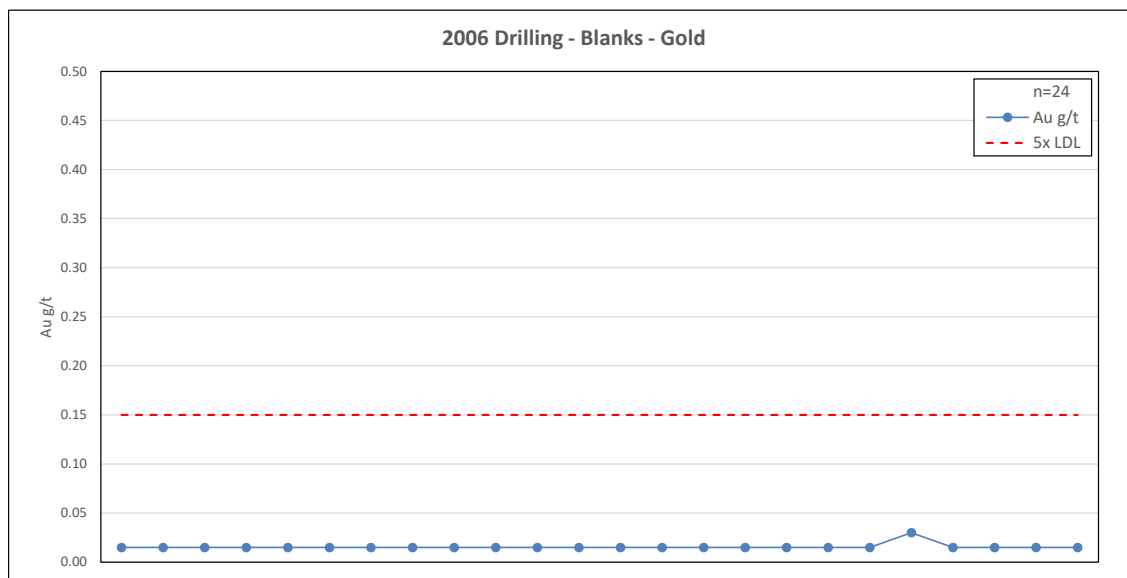


Figure 11.5 – Results of Gold Blank Assays

### 11.1.9 Comments

The 2006 Merit drilling accounts for less than 10% of the assay data used for resource estimation. Performance of the CRM analyses is adequate and does not indicate any significant bias in the copper or gold assays. Blank analyses show no contamination during assaying. Twin samples show significant scatter, but no systematic bias is noted in the limited number of analyses. Overall performance of the quality control samples from the 2006 Merit drilling demonstrates that the quality of the data is adequate for use in the resource estimation.

## 11.2 Marquee Drilling (2021-2022)

### 11.2.1 Core Logging and Sampling

The core storage facility consisted of 5 shipping containers that were each 40 feet (12.2 m) in length and 8 feet (2.44 m) in width. The front half of one of the shipping containers was used for core processing and sawing of appropriate mineralized material so that particulate matter from core sawing could be vented. The core samples were first washed, photographed, and evaluated for rock quality (RQD) and recovery percentages. RQD measurements were recorded as fractures per foot for each drill run (from core block to core block). The core was then logged summarily, and appropriate intervals were marked for sampling. Numbered sample tags from sample books were stapled into the core boxes at the start of each sample interval. Finally, the intervals of core defined for each sample were sawn using ten-inch wet tile saws powered by an 8.5 kw gas-powered generator. Samples were placed in 457 X 610 X 8 mm poly bags along with duplicate sample tags. Blanks, standards, and core sample duplicates were inserted into the sample chain at appropriate intervals within identical poly

bags to test for analytical integrity. Duplicates were generally taken in sulfide-rich zones. The poly bags were clearly labeled on the outside with the matching number from the duplicate sample tag. The poly bags were sealed with zip ties and placed into rice bags for shipment. The rice bags were also sealed with a zip tie and labeled on the outside with a broad point indelible black marking pen indicating what specific sample numbers were inside the rice bags. All drill core was palletized for storage and later examination after the initial processing was completed. Once the drill program was completed, core was again logged in detail and observations were recorded on an Excel spreadsheet.

The rice bags were moved daily from the core facility to a locked storage unit in Curlew, Washington. Approximately twice a month, the rice bags were transported by private carrier to the Old Dominion Freight Line terminal on Barker Road in Spokane Valley, WA., USA. The rice bags were put in super sacks and the super sacks were palletized. Each super sack contained about twenty rice bags. The first few shipments from the storage unit in Curlew, WA were made by Fast Way Freight. One later shipment was made by Stotts Construction of Curlew, WA. The remaining shipments to Old Dominion Freight were made by Eric Johnston of Northport, WA. Old Dominion Freight was responsible for the final shipment of samples from Spokane Valley, WA. to MSA Labs in Langley B.C., Canada.

#### 11.2.2 Security

No one at the drill site was allowed to handle the core samples except for the driller, drill helpers, the project geologist and the geotech. Core was moved from the drill to the core storage facility after each shift. The core facility was locked at all times unless the geotech or the project geologist was present. Core samples for analysis were transported to the storage unit in Curlew, WA. on a daily basis. The storage unit was locked at all times. From the core storage unit, samples were shipped to Old Dominion Freight in Spokane Valley, WA. Old Dominion Freight then provided core sample transport to MSA Labs in Langley, B.C., Canada. The core samples were not left unattended at any time.

#### 11.2.3 Core Preparation and Analysis

MSA Labs, whose main office is in Langley, B.C., Canada, was used for drill core analysis. MSA Labs is certified to conform with the requirements of ISO 9001:2015 by the International Accreditation Service as of July 2021. For further quality assurance, 140 pulp samples were submitted to ALS Geochemistry in North Vancouver, B.C., Canada, in early November 2022. These sample results will be used as umpire assays. MSA Labs has no financial relationship with the issuer.

After a sample is received and logged into the tracking system, it must be dried prior to sample preparation. The dried sample is then crushed to 70% passing 2 mm. It is then passed through a riffle or rotary splitter to obtain a homogenized, representative split. This sub-sample is then pulverized to 85% passing 75 micron. For quality control, the samples are prepared with

suitable blanks and duplicates. Results are evaluated prior to release. The minimal sample size requested to adequately perform sample preparation is 1 kg.

The determination of gold in mineral samples uses fire assay lead collection with an AAS or ICP-OES finish. The homogeneous sample is weighed, mixed with flux (a blend of litharge, soda ash, borax, silica, silver, and various other essential reagents), and then fused to produce a lead button. The gold-bearing lead button is cupelled to remove the lead and yield a bead which contains precious metals. The bead is then digested with nitric acid and hydrochloric acid. After the bead digestion is complete, the solution is bulked up to volume with dilute hydrochloric acid. The final solution is analyzed by either Atomic Absorption Spectroscopy (AAS) or Inductively Coupled Plasma-Optical Emission Spectroscopy (ICP-OES). Preparation duplicates are randomly inserted at a rate of one for every thirty samples during the sample log-in stage. For every analytical batch of 42 fusions, one analytical blank, two analytical duplicates, and two certified reference materials are randomly distributed. Results are evaluated prior to the release of the final test report. For the gold analysis, the minimum adequate sample size is 100 grams.

The multi-element analysis of mineral samples uses a four acid digestion with a final ICP-OES finish. Mineral samples are dried and prepared to meet passing criteria of 85% - 75. The prepared, homogeneous sample is weighed and digested using the sequential addition of hydrofluoric acid, hydrochloric acid, nitric acid, and perchloric acid. Upon completion of the digestion steps, the sample is made up to volume with deionized water. This sample solution is then analyzed by ICP-OES. The samples are analyzed with suitable reference materials, blanks, and duplicates. Corrections are made for spectral inter-element interferences. Results are evaluated prior to the release of the final test report. For multi-element analysis, the minimum adequate sample size is 10 grams.

#### **11.2.4 Specific Gravity Data**

No specific gravity data has been collected from the 2021-2022 Marquee drilling.

#### **11.2.5 Quality Assurance and Quality Control**

A total of 263 quality control (QC) samples comprising CRMs, pulp duplicates, and blanks were inserted into the stream of drill core samples submitted for assay. A further 134 samples were submitted to a third-party lab for check analyses. The total QC samples represent a total insertion rate of approximately 17%. The QC summary is shown in Table 11.3.

**Table 11.3 - Lone Star QC summary for Marquee 2021-2022 Drilling**

| QC Type                      | Count |
|------------------------------|-------|
| Certified Reference Material | 81    |
| Pulp Duplicate               | 100   |
| Blank                        | 82    |
| Third-Party Check Assays     | 134   |
| Total Primary Core Samples   | 2,399 |
| Total QC Insertion Rate      | 17%   |

#### 11.2.6 Certified Reference Materials

A total of 81 certified reference material samples were included in the QC samples from the 2021-2022 Marquee drilling. Two different certified reference materials were obtained from Moment Exploration GeoServices and inserted into the sample stream. The CRM names and expected values for copper are shown in Table 11.4. These CRMs were not certified for gold.

**Table 11.4 - CRM names and expected values for Cu and Au for Marquee 2021-2022 Drilling**

| CRM Name     | Cu Expected Value<br>(%) | Cu 2 SD (%) | Au Expected Value<br>(g/t) | Au 2 SD (g/t) |
|--------------|--------------------------|-------------|----------------------------|---------------|
| MEG-A106013X | 0.574                    | 0.038       | -                          | -             |
| MEG-A106014X | 1.428                    | 0.044       | -                          | -             |

CRM MEG-A106013X performs well, showing one sample that lies just outside of 2SD. CRM MEG-A106014X shows that 8 of the 43 sample values (approximately 19%) lie just outside of the lower 2SD threshold. The average value is 1.408%, approximately 1.4% lower than the expected value and still within 1SD of the expected value. Performance for this CRM is considered adequate. Control charts for MEG-A106013X and MEG-A106014X copper are presented in Figures 11.6 and 11.7, respectively.

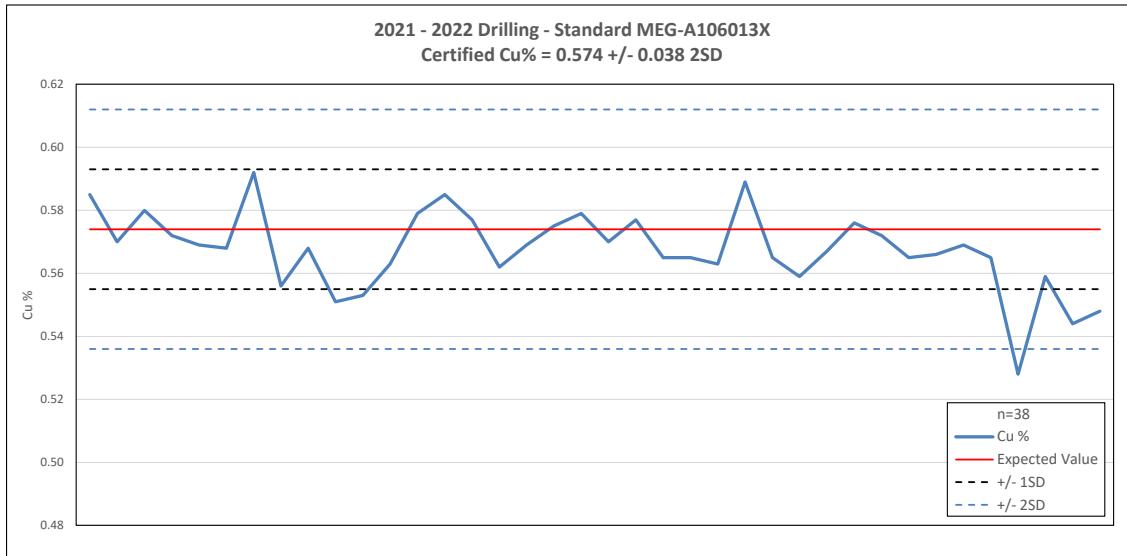


Figure 11.6 - Control chart for MEG-A106013X Copper

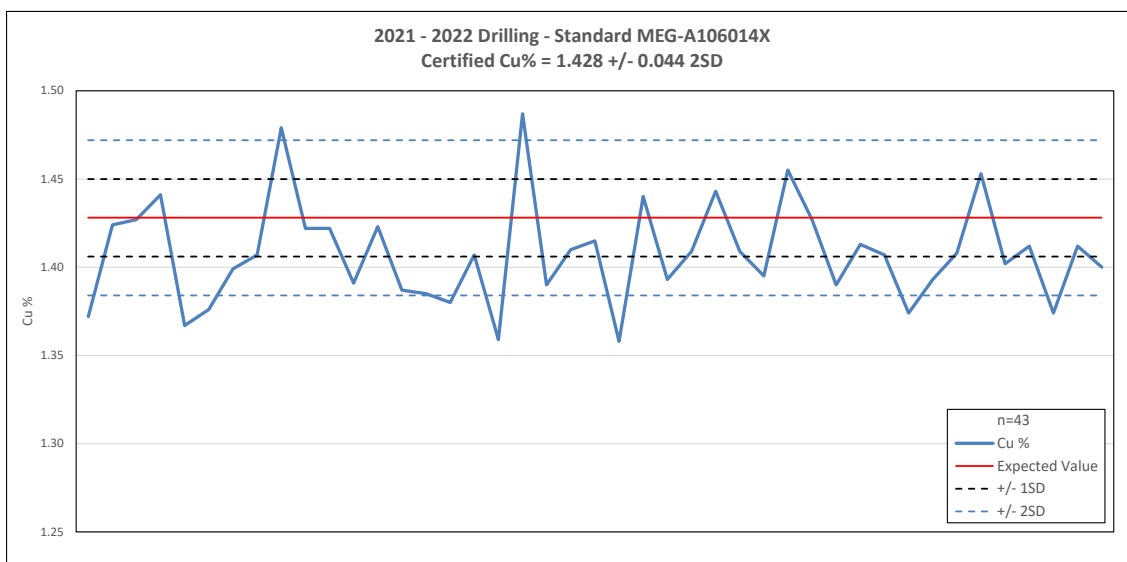


Figure 11.7 - Control chart for MEG-A106014X Copper

### 11.2.7 Pulp Duplicates

A total of 100 pulp duplicates were requested. The scatter plot of paired copper and gold values is shown in Figure 11.8. A small positive bias toward the duplicate value is noted for gold, which is driven by a small number of outliers. The gold comparison is shown on a logarithmic scale in Figure 11.9. Overall, the pulp duplicate values show acceptable comparison.

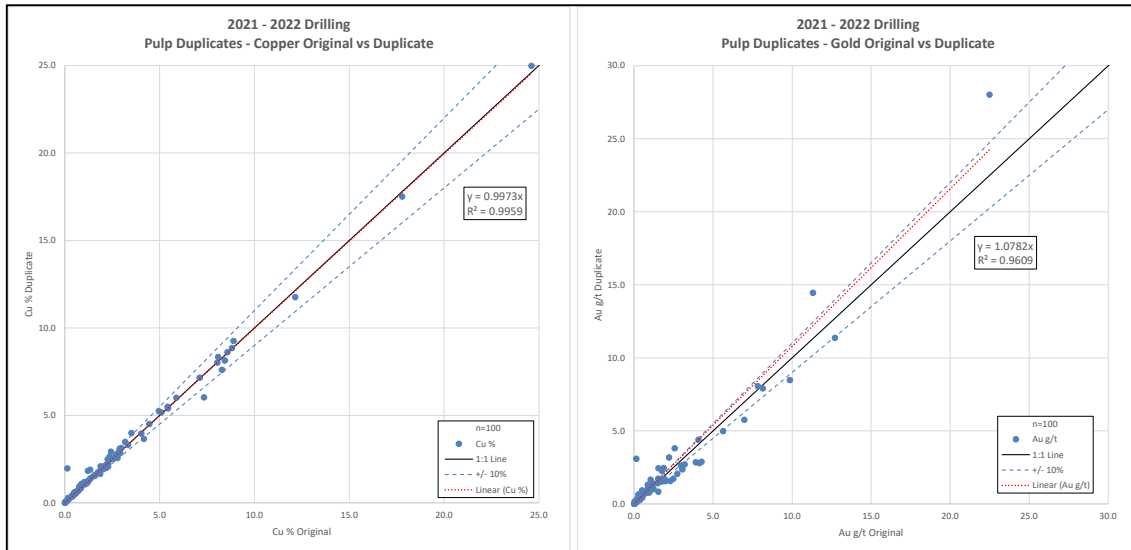


Figure 11.8 - scatter plot of paired copper and gold values

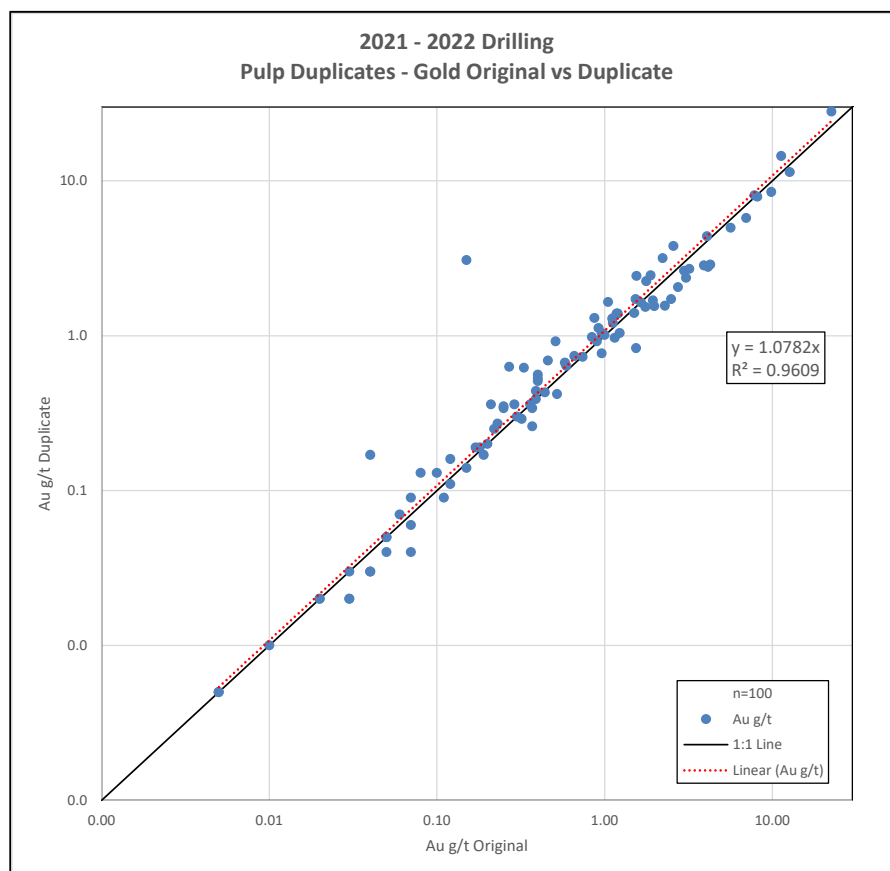


Figure 11.9 - Gold comparison shown on a logarithmic scale

### 11.2.8 Blanks

Blanks consisted of 82 certified silica pulp blanks (SiBLANK.21.03) obtained from Moment Exploration GeoServices. The results of the copper and gold assays are shown in Figures 11.10 and 11.11, respectively. Results show acceptable performance with very low levels of both copper and gold, indicating no issues with contamination.

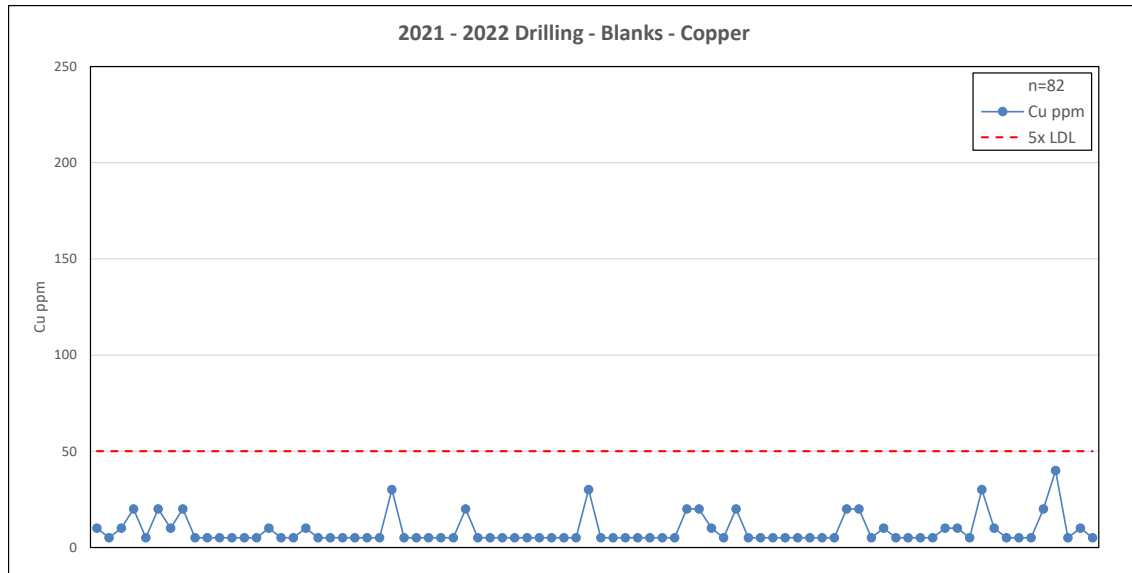


Figure 11.10 – Results of Copper Blank Assays

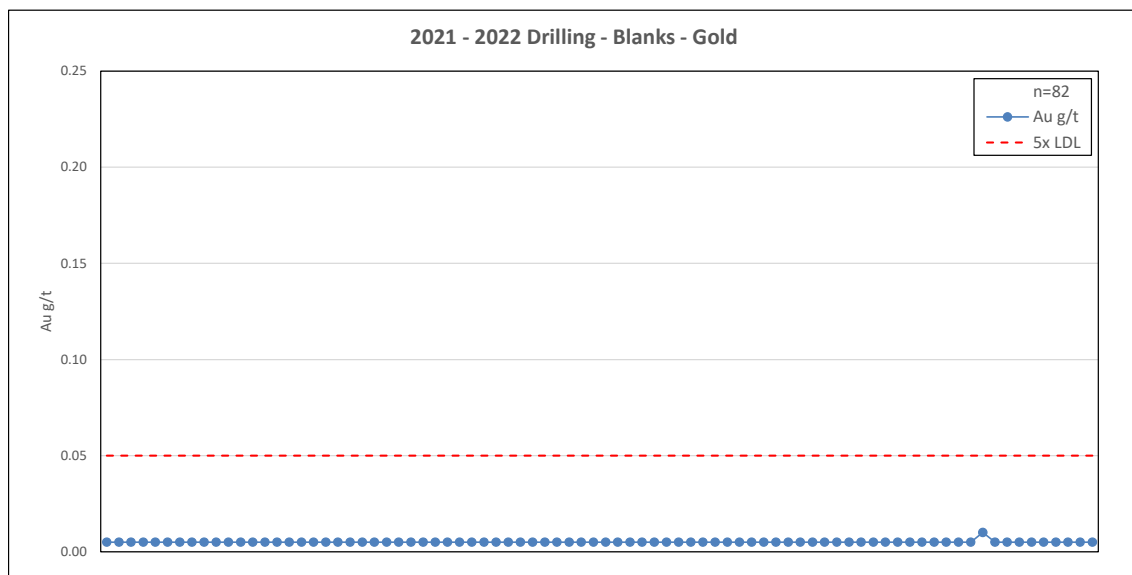


Figure 11.11 – Results of Gold Blank Assays

### 11.2.9 Third-Party Check Assays

Upon completion of the drill program, 138 sample pulps were selected for check analyses at ALS Vancouver. These samples represent 5.7% of the primary core samples and are used to assess the assay accuracy of the primary laboratory relative to a secondary laboratory. Scatter plots of paired copper and gold values are shown in Figure 11.12. Copper shows very little scatter around the 1:1 line. While gold shows more scatter, the linear regression remains near the 1:1 line with no high or low bias noted. The results of the third-party checks reasonably confirm the primary assay data.

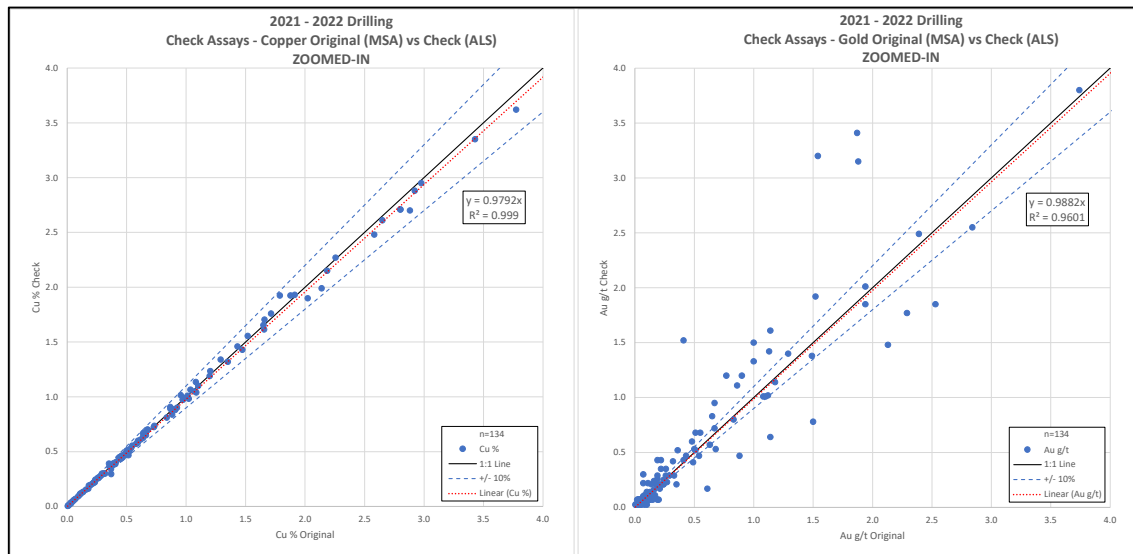


Figure 11.12 – Scatter plots of paired copper and gold values

#### 11.2.10 Comments

Performance of the CRM analyses is adequate and does not indicate any significant bias in the copper or gold assays. Pulp duplicates demonstrate reasonable correlation. Blank analyses show no contamination during assaying. Check assays support the accuracy of the copper and gold values relative to a third-party laboratory. Overall performance of the quality control samples demonstrates that the quality of the database is adequate for use in the resource estimation.

For future drilling, the addition of coarse blanks to assess contamination during sample preparation, coarse duplicates to test sub-sampling precision, and twin samples to assess sampling precision is recommended to ensure a comprehensive quality control program. Additionally, the practice of sending check samples to a third-party lab should be continued.

## 12 DATA VERIFICATION

### 12.1 Site Visit

A site visit was completed to the Lone Star Project on April 20, 2022, by Mr. Brian Hartman, P.Geo. of Ridge Geoscience LLC, a subcontractor to Mining Plus. All relevant data and procedures for measuring, capturing, recording, and storing were reviewed. Presentations of drill core and geological interpretation were made by the senior site geologist. Figure 12.1 shows the core logging facility and Figure 12.2 shows the typical core storage conditions.



*Figure 12.1 – Lone Star Core Logging Facility*



*Figure 12.2 – Lone Star Typical Core Storage Conditions*

Three representative drill holes were examined during the site visit, including LS21-3, LS21-17, and LS21-36. Items noted included:

- Drill core condition
- Sample selection
- Core recovery
- Logging, sampling, and core handling procedures.
- Visible copper mineralization in the drill core

Following observations and discussion at the main project site and core logging area, several drill hole collars were located, and coordinates verified by GPS.

### **12.2 Digital Record Storage**

Drill core was initially logged on paper and then digitized into Excel spreadsheet files. This information was then loaded into the acQuire geoscientific data management software. Assay data are imported directly to acQuire from the assay certificates received from the laboratory. A set a validation rules ensures data integrity. Data are easily distributed as .csv files for use in various software packages.

### **12.3 Database Validation and Verification**

During import to acQuire, automatic validations ensure the integrity of the data being loaded. A database manager oversees the import of external data such as laboratory assay results.

Drill hole collar elevations have been validated against a topographic surface generated from a LIDAR survey flown in 2022. Drill hole traces were visually checked to validate the downhole surveys.

Mining Plus has verified 5% of the assay database against original assay certificates and found no errors.

### **12.4 Comments**

Mining Plus has reviewed the Lone Star database management practices, on-site procedures and protocols, quality control procedures and analyses, and checks of the assay database against assay certificates. Mining Plus finds the database integrity and QA/QC program to be acceptable for mineral resource estimation.

## 13 MINERAL PROCESSING AND METALLURGICAL TESTING

### 13.1 Introduction

The Lone Star property hosts a potential copper-gold deposit. A preliminary metallurgical testwork program was completed in 2023 at Base Metallurgical Laboratories Ltd in Kamloops, British Columbia, Canada. The program utilized a single composite, and the program is documented in report BL1298 – Metallurgical Study of the Lone Star Project dated October 13, 2023.

A 40kg sample was assembled from half core obtained from the recent 2021 drilling program. Intervals were selected to best represent the dominant lithology and the copper and gold grades of the mineral resource.

Table 13.1 below shows the drill hole intervals selected for the metallurgical sample.

**Table 13.1 – Metallurgical Sample Composition**

| DHID     | Sample ID | From (m) | To (m)         | Cu%  | Au g/t |
|----------|-----------|----------|----------------|------|--------|
| LS21-003 | 1818223   | 128.63   | 130.15         | 0.55 | 0.30   |
| LS21-003 | 1818226   | 133.22   | 134.74         | 0.56 | 0.28   |
| LS21-003 | 1818228   | 136.25   | 137.77         | 0.46 | 0.17   |
| LS21-021 | 1819058   | 53.64    | 55.17          | 0.50 | 0.08   |
| LS21-021 | 1819059   | 55.17    | 56.69          | 0.61 | 0.08   |
| LS21-025 | 1819623   | 153.01   | 154.53         | 0.44 | 0.29   |
| LS21-025 | 1819634   | 168.25   | 169.77         | 0.51 | 0.29   |
|          |           |          | <b>Average</b> | 0.52 | 0.21   |

The test program investigated the composite's amenability to a conventional copper-gold processing flowsheet. The test program investigated head characterization, grindability, gravity concentration and flotation testing, which included Lock Cycle Testing

### 13.2 Head Characteristics

The results of chemical analysis of the single composite are summarized in Table 13.2.

**Table 13.2 – Head Assay Results**

|                                   | Cu (%)      | Au (g/t)    | Ag (g/t)   | Fe (%)      | S (%)       |
|-----------------------------------|-------------|-------------|------------|-------------|-------------|
| <b>Assay Method</b>               | <b>FAAS</b> | <b>FAAS</b> | <b>ICP</b> | <b>FAAS</b> | <b>LECO</b> |
| <b>Measured Feed</b>              | 0.50        | 0.24        | 1.67       | 2.7         | 0.81        |
| <b>Recalculated Feed (LCT-09)</b> | 0.52        | 0.15        | 1.80       | 2.6         | 0.77        |

Each element was assayed in duplicate with average values shown. Variability within the gold assays was noted pointing to a potential nugget effect. LCT-09 represents values taken from the Lock Cycle Testing as this would be considered the most robust recalculated feed.

While no mineralogical testing was completed the ratio of copper:iron:sulphur suggests that chalcopyrite is the predominant copper sulphide present in the composite.

### 13.3 Grindability

The grindability of the composite was determined through the Bond Ball Work Index procedure. The results found a Bond Ball Mill work index of 14.3 kWh/t, which indicates moderate hardness. See table 13.3.

**Table 13.3 – Comminution Testing Summary**

| Sample ID       | CSS $\mu\text{m}$ | F80 $\mu\text{m}$ | P80 $\mu\text{m}$ | Gpr  | WiBM kWh/tonne |
|-----------------|-------------------|-------------------|-------------------|------|----------------|
| Composite Blend | 150               | 2784              | 112               | 1.55 | 14.3           |

### 13.4 Copper and Gold Gravity & Rougher Flotation – Bench Tests

Base Metallurgical Laboratories investigated the effect of primary grind size and flotation chemistry on the metallurgical recovery of copper and gold. A total of 4 bench scale tests were conducted as part of this preliminary program. Each primary grind size was processed in a single pass through a laboratory Knelson gravity concentrator, with gravity concentrate further upgraded via a Mozley table, to recover coarse gold ahead of the flotation process. A Gravity Recoverable Gold (GRG) test protocol was not utilized. The rougher flotation testwork flowsheet schematic is provided in Figure 13.1.

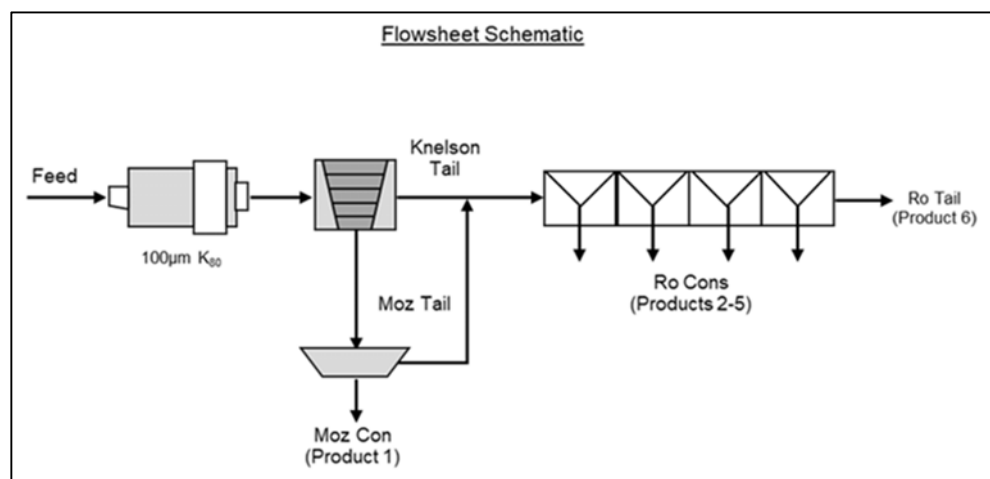


*Figure 13.1 – Primary Gold Size and Flotation Testwork Flowsheet*

### 13.4.1 Primary Grind Size

Primary grind sizes were tested at F80 of 100  $\mu\text{m}$ , 125  $\mu\text{m}$ , 150  $\mu\text{m}$ , and 200  $\mu\text{m}$ .

Gravity recovery of gold was highly variable showing no correlation with grind size. Mozley concentrate grade ranged from 20.5 g/t Au to 602 g/t Au representing 9.9% to 67.8% of the contained gold indicating the presence of coarse-grained gold in the composite.

Combined gravity concentrator and Mozley Table tails became the feed for rougher flotation testing. Copper recoveries over the range of primary grind sizes ranged between 93.5% to 95.1%. No correlation between recovery and grind size was found. Differences in test results has been attributed to variability of testing and assaying.

The nugget effect observed in the gold assays meant that recoveries were less reliable as an indicator of performance and instead gold grades in the flotation tails were compared. Gold in flotation tails ranged from 0.02 g/t Au to 0.11 g/t Au with no correlation to grind size. See Figure 13.2.

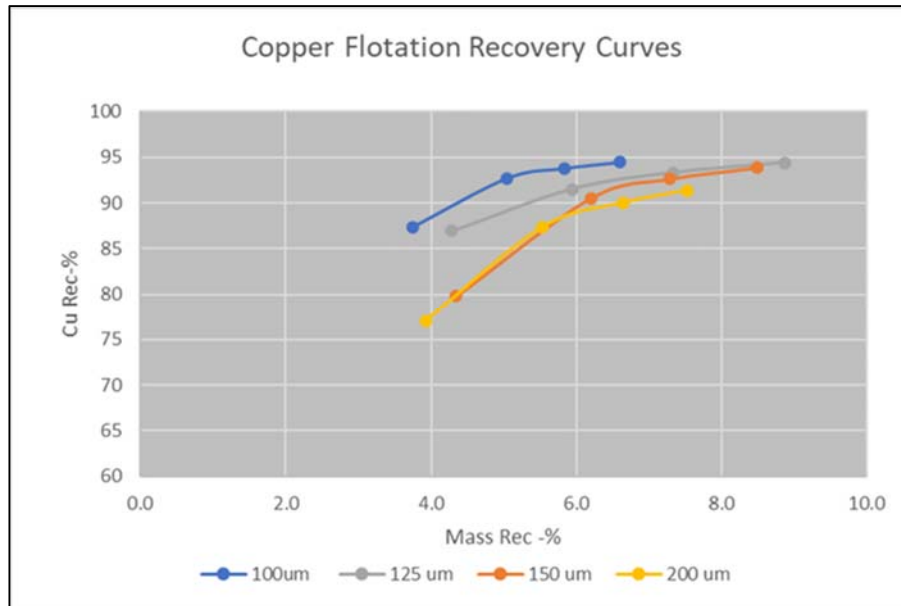


Figure 13.2 – Copper Flotation Recovery by Grind Size

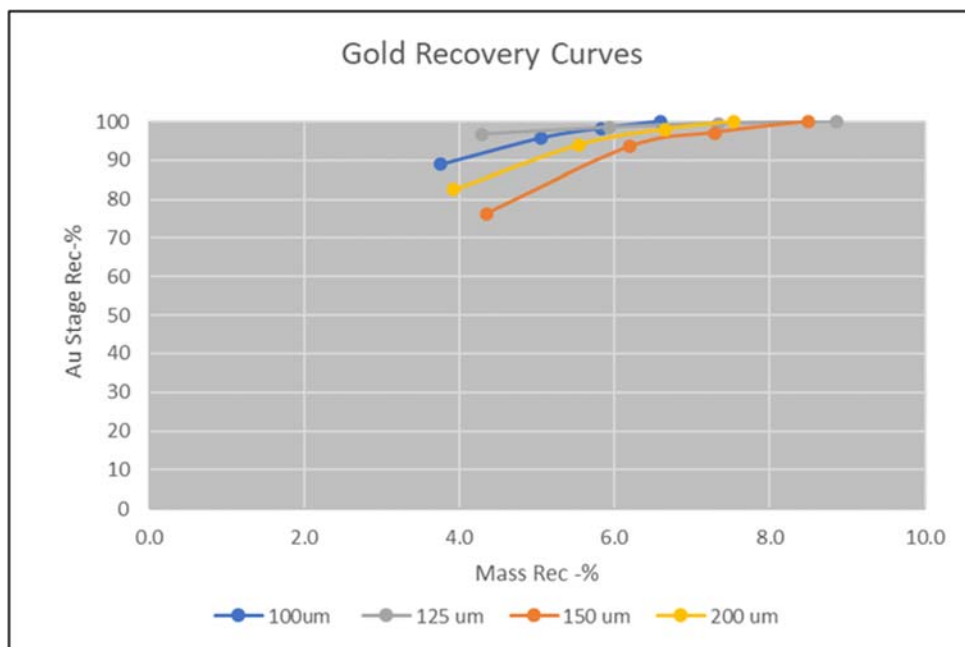


Figure 13.3 – Gold Combined Gravity-Flotation Recovery by Grind Size

#### 13.4.2 Flotation Chemistry

Using a consistent grind size of 200  $\mu\text{m}$  different flotation chemistries were tested to improve flotation performance. All tests utilized Methyl Isobutyl Carbinol (MIBC) as a frother and were conducted at natural pH. The collectors used were a combination of:

- Sodium Isopropyl Xanthate (SIPX) with Aerofloat A208 collector promoter
- Potassium Amyl Xanthate (PAX) with Aero 3894 collector promotor
- Sodium Isopropyl Xanthate (SIPX) with Aerofloat A208 collector promoter with Copper Sulphate

The combination of PAX and Aero 3894 was found to improve the recovery of both copper and gold at 200  $\mu\text{m}$ . Copper recovery increased to 95.0% and gold recovery to 94.0% although the mass yield to concentrate also increased from 7.5% to 12.5%. The final tails grade was 0.03% Cu and 0.20 g/t Au.

The addition of copper sulphate was found to reduce the recovery of copper.

#### 13.5 Copper and Gold Cleaner Flotation – Bench Tests

Following gravity separation, rougher flotation testing was conducted using a grind size of 200  $\mu\text{m}$ , with the addition of 20 g/t of PAX and Aero 3894 each and floated for 10 minutes in the laboratory to prepare a rougher concentrate for cleaner flotation. conducted as part of this program. There were 2 bench scale cleaner tests.

The rougher concentrate was reground to a K80 30 µm. The cleaner flotation testwork flowsheet schematic is provided in Figure 13.4.

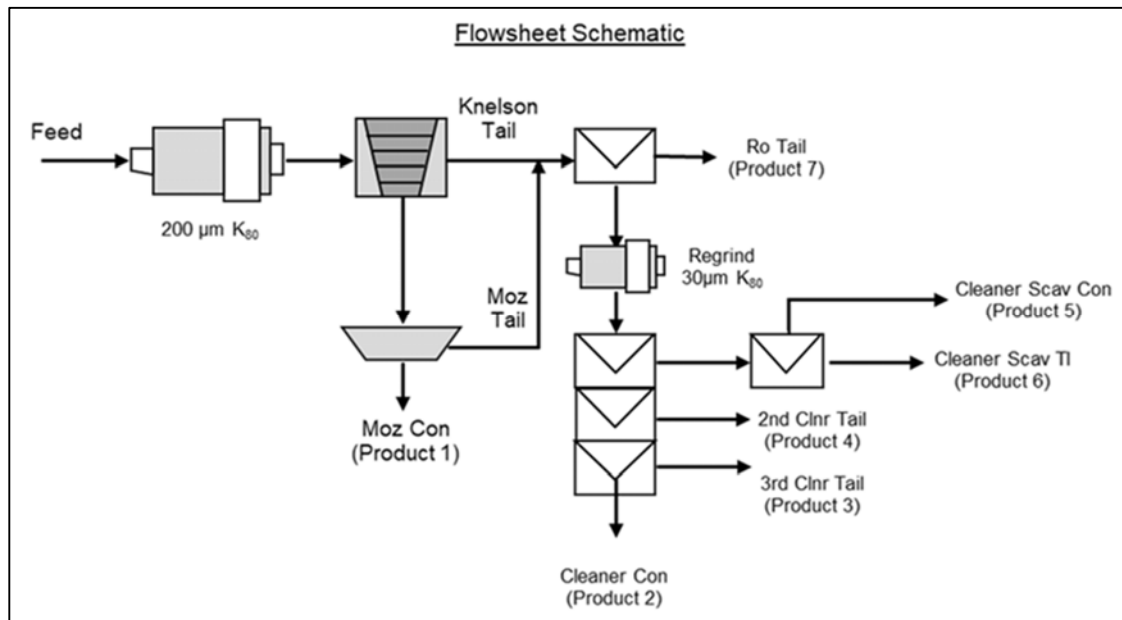


Figure 13.4 – Cleaner Flotation Testwork Flowsheet Schematic

Lime was added to each of the cleaner tests to raise the pH to approximately 10.5. The initial cleaner flotation test recovered 71% of the copper at a grade of 32% Cu, however 15% of the copper reported to the cleaner tails in the 3rd stage of cleaning. This was attributed to the 3rd cleaner stage conducted at pH 12.0. This test was then repeated with extended cleaner retention times and at a lower pH 11.0 in the 2nd cleaner stage and pH 11.5 in the final cleaner stage. The adjusted conditions produced a final concentrate of 23.9% Cu and 85% copper recovery. Gold grade was 11.6 g/t Au with a combined gravity-flotation recovery of 85%. Figure 13.5 shows copper cleaner grade vs. recovery.

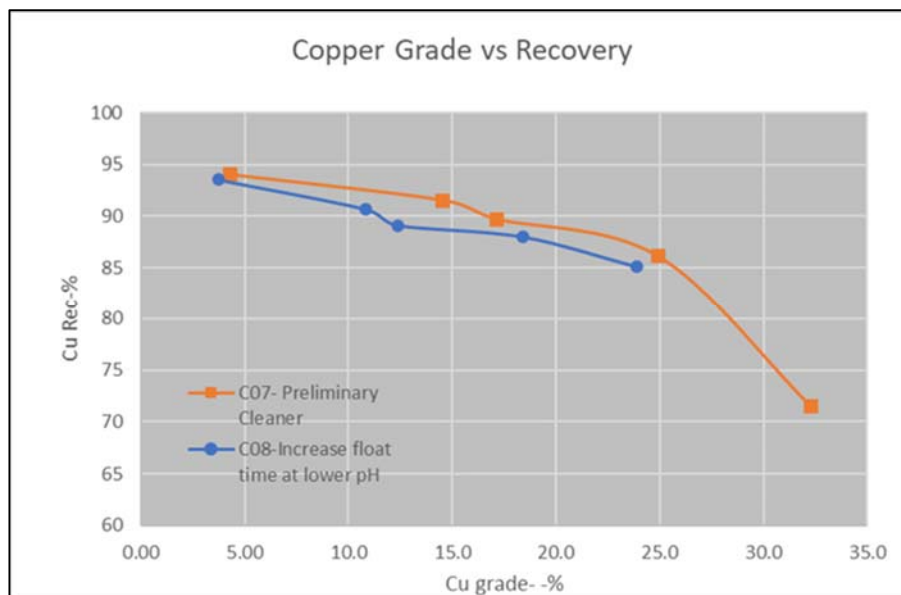


Figure 13.5 – Copper Cleaner Grade vs. Recovery

The final cleaner flotation test recovered 86.1% of the copper at a grade of 24.9% Cu, and the combined gravity-flotation gold recovery was 84.8% with 10.5 g/t Au in the flotation concentrate.

### 13.6 Copper and Locked Cycle Testing

A final Lock Cycle Test (LCT) was completed on the bulk composite to improve confidence in the overall circuit recovery. The circuit is illustrated in Figure 13.6 below and the flotation conditions are presented in Table 13.4.

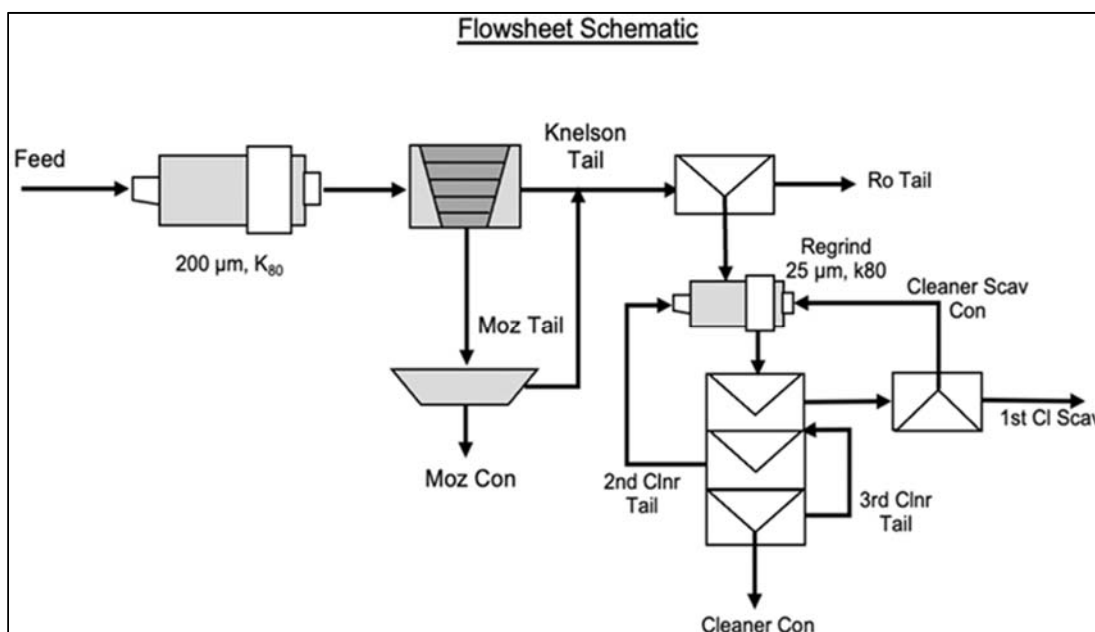


Figure 13.6 – Overall Circuit Recovery

Table 13.4 – LCT Test Conditions

| Stage              | Reagents – g/t |     |           |             |
|--------------------|----------------|-----|-----------|-------------|
|                    | Lime           | PAX | Aero 3894 | pH          |
| Primary Grind      | -              | -   | -         | 7.4         |
| Gravity Separation | -              | -   | -         | 7.4         |
| Rougher Flotation  | -              | 20  | 20        | 7.5         |
| Regrind            | 10             | -   | -         | 8.6         |
| Cleaner Flotation  | 365            | 2.5 | 7.5       | 10.5 – 11.5 |

The LCT produced a final flotation concentrate with a grade of 28.8% Cu and 13.5 g/t Au recovering 89.0% of the copper and a combined gravity – flotation gold recovery of 87.6%.

The products of the LCT are provided in Table 13.5.

Table 13.5 – LCT Product Results

| Product                       | Weight | Assay  |          |          |      |      | Distribution – Percent |      |      |      |      |
|-------------------------------|--------|--------|----------|----------|------|------|------------------------|------|------|------|------|
|                               | %      | Cu (%) | Au (g/t) | Ag (g/t) | Fe % | S %  | Cu                     | Au   | Ag   | Fe   | S    |
| Mozley Concentrate            | 0.1    | -      | 14.0     | -        | -    | -    | -                      | 1.7  | -    | -    | -    |
| Cleaner Flotation Concentrate | 1.6    | 28.8   | 13.5     | 78.0     | 27.1 | 32.2 | 89.0                   | 87.6 | 75.5 | 15.3 | 73.9 |
| Cleaner Scavenger Tail        | 7.9    | 0.27   | 0.13     | 2.50     | 4.0  | 2.1  | 4.4                    | 4.5  | 12.8 | 12.0 | 25.4 |
| Rougher Flotation Concentrate | 9.3    | 4.82   | 2.26     | 14.53    | 7.7  | 6.9  | 93.4                   | 92.1 | 88.2 | 27.2 | 99.3 |
| Rougher Flotation Tail        | 90.5   | 0.04   | 0.02     | 0.20     | 2.1  | 0.0  | 6.6                    | 7.9  | 11.8 | 72.8 | 0.7  |
| Measured Head                 |        | 0.52   | 0.15     | 1.80     | 2.6  | 0.77 |                        |      |      |      |      |
| Calculated Head               |        | 0.50   | 0.24     | 1.67     | 2.7  | 0.81 |                        |      |      |      |      |

### 13.7 Presence of Coarse Gold

Across the test program prior to each of the 6 rougher flotation tests, 2 cleaner flotation tests, and 5 cycles of the LCT flotation testing the composite was passed through a laboratory Knelson concentrator, with the Knelson concentrate further upgraded over a Mozley shaking table.

Figure 2-5 below shows the results of each pass through the Knelson concentrator and Mozley table. Gravity concentration was performed at the same grind sizes as the flotation tests. These were F80 of 100  $\mu\text{m}$ , 125  $\mu\text{m}$ , 150  $\mu\text{m}$ , and 200  $\mu\text{m}$ . No correlation was found between grind size and gold recovery using gravity concentration. At 200  $\mu\text{m}$ , where multiple tests were completed, gold recovery ranged from 0.9% to 67.8% and concentrate grades ranged from 4.6 g/t Au to 602.3 g/t Au indicating the likelihood for coarse gold in the sample. See Figure 13.7.

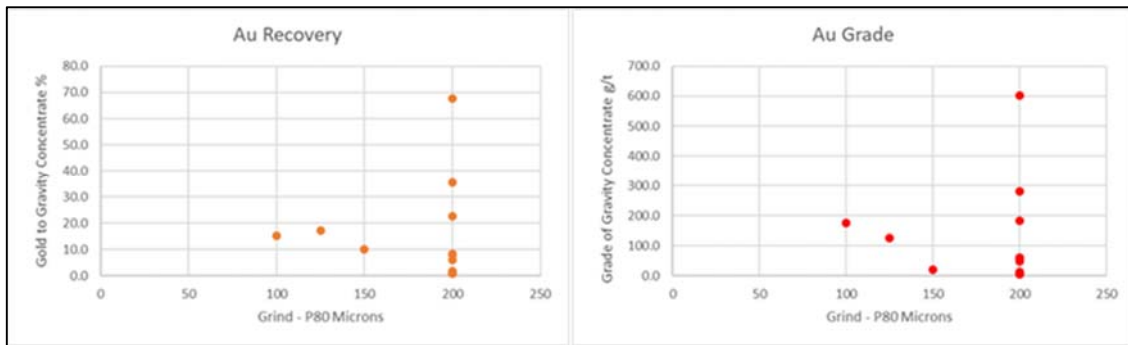


*Figure 13.7 – Gravity Gold Recovery*

An industry standard Gravity Recoverable Gold (GRG) test protocol was not utilized as part of this program.

### 13.8 Future Metallurgical Testing

This metallurgical test program focused on a single composite that represented the average grade and dominant lithology and was limited in scope for the number and types of tests conducted. As the project is further developed additional recommended testing would include:

- Testing of multiple variability samples and composites representing a broader range of expected mined material
- Additional comminution testing such as SMC, Bond RWI and Ai
- Mineralogical analysis
- Different primary and regrind particle sizes
- Variable flotation chemistry
- Concentrate and tail characterization

## 14 MINERAL RESOURCE ESTIMATES

### 14.1 Introduction

The Mineral Resource Estimate presented herein represent the copper and gold mineral resource evaluation prepared for the Lone Star Project. The effective date of this Mineral Resource Estimate is 1 October 2023. The data cut-off date is 30 September 2022, which includes all data from the 2021-2022 drilling program. No subsequent drilling has been completed on the property.

The Lone Star block model and resource estimate was completed by Mr. Brian Hartman, P.Geo. of Ridge Geoscience LLC and subcontractor to Mining Plus, a Registered Member of the Society for Mining, Metallurgy & Exploration, and a Practicing Member with Professional Geoscientists Ontario. The current Mineral Resource Estimate is based on drilling from the 2006 Merit drilling program and the 2021-2022 Marquee drilling program. The estimate incorporates geological and structural constraints developed through lithological and structural modelling and familiarity with the deposit. Mr. Hartman completed a site visit to the Lone Star Project on April 20, 2022.

The Lone Star Mineral Resource estimate was completed using Leapfrog Geo version 2021.2.4 software in UTM coordinates. The block model was constrained by interpreted three-dimensional wireframes of the lithologies and mineralized horizons. Copper and gold were estimated into blocks using Inverse Distance Weighting Squared interpolation. The Mineral Resource is reported inside a conceptual pit shell at an internal cutoff grade of 0.10% copper equivalent. Based on these criteria, the Lone Star deposit contains an Indicated Mineral Resource of 9.76 Mt at 0.45% copper and 0.23 g/t gold and an Inferred Mineral Resource of 3.35 Mt at 0.31% copper and 0.20 g/t gold. The Mineral Resource is presented below in Table 14.1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

**Table 14.1 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off**

| Classification   | Tonnes (Mt) | CuEq% | Cu%  | Au g/t |
|------------------|-------------|-------|------|--------|
| <b>Indicated</b> | 9.76        | 0.60  | 0.45 | 0.23   |
| <b>Inferred</b>  | 3.35        | 0.44  | 0.31 | 0.20   |

Notes:

1. The Mineral Resource has been compiled by Mr. Brian Hartman of Ridge Geoscience LLC, and subcontractor to Mining Plus. Mr. Hartman is a Registered Member of the Society for Mining, Metallurgy & Exploration, and a Practicing

*Member with Professional Geoscientists Ontario. Mr. Hartman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined by NI 43-101.*

2. *All Mineral Resources figures reported in the table above represent estimates at 1 October 2023.*
3. *Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape, and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.*
4. *Mineral Resources are estimated consistent with CIM Definition Standards and reported in accordance with NI 43-101.*
5. *Mineral Resources are reported on a dry in-situ basis at a 0.10% CuEq cut-off. Reporting cut-off grade was based on an economic pit shell assuming prices of US\$4.10/lb and US\$1,750/oz for copper and gold, respectively, selling costs of US\$0.10/lb and US\$50/oz, respectively, assumed metallurgical recoveries of 90% and 90% respectively, mining recovery of 90%, mining costs of US\$2.00/tonne and processing costs of US\$7.00/tonne. An internal cutoff grade of 0.10% copper equivalent is needed to overcome processing costs.*
6. *Average SG values were assigned based on copper grade zones and/or lithologies as follows: waste = 2.74, low-grade zone = 2.80, high-grade zone = 3.05, overburden = 1.90*

## 14.2 Resource Database

The drill hole database used for the resource model included:

- Collar surveys
- Down hole surveys
- Assay data
- Density measurements
- Lithology information

A total of 60 drill holes were included in the modern Lone Star database, of which 13 were drilled in 2006 and 47 were drilled in 2021-2022. Two holes drilled in 2006 encountered drilling problems and were subsequently twinned. The two original holes were not used in the resource estimate. All 58 remaining drill holes used in the resource estimate are diamond drill holes, with a total combined length of approximately 8,880 m. Assays are available from 56 of the 58 drill holes. Two short drill holes in the north-western part of the deposit were

unmineralized and not sampled. Unsampled portions of all holes were assumed to be barren, and both copper and gold grades were set to zero.

An additional 239 holes were drilled on the property between 1908 and 1990. These historic holes were not used in the mineral resource estimate as they lack sufficient verification and validation demanded by modern industry standards.

### 14.3 Geological Models and Grade Shells

Logged lithologies were simplified into the following main groups:

- Overburden
- Unmineralized upper-plate volcanics and volcaniclastics
- Unmineralized andesite
- Mineralized rhyolite and serpentinite
- Unmineralized footwall andesite
- Weakly mineralized footwall serpentinite (only occurs in the northwest)
- Tertiary dike

Stratigraphy is vertically offset in several areas, most prominently by an arcuate fault or caldera collapse feature that down dropped the south-eastern portion of the deposit relative to the northern area (Figure 14.1). This down-dropped area contains the thickest package of mineralization intersected to date. It appears that the northern and western area of mineralization has largely been eroded away. Smaller magnitude offsets are observed in the northern part of the deposit. The offsets have resulted in the geological model being broken into five separate structural zones (Figure 14.2). Logged lithologies were used to interpret three-dimensional wireframe solids for each of the groups above within each structural zone, except for the scattered tertiary dikes. Wireframes solids were modelled using Leapfrog Geo implicit modelling tools. More drilling is required to better understand the continuity of the dikes, but their prevalence is estimated to be less than 5% by volume.

The main mineralized zones are hosted in a package of dominantly rhyolite with some serpentinite that gently dips towards the southeast at 20-25 degrees. These two lithologies were ultimately grouped together for the purposes of resource estimation after analysis of grade distributions revealed no material differences in grade occurrence or intensities within either lithology.

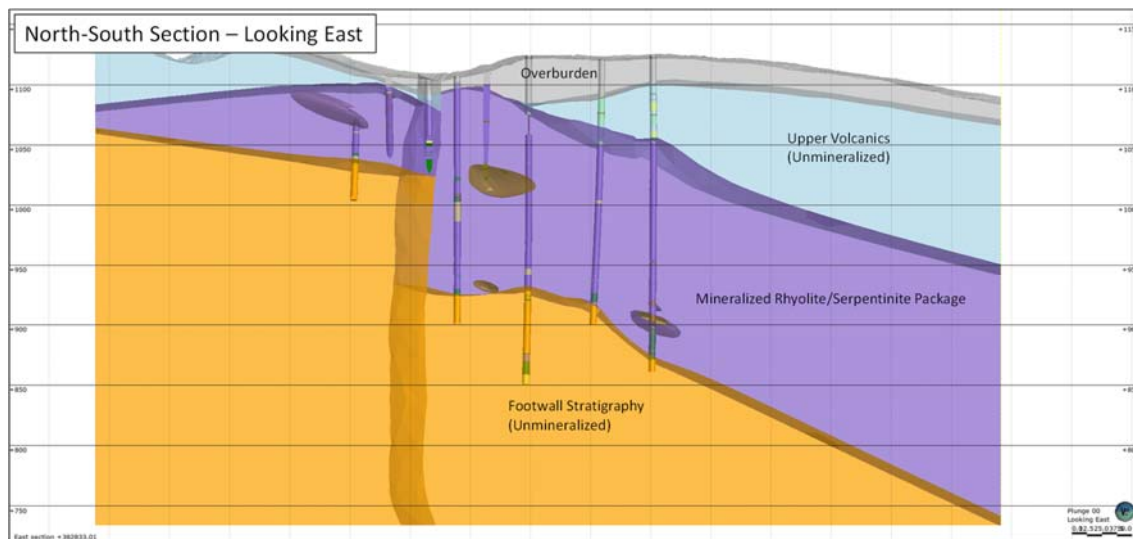


Figure 14.1 - Representative Section Showing Major Lithologies

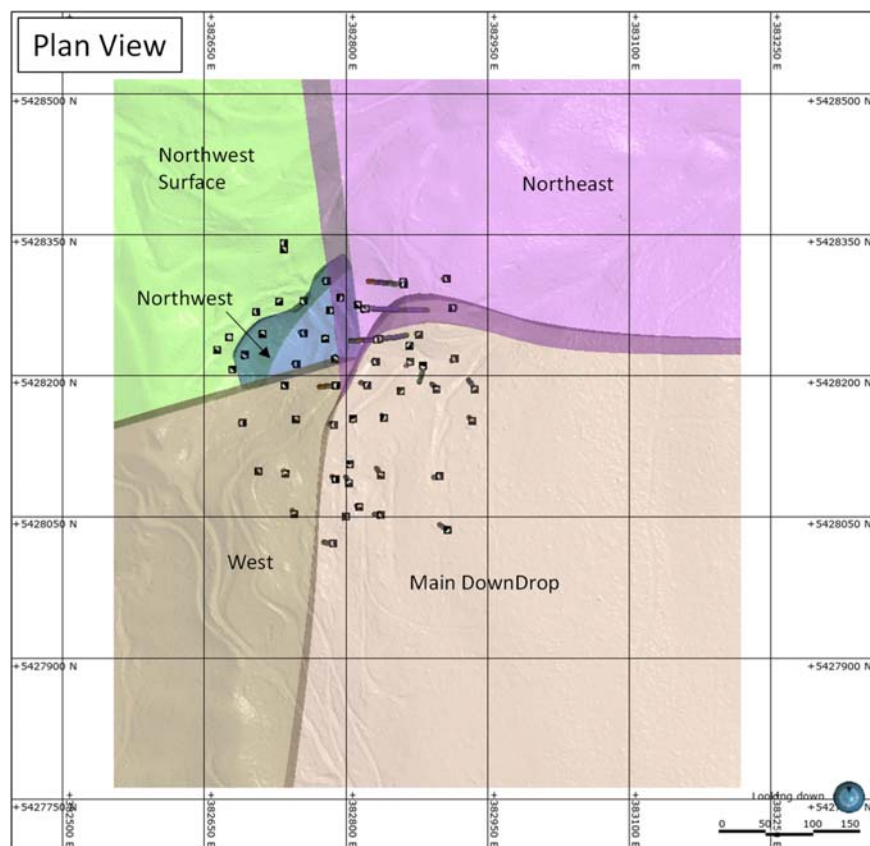


Figure 14.2 - Structural Zones

Copper and gold assay statistics, histograms, and log probability plots were reviewed. A low-grade copper zone was defined as  $>0.18\%$  Cu, with an internal high-grade zone defined as  $>1.0\%$  Cu. A low-grade gold zone was defined as  $0.05$  g/t Au with an internal high-grade zone defined as  $>1.0$  g/t Au. These grade shells were generated using  $2$  m composites within the mineralized rhyolite/serpentinite package, an indicator RBF (Radial Basis Function) interpolant value for above or below the cutoff, and a probability of  $50\%$ . The resultant shapes were manually adjusted as needed to better fit the interpretation. The process was repeated for each structural zone using a unique search orientation for each area. All grade zone solids and eventual grade estimates were clipped to the rhyolite/serpentinite package and overburden surfaces. Two representative sections showing the copper grade domains are shown in Figure 14.3 and Figure 14.4 below. A 3D perspective view of the copper grade domains is shown in Figure 14.5.

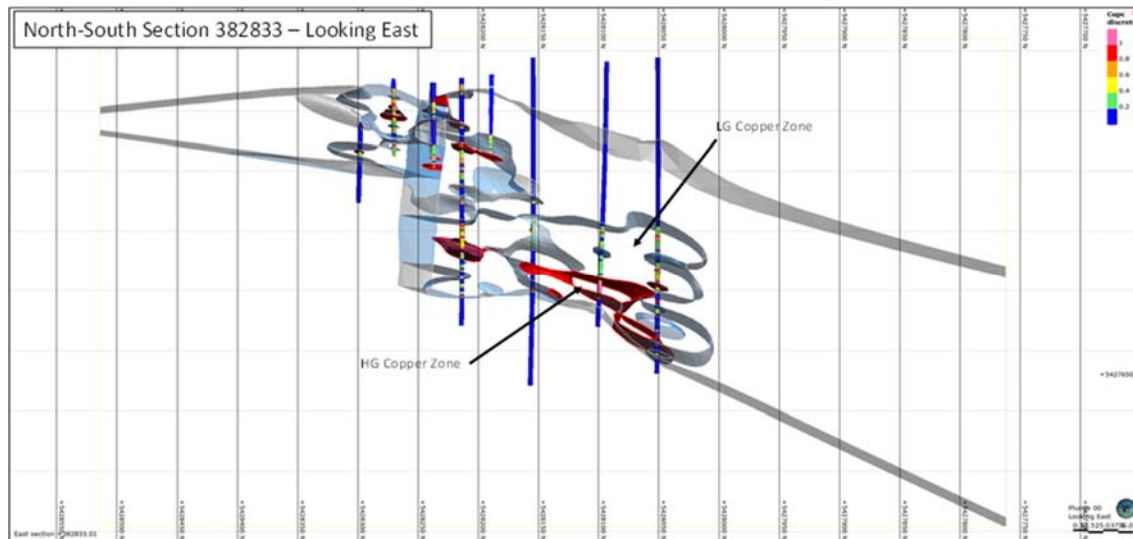


Figure 14.3 - Representative Section Showing Copper Grade Domains

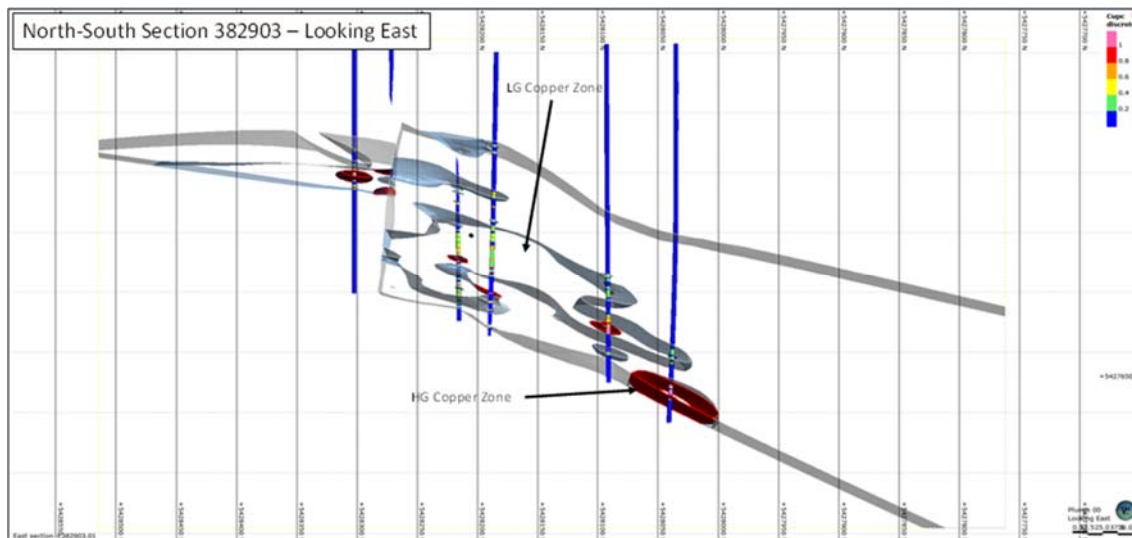


Figure 14.4 - Representative Section Showing Copper Grade Domains

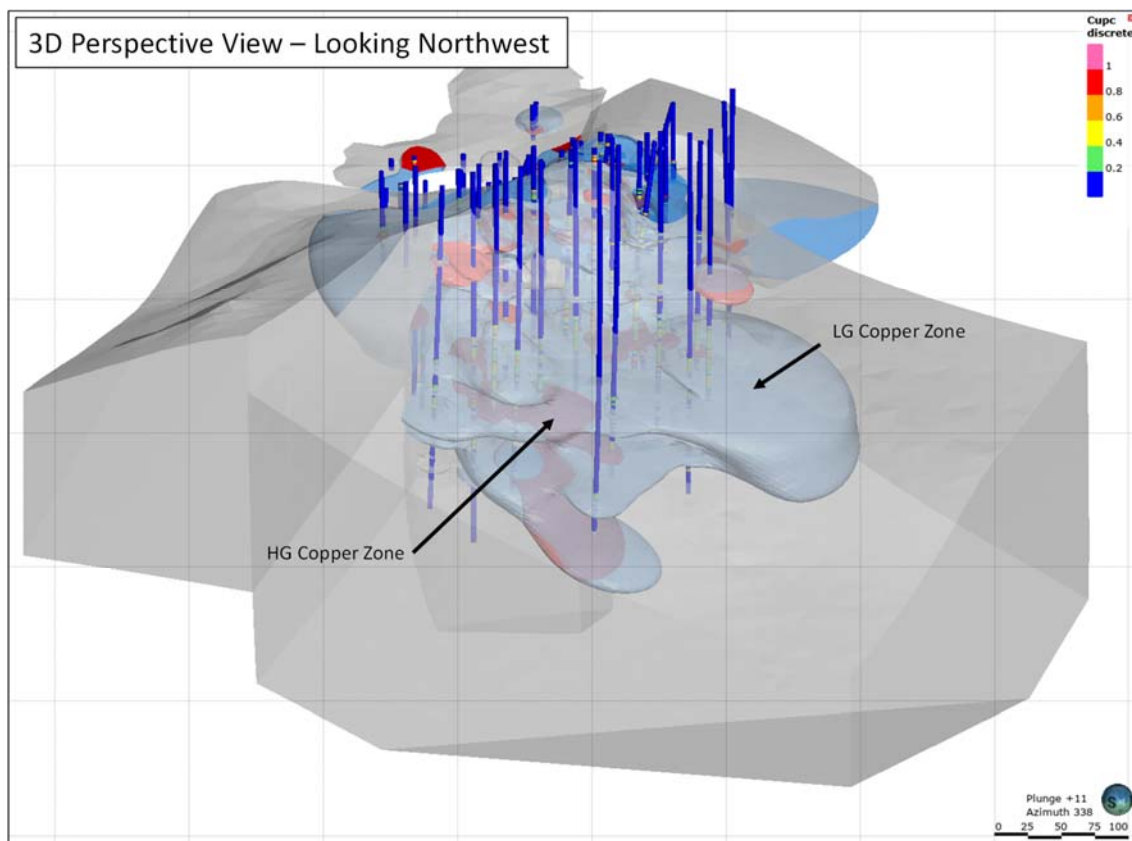


Figure 14.5 - 3D Perspective View Showing Copper Grade Domains

#### 14.4 Assay Statistics

Data analysis was performed by creating histogram and cumulative probability plots of the copper and gold data within each structural zone. Assay statistics are shown in Table 14.2 and Table 14.3 below.

**Table 14.2 - Lone Star Copper Assay Statistics within Copper Grade Domains**

| Domain  | Zone          | Count | Min (%) | Max (%) | Mean (%) | SD   | CV   |
|---------|---------------|-------|---------|---------|----------|------|------|
| HG      | Main Downdrop | 183   | 0.01    | 24.61   | 2.12     | 2.70 | 1.28 |
|         | Northeast     | 25    | 0.03    | 11.94   | 2.76     | 2.81 | 1.02 |
|         | Northwest     | 2     | 1.15    | 3.73    | 2.44     | 1.83 | 0.75 |
|         | NW Surface    | 9     | 0.02    | 4.04    | 1.63     | 1.33 | 0.81 |
|         | West          | 10    | 0.13    | 5.42    | 1.63     | 1.37 | 0.84 |
| LG      | Main Downdrop | 1143  | 0.00    | 17.79   | 0.49     | 0.63 | 1.29 |
|         | Northeast     | 172   | 0.01    | 2.88    | 0.46     | 0.37 | 0.80 |
|         | Northwest     | 44    | 0.01    | 1.90    | 0.45     | 0.39 | 0.87 |
|         | NW Surface    | 21    | 0.01    | 1.34    | 0.44     | 0.42 | 0.95 |
|         | West          | 72    | 0.00    | 2.05    | 0.47     | 0.40 | 0.85 |
| Outside | Main Downdrop | 618   | 0.00    | 4.06    | 0.05     | 0.16 | 2.96 |
|         | Northeast     | 81    | 0.00    | 0.44    | 0.06     | 0.07 | 1.09 |
|         | Northwest     | 213   | 0.00    | 2.41    | 0.02     | 0.08 | 4.16 |
|         | NW Surface    | 26    | 0.00    | 0.38    | 0.09     | 0.08 | 0.88 |
|         | West          | 34    | 0.00    | 0.35    | 0.02     | 0.06 | 2.85 |

**Table 14.3 - Lone Star Gold Assay Statistics within Gold Grade Domains**

| Domain  | Zone          | Count | Min (g/t) | Max (g/t) | Mean (g/t) | SD    | CV    |
|---------|---------------|-------|-----------|-----------|------------|-------|-------|
| HG      | Main Downdrop | 59    | 0.03      | 136.00    | 4.49       | 12.49 | 2.78  |
|         | Northeast     | 22    | 0.18      | 11.71     | 3.37       | 3.71  | 1.10  |
|         | Northwest     | -     | -         | -         | -          | -     | -     |
|         | NW Surface    | 5     | 0.05      | 3.29      | 1.44       | 1.61  | 1.11  |
|         | West          | 9     | 0.02      | 4.27      | 1.57       | 1.53  | 0.97  |
| LG      | Main Downdrop | 1436  | 0.00      | 9.87      | 0.25       | 0.43  | 1.74  |
|         | Northeast     | 142   | 0.01      | 2.01      | 0.20       | 0.23  | 1.16  |
|         | Northwest     | 59    | 0.02      | 1.40      | 0.17       | 0.25  | 1.44  |
|         | NW Surface    | 48    | 0.01      | 2.11      | 0.29       | 0.44  | 1.53  |
|         | West          | 88    | 0.00      | 3.74      | 0.27       | 0.40  | 1.51  |
| Outside | Main Downdrop | 449   | 0.00      | 14.79     | 0.02       | 0.30  | 14.14 |
|         | Northeast     | 114   | 0.00      | 0.23      | 0.03       | 0.02  | 0.91  |
|         | Northwest     | 199   | 0.00      | 0.40      | 0.01       | 0.02  | 3.15  |
|         | NW Surface    | 3     | 0.00      | 0.14      | 0.05       | 0.09  | 1.66  |
|         | West          | 19    | 0.00      | 0.14      | 0.00       | 0.02  | 4.14  |

## 14.5 Composites

Copper and gold assays were weight-averaged into 2m composites across the individual grade domains. Residual segments shorter than 1m have their length distributed among the other intervals. Table 14.4 and Table 14.5 show the composite summary statistics.

**Table 14.4 - Lone Star Copper Composite Statistics within Copper Grade Domains**

| Domain  | Zone          | Count | Min (%) | Max (%) | Mean (%) | SD   | CV   |
|---------|---------------|-------|---------|---------|----------|------|------|
| HG      | Main Downdrop | 118   | 0.20    | 17.67   | 2.06     | 1.93 | 0.94 |
|         | Northeast     | 19    | 0.87    | 6.94    | 2.56     | 1.76 | 0.69 |
|         | Northwest     | 2     | 1.15    | 2.99    | 2.23     | 1.30 | 0.58 |
|         | NW Surface    | 4     | 1.24    | 1.89    | 1.55     | 0.28 | 0.18 |
|         | West          | 7     | 1.11    | 2.58    | 1.65     | 0.61 | 0.37 |
| LG      | Main Downdrop | 766   | 0.01    | 6.83    | 0.48     | 0.42 | 0.87 |
|         | Northeast     | 106   | 0.17    | 1.17    | 0.45     | 0.22 | 0.49 |
|         | Northwest     | 31    | 0.04    | 0.94    | 0.45     | 0.25 | 0.56 |
|         | NW Surface    | 7     | 0.12    | 0.75    | 0.45     | 0.22 | 0.50 |
|         | West          | 47    | 0.09    | 1.05    | 0.47     | 0.22 | 0.47 |
| Outside | Main Downdrop | 917   | 0.00    | 2.65    | 0.05     | 0.11 | 2.23 |
|         | Northeast     | 64    | 0.00    | 0.19    | 0.07     | 0.05 | 0.81 |
|         | Northwest     | 374   | 0.00    | 0.70    | 0.02     | 0.05 | 2.51 |
|         | NW Surface    | 20    | 0.00    | 0.49    | 0.07     | 0.12 | 1.71 |
|         | West          | 75    | 0.00    | 0.18    | 0.03     | 0.05 | 1.92 |

**Table 14.5 - Lone Star Gold Composite Statistics within Gold Grade Domains**

| Domain | Zone          | Count | Min  | Max   | Mean | SD   | CV   |
|--------|---------------|-------|------|-------|------|------|------|
| HG     | Main Downdrop | 39    | 0.08 | 30.84 | 4.48 | 6.32 | 1.41 |
|        | Northeast     | 15    | 1.26 | 9.57  | 3.21 | 3.71 | 0.92 |
|        | Northwest     | -     | -    | -     | -    | -    | -    |
|        | NW Surface    | 2     | 1.03 | 2.18  | 1.67 | 0.81 | 0.48 |
|        | West          | 5     | 1.06 | 2.50  | 1.65 | 0.63 | 0.38 |

|         |               |     |      |      |      |      |      |
|---------|---------------|-----|------|------|------|------|------|
| LG      | Main Downdrop | 956 | 0.00 | 3.03 | 0.25 | 0.29 | 1.19 |
|         | Northeast     | 91  | 0.05 | 1.90 | 0.23 | 0.31 | 1.35 |
|         | Northwest     | 52  | 0.05 | 0.96 | 0.18 | 0.18 | 1.01 |
|         | NW Surface    | 18  | 0.03 | 0.70 | 0.25 | 0.21 | 0.85 |
|         | West          | 60  | 0.06 | 1.37 | 0.26 | 0.23 | 0.89 |
| Outside | Main Downdrop | 816 | 0.00 | 3.78 | 0.02 | 0.16 | 7.70 |
|         | Northeast     | 83  | 0.00 | 0.06 | 0.03 | 0.02 | 0.59 |
|         | Northwest     | 354 | 0.00 | 0.16 | 0.01 | 0.01 | 2.01 |
|         | NW Surface    | 11  | 0.00 | 0.14 | 0.01 | 0.02 | 2.83 |
|         | West          | 64  | 0.00 | 0.04 | 0.00 | 0.01 | 2.31 |

## 14.6 High-Grade Composite Restriction

Composited data was used to generate cumulative probability and histogram plots. A review of the results showed that some high-grade outliers were spatially discontinuous from the remainder of the data set and that there was justification for restricting their range of influence. Composite values above the restricted value were limited to an influence range of 30% of the primary search distances, ranging from 15-30 m. Beyond that distance, the high-grade composites were capped to the restricted value when used to estimate grade. A summary of the restriction is shown below in Table 14.6.

**Table 14.6 - Lone Star High-Grade Composite Restriction**

| Domain | Zone          | Threshold |        | % Composites Restricted |       |
|--------|---------------|-----------|--------|-------------------------|-------|
|        |               | Cu %      | Au g/t | Cu                      | Au    |
| HG     | Main Downdrop | 7.00      | 12.00  | 1.7%                    | 7.7%  |
|        | Northeast     | -         | 6.00   | -                       | 20.0% |
|        | Northwest     | -         | -      | -                       | -     |
|        | NW Surface    | -         | -      | -                       | -     |
|        | West          | -         | -      | -                       | -     |

|         |               |      |       |      |       |
|---------|---------------|------|-------|------|-------|
| LG      | Main Downdrop | 1.30 | 0.83  | 2.6% | 4.8%  |
|         | Northeast     | -    | 0.50  | -    | 6.6%  |
|         | Northwest     | -    | 0.60  | -    | 1.9%  |
|         | NW Surface    | -    | -     | -    | -     |
|         | West          | -    | 0.80  | -    | 3.3%  |
| Outside | Main Downdrop | 0.70 | 0.05  | 0.4% | 3.7%  |
|         | Northeast     | -    | -     | -    | -     |
|         | Northwest     | 0.20 | -     | 0.5% | -     |
|         | NW Surface    | -    | 0.01  | -    | 9.1%  |
|         | West          | -    | 0.005 | -    | 20.3% |

## 14.7 Variography

Variogram models were completed on the low-grade domains within the main down dropped block to determine the orientation and spatial continuity of the composited copper and gold values. Nested spherical models were fit to the directional variograms. A summary of the results is shown in Table 14.7.

**Table 14.7 - Lone Star Variogram Parameters for Low Grade Copper and Gold Domains**

| Rotation |         |       | Nugget | Structure 1 |           |                |           | Structure 2 |           |                |           |
|----------|---------|-------|--------|-------------|-----------|----------------|-----------|-------------|-----------|----------------|-----------|
| Dip      | Dip Azi | Pitch |        | Sill        | Major (m) | Semi-Major (m) | Minor (m) | Sill        | Major (m) | Semi-Major (m) | Minor (m) |
| 27       | 130     | 113   | 0.4    | 0.38        | 35        | 44             | 26        | 0.23        | 75        | 77             | 60        |
| 30       | 130     | 65    | 0.25   | 0.25        | 58        | 50             | 28        | 0.50        | 93        | 93             | 45        |

Due to the smaller number of composites within other structural zones, variography results were poor. It was ultimately decided to utilize Inverse Distance Weighting (IDW) for all structural zones, using the variography results as a guide for ellipse orientation and search ranges. When used alongside the nested grade domains and outlier restrictions, IDW results provide a globally unbiased and adequate grade representation for this level of study. Further

variography analysis and use of Ordinary Kriging is recommended after additional drilling has been completed.

## 14.8 Block Model

The block model was created using Leapfrog Edge version 2021.2.4 in UTM coordinates. The model is not rotated. Table 14.8 provides the block model limits and size. The parent block size is 5 m x 5 m x 2 m, and blocks were further sub-blocked to a minimum of 1.25 m x 1.25 m x 0.50 m along the lithology and grade domain boundaries.

**Table 14.8 - Lone Star Block Model Setup**

| Blocks                | X      | Y       | Z    |
|-----------------------|--------|---------|------|
| Parent Block Size (m) | 5      | 5       | 2    |
| Sub-Block Count       | 4      | 4       | 4    |
| Minimum Size (m)      | 1.25   | 1.25    | 0.5  |
|                       |        |         |      |
| Extents               | X      | Y       | Z    |
| Base Point            | 382560 | 5427765 | 1180 |
| Boundary Size (m)     | 655    | 745     | 448  |
| Size in Blocks        | 131    | 149     | 224  |

## 14.9 Interpolation Methods

The interpolation plan for the Lone Star Mineral Resource estimation model was completed using Inverse Distance Squared Weighting (IDW) rhyolite/serpentine package within five structural zones. The estimation used 2m composites. Composite sharing across grade domain boundaries (high-grade, low-grade, and outside) was not allowed. All interpolations used a search orientation based on the geometry of the domains within each structural zone. The search parameters are shown in Table 14.9 below.

**Table 14.9 - Search Parameters**

|                   |                |              | Ellipsoid Ranges (m) |         |              |         | Ellipsoid Directions |             |       | Number of Samples |     |            | Outlier Restrictions |           |       |
|-------------------|----------------|--------------|----------------------|---------|--------------|---------|----------------------|-------------|-------|-------------------|-----|------------|----------------------|-----------|-------|
| Zone              | Numeric Values | Grade Domain | Pass                 | Maximum | Intermediate | Minimum | Dip                  | Dip Azimuth | Pitch | Min               | Max | Max per DH | Distance (%)         | Threshold |       |
| Main Downdrop     | Au             | Outside      | 1                    | 100     | 100          | 50      | 32                   | 130         | 65    | 5                 | 14  | 2          | 30                   | 0.05      |       |
|                   |                |              | 2                    | 200     | 200          | 100     | 32                   | 130         | 65    | 3                 | 14  | 2          | 15                   | 0.05      |       |
|                   |                | HG           | 1                    | 40      | 40           | 20      | 32                   | 130         | 65    | 1                 | 14  | 2          | 30                   | 12        |       |
|                   |                | LG           | 1                    | 100     | 100          | 50      | 32                   | 130         | 65    | 5                 | 14  | 2          | 20                   | 0.83      |       |
|                   |                |              | 2                    | 200     | 200          | 100     | 32                   | 130         | 65    | 3                 | 14  | 2          | 10                   | 0.83      |       |
|                   | Cu             | Outside      | 1                    | 80      | 80           | 30      | 32                   | 130         | 113   | 5                 | 14  | 2          | 30                   | 0.7       |       |
|                   |                |              | 2                    | 160     | 160          | 60      | 32                   | 130         | 113   | 3                 | 14  | 2          | 15                   | 0.7       |       |
|                   |                | HG           | 1                    | 50      | 50           | 20      | 32                   | 130         | 113   | 2                 | 14  | 2          | 30                   | 7         |       |
|                   |                |              | 2                    | 50      | 50           | 20      | 32                   | 130         | 113   | 1                 | 14  | 2          | 15                   | 7         |       |
|                   |                | LG           | 1                    | 80      | 80           | 30      | 32                   | 130         | 113   | 5                 | 14  | 2          | 30                   | 1.3       |       |
|                   |                |              | 2                    | 160     | 160          | 60      | 32                   | 130         | 113   | 3                 | 14  | 2          | 15                   | 1.3       |       |
|                   | Northeast      | Au           | Outside              | 1       | 100          | 100     | 50                   | 16          | 120   | 87                | 5   | 14         | 2                    |           |       |
|                   |                |              |                      | 2       | 200          | 200     | 100                  | 16          | 120   | 87                | 3   | 14         | 2                    |           |       |
|                   |                |              | HG                   | 1       | 60           | 60      | 30                   | 16          | 120   | 87                | 1   | 14         | 2                    | 30        | 6     |
| LG                |                |              | 1                    | 100     | 100          | 50      | 16                   | 120         | 87    | 5                 | 14  | 2          | 30                   | 0.5       |       |
|                   |                |              | 2                    | 200     | 200          | 100     | 16                   | 120         | 87    | 3                 | 14  | 2          | 15                   | 0.5       |       |
| Cu                |                | Outside      | 1                    | 80      | 80           | 30      | 16                   | 120         | 87    | 5                 | 14  | 2          |                      |           |       |
|                   |                |              | 2                    | 160     | 160          | 60      | 16                   | 120         | 87    | 3                 | 14  | 2          |                      |           |       |
|                   |                | HG           | 1                    | 60      | 60           | 30      | 16                   | 120         | 87    | 2                 | 14  | 2          |                      |           |       |
|                   |                |              | 2                    | 60      | 60           | 30      | 16                   | 120         | 87    | 1                 | 14  | 2          |                      |           |       |
|                   |                | LG           | 1                    | 80      | 80           | 30      | 16                   | 120         | 87    | 5                 | 14  | 2          |                      |           |       |
|                   |                |              | 2                    | 160     | 160          | 60      | 16                   | 120         | 87    | 3                 | 14  | 2          |                      |           |       |
|                   |                |              | Northwest            | Au      | Outside      | 1       | 100                  | 100         | 50    | 9                 | 169 | 95         | 5                    | 14        | 2     |
| 2                 | 200            | 200          |                      |         |              | 100     | 9                    | 169         | 95    | 3                 | 14  | 2          |                      |           |       |
| LG                | 1              | 100          |                      |         | 100          | 50      | 9                    | 169         | 95    | 5                 | 14  | 2          | 30                   | 0.6       |       |
|                   | 2              | 200          |                      |         | 200          | 100     | 9                    | 169         | 95    | 3                 | 14  | 2          | 15                   | 0.6       |       |
| Cu                | Outside        | 1            |                      | 80      | 80           | 30      | 9                    | 169         | 95    | 5                 | 14  | 2          | 30                   | 0.2       |       |
|                   |                | 2            |                      | 160     | 160          | 60      | 9                    | 169         | 95    | 3                 | 14  | 2          | 15                   | 0.2       |       |
|                   | HG             | 1            |                      | 50      | 50           | 20      | 9                    | 169         | 95    | 1                 | 14  | 2          |                      |           |       |
| 2                 |                | 50           | 50                   | 20      | 9            | 169     | 95                   | 1           | 14    | 2                 |     |            |                      |           |       |
| Northwest Surface | Au             | Outside      | 1                    | 100     | 100          | 50      | 20                   | 163         | 90    | 5                 | 14  | 2          | 30                   | 0.01      |       |
|                   |                |              | 2                    | 200     | 200          | 100     | 20                   | 163         | 90    | 3                 | 14  | 2          | 15                   | 0.01      |       |
|                   |                | HG           | 1                    | 50      | 50           | 25      | 20                   | 163         | 90    | 1                 | 14  | 2          |                      |           |       |
|                   |                | LG           | 1                    | 100     | 100          | 50      | 20                   | 163         | 90    | 5                 | 14  | 2          |                      |           |       |
|                   |                |              | 2                    | 200     | 200          | 100     | 20                   | 163         | 90    | 3                 | 14  | 2          |                      |           |       |
|                   |                | Cu           | Outside              | 1       | 80           | 80      | 30                   | 20          | 163   | 90                | 5   | 14         | 2                    |           |       |
|                   |                |              |                      | 2       | 160          | 160     | 60                   | 20          | 163   | 90                | 3   | 14         | 2                    |           |       |
|                   |                |              | HG                   | 1       | 40           | 40      | 20                   | 20          | 163   | 90                | 2   | 14         | 2                    |           |       |
|                   | 2              |              |                      | 40      | 40           | 20      | 20                   | 163         | 90    | 1                 | 14  | 2          |                      |           |       |
|                   | LG             | 1            | 80                   | 80      | 30           | 20      | 163                  | 90          | 5     | 14                | 2   |            |                      |           |       |
|                   |                | 2            | 160                  | 160     | 60           | 20      | 163                  | 90          | 2     | 14                | 2   |            |                      |           |       |
|                   |                | West         | Au                   | Outside | 1            | 100     | 100                  | 50          | 27    | 165               | 92  | 5          | 14                   | 2         | 30    |
| 2                 |                |              |                      |         | 200          | 200     | 100                  | 27          | 165   | 92                | 3   | 14         | 2                    | 15        | 0.005 |

|  |    |         |     |     |     |     |     |     |    |    |    |   |    |     |
|--|----|---------|-----|-----|-----|-----|-----|-----|----|----|----|---|----|-----|
|  | Cu | HG      | 1   | 40  | 40  | 20  | 27  | 165 | 92 | 1  | 14 | 2 |    |     |
|  |    | LG      | 1   | 100 | 100 | 50  | 27  | 165 | 92 | 5  | 14 | 2 | 30 | 0.8 |
|  |    |         | 2   | 200 | 200 | 100 | 27  | 165 | 92 | 3  | 14 | 2 | 15 | 0.8 |
|  |    | Outside | 1   | 80  | 80  | 30  | 27  | 165 | 92 | 5  | 14 | 2 |    |     |
|  |    |         | 2   | 160 | 160 | 60  | 27  | 165 | 92 | 3  | 14 | 2 |    |     |
|  |    | HG      | 1   | 50  | 50  | 20  | 27  | 165 | 92 | 2  | 14 | 2 |    |     |
|  |    |         | 2   | 50  | 50  | 20  | 27  | 165 | 92 | 1  | 14 | 2 |    |     |
|  | LG | 1       | 80  | 80  | 30  | 27  | 165 | 92  | 5  | 14 | 2  |   |    |     |
|  |    | 2       | 160 | 160 | 60  | 27  | 165 | 92  | 3  | 14 | 2  |   |    |     |

### 14.10 Density Assignment

SG measurements from 2006 drilling were used to generate a weak correlation with copper grade. This correlation was used to calculate an average SG for waste (2.74), low-grade (2.80), and high-grade (3.05) zones. An SG of 1.9 was assumed for unconsolidated overburden. The SG values are considered reasonable for this level of study, but more work needs to be completed to better understand the variability in densities within ore and waste.

### 14.11 Block Model Validation

The Lone Star block model was validated by the following methods:

- Visual comparison of color-coded block grades to drill hole composite grades in sectional views
- Global comparison of a Nearest Neighbor (NN) model with the IDW model
- Swath plot analysis comparing NN and IDW grades

The visual comparison of block model grades with composite grades for copper and gold show a good correlation between values. Figure 14.6 shows color-coded block model grades with the drill hole grades. The visual comparison shows a good correlation between values and no large discrepancies are apparent.

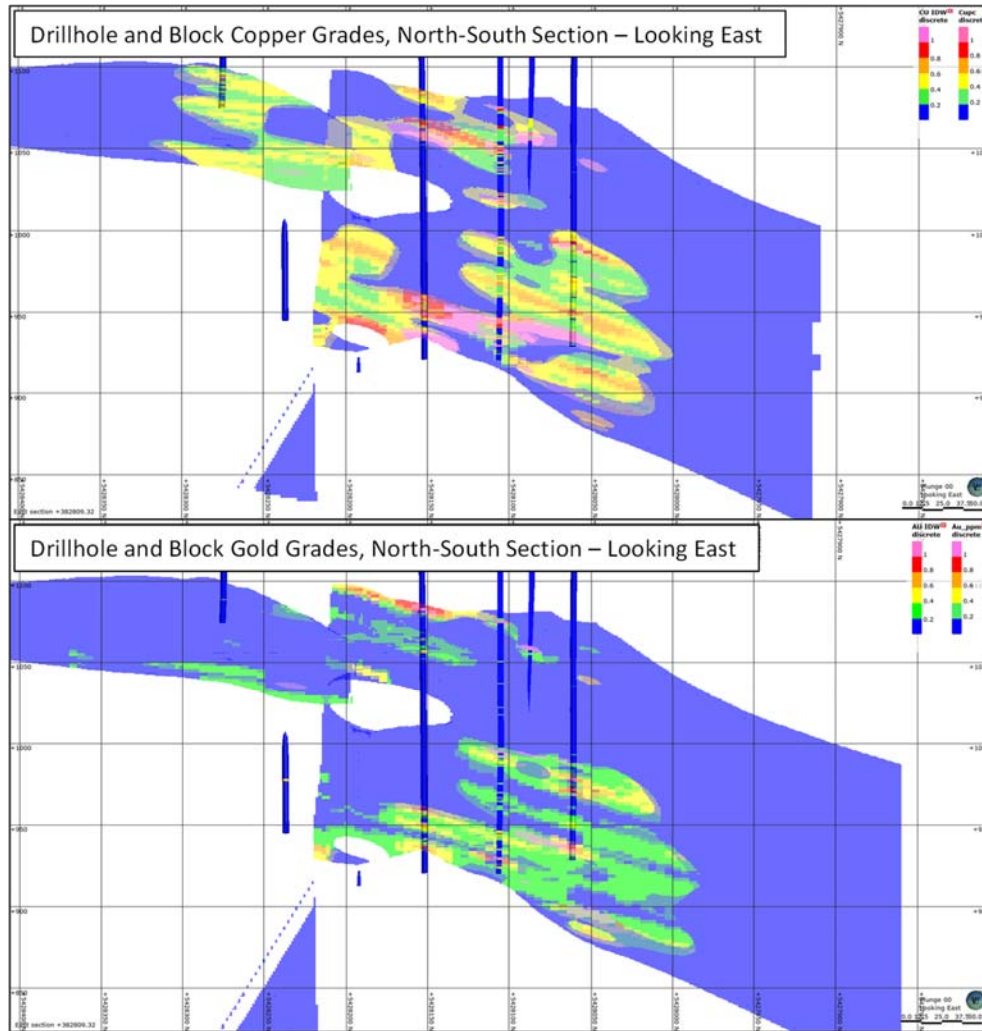


Figure 14.6 - Representative Section Showing Drillhole and Block Cu and Au Grades

A NN model was completed for copper and gold to serve as a check against the resource model. The NN interpolation method simply assigns a block the same grade as its closest composite. These models are intended to represent a theoretical unbiased estimate of the average grade when no cut-off grade is imposed and is a good basis for checking performance of different estimation methods. The NN model utilized the same search criteria as the OK model except uses a single 2 m composite to estimate a block. A comparison of NN and IDW grades was made for all LG and HG domain blocks at a zero cut-off and is summarized below in Table 14.10. Copper and gold grades compare well. The NN gold grades are slightly higher due to the high-grade restriction that was applied to the IDW estimates.

Table 14.10 Comparison of NN and IDW Estimates at 0% Cutoff for Combined LG and HG Domains

**Table 14.10 - Comparison of NN and IDW Estimates at 0% Cutoff for Combined LG and HG Domains**

| Method | Cu % | Au g/t |
|--------|------|--------|
| NN     | 0.54 | 0.27   |
| IDW    | 0.55 | 0.25   |

Swath plots comparing the LG and HG domain NN and IDW grades were generated along northing, easting, and elevation. The swaths demonstrate good comparison between NN and IDW copper and gold grades, indicating that the block model is a reasonable representation of the informing data. Swaths by easting for copper and gold are shown below in Figure 14.7 and Figure 14.8, respectively. The trends shown by the composite data (represented by the NN model) are honoured by the block model. The comparisons show the effect of the interpolation, which results in smoothing of the block grades, compared to the nearest neighbor grades. Gold IDW grades are lower than NN grades due to the outlier restrictions applied during IDW estimation.

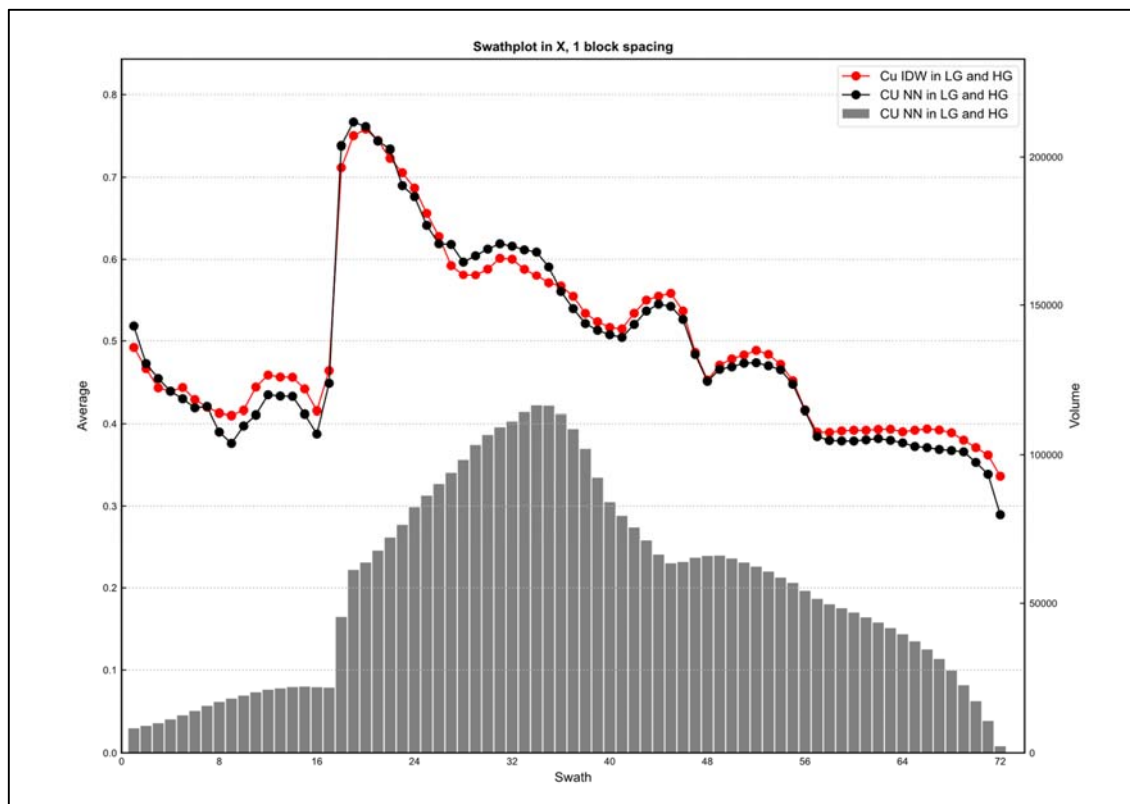


*Figure 14.7 - Swath Plot by Easting Comparing NN and IDW Copper Grades*

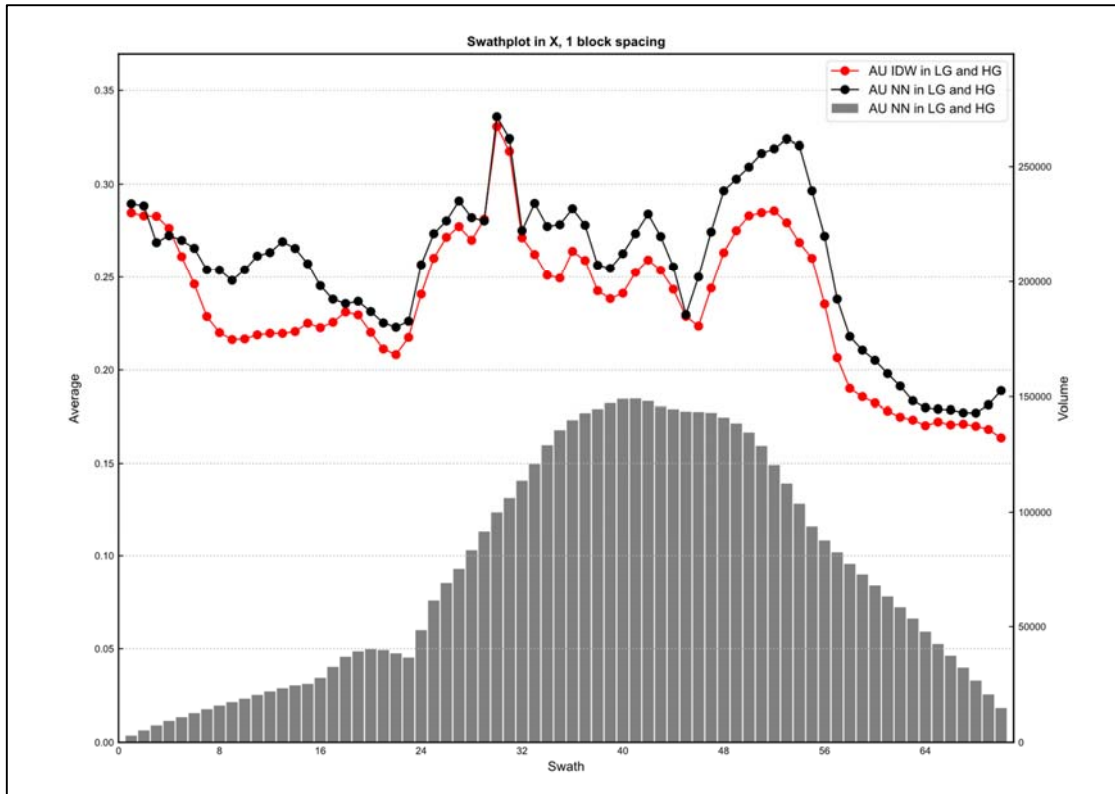


Figure 14.8 - Swath Plot by Easting Comparing NN and IDW Gold Grades

### 14.12 Mineral Resource Classification

Mineral Resources are subdivided in order of increasing geological confidence into Inferred, Indicated, and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

As an initial step to defining the Mineral Resource classification, Mining Plus used the following guidelines:

- Indicated classification was assigned to blocks that were estimated using at least three drill holes, where the average distance to the closest three drill holes was within approximately 50m.
- Inferred classification was assigned to blocks that used at least two drill holes and the average distance to the closest three drill holes was less than approximately 110m.

After applying the above criteria, the boundaries of the classification were smoothed to ensure spatial continuity and to be consistent with the understanding of the deposit and confidence in the grade estimates. The Resource classification is shown in Figure 14.9.

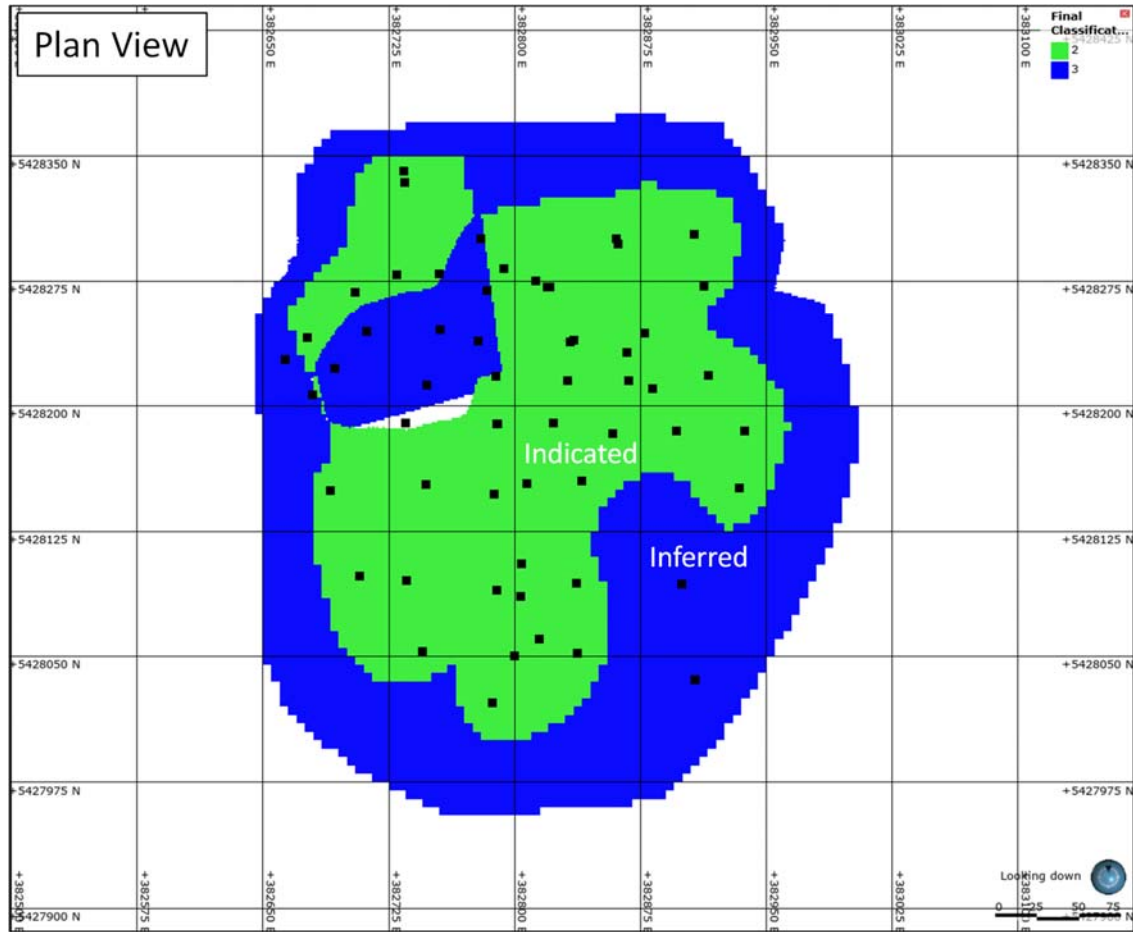


Figure 14.9 - Lone Star Resource Classification

### 14.13 Reasonable Prospects for Eventual Economic Extraction

To satisfy ‘reasonable prospects for eventual economic extraction’ the Mineral Resource is reported inside of a conceptual pit shell at an internal cutoff grade of 0.10% copper equivalent. The pit shell was generated using the criteria shown in Table 14.11 below. It should be noted that while the pit shell was allowed to extend beyond the current property boundaries, the tabulation of Mineral Resources was restricted to only the on-property blocks.

**Table 14.11 - Parameters Used for Conceptual Pit Shell**

| Parameters         | Unit   | Value   |
|--------------------|--------|---------|
| Overall Wall Angle | °      | 55      |
| Cu Price           | USD/lb | \$4.10  |
| Au Price           | USD/oz | \$1,750 |
| Mining Cost        | USD/t  | \$2.00  |
| Processing Cost    | USD/t  | \$7.00  |
| Cu Selling Cost    | USD/lb | \$0.10  |
| Au Selling Cost    | USD/oz | \$50    |
| Cu Recovery        | %      | 90%     |
| Au Recovery        | %      | 90%     |
| Mining Recovery    | %      | 90%     |

The conceptual pit shell is shown in Figure 14.10 below.

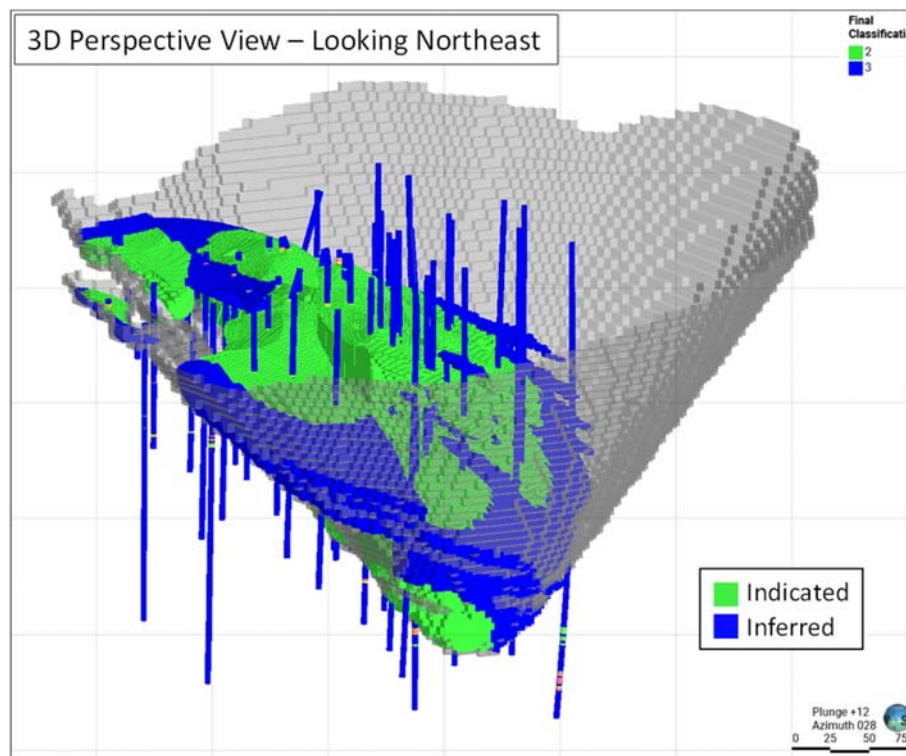


Figure 14.10 - Lone Star Conceptual Pit Shell

## 14.14 Mineral Resource Statement

Based on the assumed metal prices, the copper equivalent formula is  $CuEq\% = Cu\% + (Au \text{ g/t} \times 0.6198)$ . A copper equivalent of 0.10% is required to overcome the US\$7.00 processing cost. Based on this cutoff within the conceptual pit shell, The Lone Star deposit contains an Indicated Mineral Resource of 9.76 Mt at 0.45% copper and 0.23 g/t gold and an Inferred Mineral Resource of 3.35 Mt at 0.31% copper and 0.20 g/t gold. The Mineral Resource is presented below in Table 14.12.

**Table 14.12 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off**

| Classification | Tonnes (Mt) | CuEq% | Cu%  | Au g/t |
|----------------|-------------|-------|------|--------|
| Indicated      | 9.76        | 0.60  | 0.45 | 0.23   |
| Inferred       | 3.35        | 0.44  | 0.31 | 0.20   |

Notes:

1. The Mineral Resource has been compiled by Mr. Brian Hartman of Ridge Geoscience LLC, and subcontractor to Mining Plus. Mr. Hartman is a Registered Member of the Society for Mining, Metallurgy & Exploration, and a Practicing Member with Professional Geoscientists Ontario. Mr. Hartman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined by NI 43-101.
2. All Mineral Resources figures reported in the table above represent estimates at 1 October 2023.
3. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape, and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.
4. Mineral Resources are estimated consistent with CIM Definition Standards and reported in accordance with NI 43-101.
5. Mineral Resources are reported on a dry in-situ basis at a 0.10% CuEq cut-off. Reporting cut-off grade was based on an economic pit shell assuming prices of US\$4.10/lb and US\$1,750/oz for copper and gold, respectively, selling costs of US\$0.10/lb and US\$50/oz, respectively, assumed metallurgical recoveries of 90% and 90% respectively, mining recovery of 90%, mining costs of US\$2.00/tonne and processing costs of US\$7.00/tonne. An internal cutoff grade of 0.10% copper equivalent is needed to overcome processing costs.
6. Average SG values were assigned based on copper grade zones and/or lithologies as follows: waste = 2.74, low-grade zone = 2.80, high-grade zone = 3.05, overburden = 1.90

### 14.15 Grade Sensitivity Analysis

Table 14.13 shows a tabulation of tonnes and grades at various CuEq% cutoffs.

**Table 14.13 - Tabulation of tonnes and grades at various CuEq% cutoffs.**

| Classification   | CuEq% Cutoff | Tonnes (Mt) | CuEq%       | Cu%         | Au g/t      |
|------------------|--------------|-------------|-------------|-------------|-------------|
| <b>Indicated</b> | 0.00         | 14.18       | 0.42        | 0.32        | 0.16        |
|                  | 0.05         | 10.95       | 0.54        | 0.41        | 0.21        |
|                  | <b>0.10</b>  | <b>9.76</b> | <b>0.60</b> | <b>0.45</b> | <b>0.23</b> |
|                  | 0.15         | 9.06        | 0.63        | 0.48        | 0.25        |
|                  | 0.20         | 8.26        | 0.68        | 0.52        | 0.26        |
|                  | 0.25         | 7.67        | 0.71        | 0.55        | 0.26        |
|                  | 0.30         | 7.26        | 0.74        | 0.57        | 0.27        |
|                  | 0.35         | 6.87        | 0.76        | 0.59        | 0.27        |
|                  | 0.40         | 6.26        | 0.80        | 0.62        | 0.29        |
|                  | 0.50         | 4.54        | 0.93        | 0.72        | 0.34        |
|                  | 0.60         | 2.98        | 1.13        | 0.87        | 0.42        |
|                  | 0.70         | 1.94        | 1.39        | 1.07        | 0.52        |
|                  | 0.80         | 1.37        | 1.66        | 1.27        | 0.62        |
|                  | 0.90         | 1.08        | 1.88        | 1.45        | 0.69        |
|                  | 1.00         | 0.91        | 2.05        | 1.59        | 0.75        |
|                  | 1.10         | 0.81        | 2.17        | 1.69        | 0.78        |
| <b>Inferred</b>  | 0.00         | 8.02        | 0.20        | 0.14        | 0.09        |
|                  | 0.05         | 4.35        | 0.35        | 0.25        | 0.16        |
|                  | <b>0.10</b>  | <b>3.35</b> | <b>0.44</b> | <b>0.31</b> | <b>0.20</b> |
|                  | 0.15         | 2.91        | 0.48        | 0.35        | 0.22        |
|                  | 0.20         | 2.50        | 0.54        | 0.39        | 0.23        |
|                  | 0.25         | 2.19        | 0.58        | 0.43        | 0.24        |
|                  | 0.30         | 2.01        | 0.61        | 0.46        | 0.23        |
|                  | 0.35         | 1.87        | 0.63        | 0.48        | 0.24        |
|                  | 0.40         | 1.61        | 0.67        | 0.51        | 0.25        |
|                  | 0.50         | 1.03        | 0.79        | 0.61        | 0.30        |
|                  | 0.60         | 0.70        | 0.91        | 0.70        | 0.34        |
|                  | 0.70         | 0.39        | 1.12        | 0.86        | 0.41        |
|                  | 0.80         | 0.21        | 1.44        | 1.13        | 0.50        |
|                  | 0.90         | 0.13        | 1.81        | 1.45        | 0.58        |
|                  | 1.00         | 0.11        | 2.01        | 1.63        | 0.61        |
|                  | 1.10         | 0.09        | 2.13        | 1.75        | 0.62        |

## 15 MINERAL RESERVE ESTIMATES

---

Mineral reserve estimates are not relevant to PEA-level NI 43-101 Technical Reports.

## 16 MINING METHODS

---

### 16.1 Introduction and General Mine Planning Criteria Process

The current mine plan, developed at a conceptual level for this PEA, was based on the mineral resource estimate presented in Chapter 14 of this report and its underlying geological block model.

The following mine planning inputs were used:

- Local area topography as provided by Marquee Resources
- New block model as reported in Section 14
- The resource model contains mineralized copper and gold grades, specific gravities, and resource classification
- Indicated and Inferred class mineral resource estimates are included in pit optimization and mill feed estimates

Mining will be conducted using conventional truck and excavator methods. Open pit mining will provide the mineral processing plant feed at a rate of 5,000 tpd, which was based on processing capacity inputs assumed for this project. This yields a LOM of 14 years, further described in Section 16.6 of this Report.

At the time that the pit design was conducted, final processing throughputs have not yet been finalised. The assumption of 5000tpd was based on discussions with the QP's of sections 13 and 17, whom advised that early indications are a processing throughput of up to 5000tpd. This number was adopted for Section 16 as excess ore produced can be stockpiled should final throughput numbers be lower. Additionally, this will serve as a buffer to unplanned mine stoppages, which was not accounted for in PEA level production scheduling.

Confirmation was subsequently received that the Kinross Kettle River will indeed only be able to process a maximum of 1.5Mtpa. This equates to 4,110tpd capacity, which falls short of the design 5,000tpd. The current design only achieves 5,000tpd in years 11 through 13. Average ore production over the LOM stands at approximately 1.0Mtpa. With this in mind, future, more detailed mine planning, may alter pit mining sequence to resource level production to ensure the 1.5Mtpa rate is maintained. The current production profile remains as is based on initial design assumptions.

Summary design pit quantities are given in Table 16.1.

**Table 16.1 – Design Pit Quantities**

| Material Classification                                                                          | Tonnage (Mt) | Grade Cu % | Grade Au g/t |
|--------------------------------------------------------------------------------------------------|--------------|------------|--------------|
| Indicated                                                                                        | 10,382,270   | 0.42       | 0.22         |
| Inferred                                                                                         | 3,726,286    | 0.27       | 0.21         |
| Total for processing                                                                             | 14,108,556   | 0.38       | 0.21         |
| Total Waste                                                                                      | 58,753,261   | 0.01       | 0.00         |
| Total Material Mined                                                                             | 72,861,818   | -          | -            |
| Note: Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability |              |            |              |

## 16.2 Geotechnical Parameters

The Lone Star pit is designed for 6 m mining bench heights based on consideration of the loading equipment capabilities (mining height and reach). This may be modified during future detailed planning and equipment selection. In the absence of any geotechnical data for determining pit slope angle, for this PEA, Mining Plus assumed the pit slope design parameters based on preliminary investigation of site conditions from site visits. Selected values are considered typical for this type of operation and level of study.

These parameters, shown in Table 16.2, have been accepted by Mining Plus as reasonable for this level of study.

**Table 16.2 – Design Pit Geometry**

| Design Feature    | Lone Star Pit | Units   |
|-------------------|---------------|---------|
| Overall Pit Slope | 55            | Degrees |
| Inter-ramp Angle  | 60            | Degrees |
| Bench Face Angle  | 75            | Degrees |
| Bench Height      | 6             | Meters  |
| Catch Berm Width  | 1.9           | Meters  |

### 16.3 Geographic Restrictions

A major geographical restriction to the Lone Star property is the US/Canada border directly north of the “Mother Lode, Lone Star and Sunset” mining claims. Pit shell optimisation of the deposit at its current defined state does not create a pit that exceeds this restriction. It must be noted that the US/Canada border must be considered when mining activities such as haul roads and other infrastructure placement is considered.

The current optimization shell for the Lone Star pit falls primarily within the Lone Star, Sunset, Sunrise, and Washington claims. Areas outside of these claims restricts Marquee from accessing and operating therein as it falls on Federal lands. For the purpose of evaluating the deposit in this technical report, property boundaries were ignored, however, the effect of these boundaries remain a risk that must be addressed. Marquee will need to commence the process of procuring permissions and rights to operate on Federal lands directly East of the “Sunset and Sunrise” claims. This holds particularly true should further exploration increase the current deposit size.

The “Pyrtis” claim is falls directly within the Goosmus Creek run. Currently, the defined mineral resource and subsequent pit design is not affected, however, this may become problematic should future exploration define resources within this claim boundary.

### 16.4 Pit Optimization Method and Cut-Off Grade

Pit optimization was conducted using Geovia Whittle software and the Pseudoflow algorithm. This algorithm uses the resource copper and gold grades, resource class and specific gravity (SG) for each block of the block model to evaluates the cost and revenue of the blocks within potential pit shells. The algorithm uses engineering parameters and economic inputs and expands downwards and outwards until the last block mined is at break-even economics. In this study, the pit shells are generated by varying the input copper and gold prices and comparing the resource and waste tonnes and grade for each pit. By varying the copper and gold prices, while keeping inputs for metallurgical recoveries and pit slopes constant, various generated pit cases are evaluated to determine where incremental pit shells produce marginal or negative economic returns. The economic margins from each pit are evaluated on a relative basis to provide payback on capital and produce a return for the Project. At some point, a larger pit does not provide significant added value. A pit limit can then be chosen that has a suitable financial return for the deposit. Note that the economics are only applied for comparative purposes to assist in the selection of an optimum pit shell for further mine planning; they do not reflect the actual financial results of the mine plan. The chosen pit shell is then used as the basis for further mine planning, scheduling, equipment selection and financial modelling.

Associated Cut-Off grades are calculated by the Whittle software as part of the optimization process taking into consideration input parameters.

The pit optimization inputs utilized in this study are shown in Table 16.3 below.

**Table 16.3 – Design Pit Geometry**

| Item                                                  | Value            |
|-------------------------------------------------------|------------------|
| Copper Price                                          | \$4.10/lb        |
| Gold Price                                            | \$1,750/oz       |
| Mining Cost                                           | Hard Rock: \$2/t |
| Processing Cost                                       | \$7/t            |
| Mining Dilution                                       | 5%               |
| Mining Recovery                                       | 90%              |
| Copper Offsite Costs (Refining, Transport, Insurance) | \$0.10/lb        |
| Gold Offsite Costs (Refining, Transport, Insurance)   | \$50/oz          |
| Royalties                                             | 2.5%             |
| Pit Slopes                                            | Hard Rock: 55°   |
| Average Recoveries                                    | 90%              |

Figure 16.1 shows the contents of the generated pit shells for the Lone Star deposit. Pit 36 was selected as it is located at the first inflection point and provides a high value relative to the pit size. Any larger shells have marginal economic benefit.



*Figure 16.1 – Whittle Generated Pit Shells for Optimum Shell Selection*

The associated Cut-off grade for shell 36 (RF = 1) is:

Cu % COG – 0.09%

Au g/t COG – 0.15 g/t

These are based on the input parameters for pit shell optimization and will be further refined during the design stage and economic evaluation sections of this report.

The COG is a mine COG and not an all-in-cost COG and does not include transport costs of ore to processing facility nor concentrate to refinery transport costs.

## 16.5 Hydrogeological Considerations

Water inflows to the Lone Star pit will include both groundwater inflow and surface water runoff. The contributions from groundwater will progressively increase as the pit extends below the groundwater table but is not considered an impediment to mining operations at this stage. The contributions from surface water will be via direct precipitation into the pit and runoff from the contributing catchments around the pit excavation. The inflows from direct precipitation will increase with expanding pit area in conjunction with groundwater inflows as the pit increases in depth. No site-specific data for groundwater was available as of the writing of this report. It is recommended that a hydrogeological study is performed for studies at PFS and/or FS level.

## 16.6 Mine Design

The final pit design was based off the optimization shell template as described in Section 16.4. The relevant Whittle shell was exported in MineSight software, where a practical pit design was completed. The applied open pit design criteria were as follows (in addition to Table 16.2):

Nominal bench height of 6m;

Maximum haul road width of 18m;

Haul road gradients maximum of 10°.

Ultimate pit limits are generally split up into phases or pushbacks to target higher economic margin material earlier in the mine life or as a strip ratio control mechanism to improve the pit's economics. Selected pit phases are usually chosen based on a combination of overall economic value, strip ratio, grade, and phase life.

The Lone Star Pit geometry and strip ratios as a function of progression at depth caused this generally small pit to be mined in a single phase. This is deemed suitable of this level of study. PFS and FS level studies may deem phases more suitable or if subsequent exploration drilling changes the current understanding of the Lone Star deposit. The design pit is shown in Figure 16.2 (plan view) and Figure 16.3 (section view). Figure 16.4 shows a 3D view of the planned Lone Star pit.

The Lone Star pit final dimensions will be approximately 585m long (N-S) x 535m wide (E-W) to a depth of 285m.

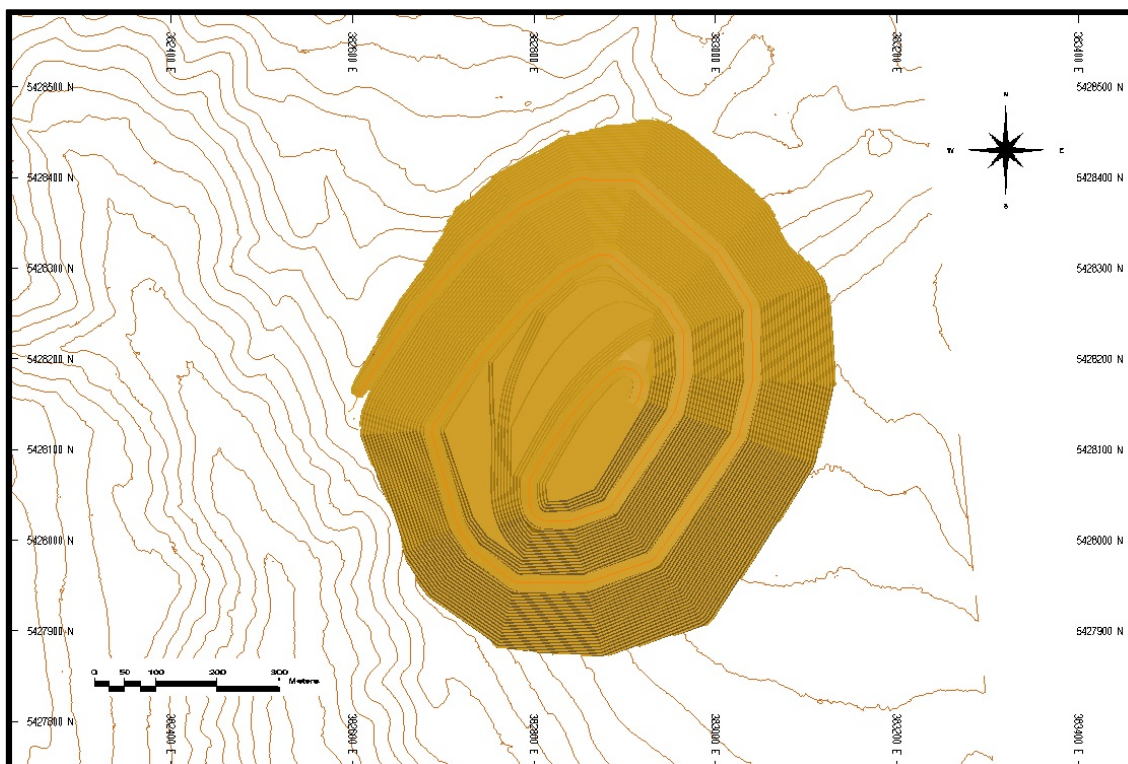


Figure 16.2 – Plan View of the Lone Star Pit

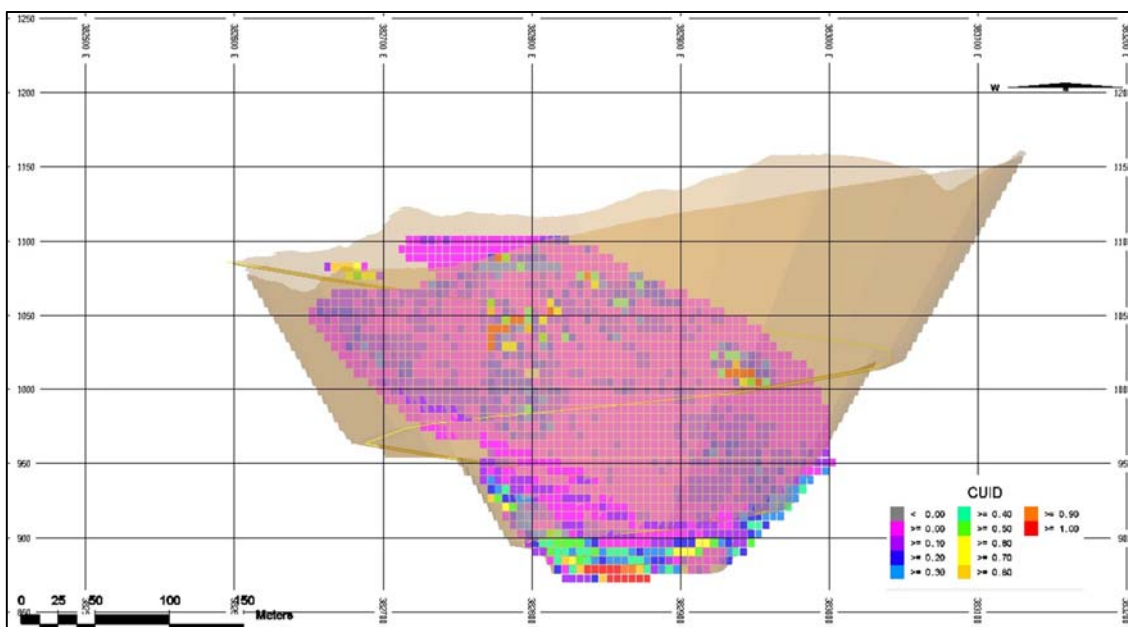


Figure 16.3 – Section View of the Lone Star Pit

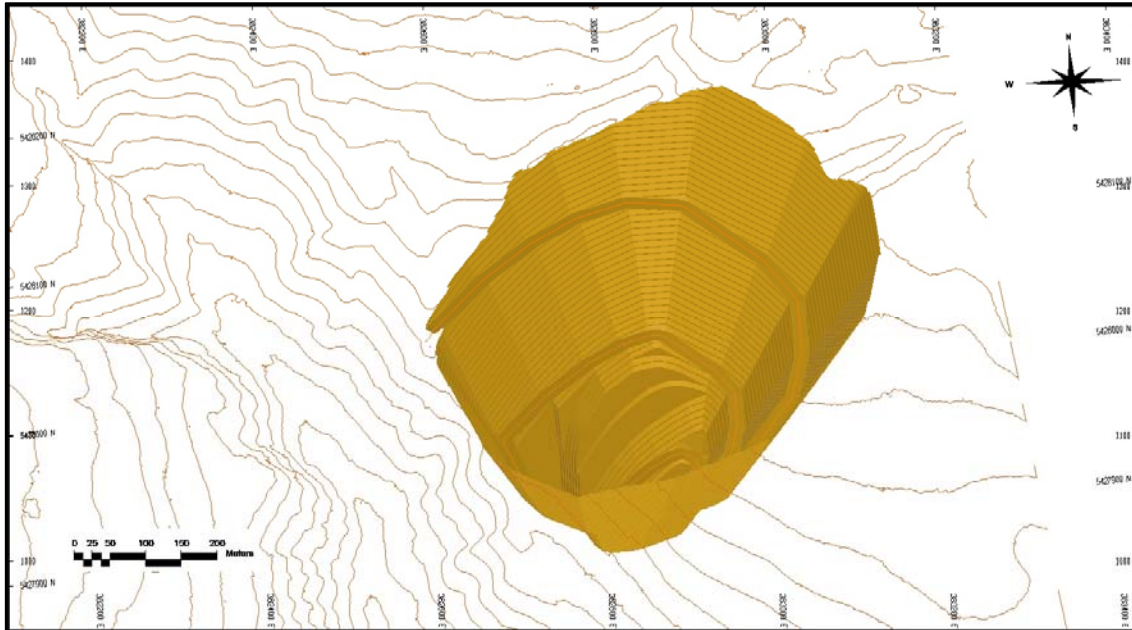


Figure 16.4 – 3D View of the Lone Star Pit

## 16.7 Production Schedule

The open pit operations are planned to run for fourteen years to pit depletion. At this stage, mineralised waste is not scheduled to be sent to the mill for processing as initial calculations indicate mineralised waste quantities to be too low grade and negligible for this level of study. It is recommended that with additional exploration and/or conversion of resource to reserve during PFS/FS level studies, that this be revisited.

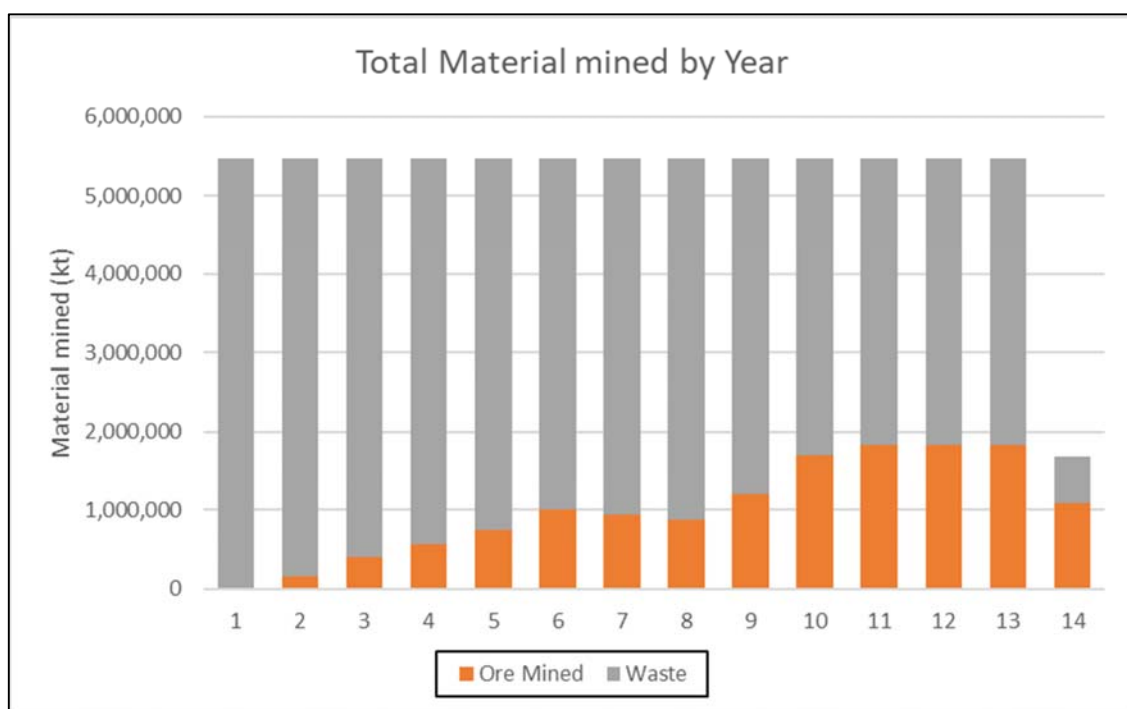
The production schedule is based on the following parameters:

- Schedule is based on 5000tpd ore movement, and 10,000tpd waste movement. Where pre-stripping is done, 15,000tpd (maximum material movement per day) is planned
- The operations are scheduled on annual periods.
- Maximum annual material movement is 5.475 Mt/a,
- An annual mill feed rate of 1.825 Mt/a is targeted. Refer to Section 16.1 with regards to comments on subsequent confirmation of process facility throughput capacity.
- Benches are fully mined before progressing to the next bench, except for the first bench where the existing Lone Star pit is targeted sooner to ensure mill feed as quick as possible in the LOM.
- Resource tonnes released more than the mill capacity are stockpiled.

**Table 16.4 – Lone Star Mining Schedule**

| Mining Schedule      |      |      |      |       |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Period Ending        | Year | Yr1  | Yr2  | Yr3   | Yr4  | Yr5  | Yr6  | Yr7  | Yr8  | Yr9  | Yr10 | Yr11 | Yr12 | Yr13 | Yr14 |
| Days in Period       |      | 365  | 365  | 365   | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 112  |
| Mine to Mill         | Mt   | 0.00 | 0.15 | 0.40  | 0.57 | 0.74 | 1.00 | 0.94 | 0.86 | 1.20 | 1.71 | 1.83 | 1.83 | 1.83 | 1.08 |
| Average Copper Grade | %    | 0.00 | 0.14 | 0.26  | 0.38 | 0.42 | 0.38 | 0.37 | 0.41 | 0.35 | 0.28 | 0.29 | 0.41 | 0.47 | 0.48 |
| Average Gold Grade   | g/t  | 0.00 | 0.08 | 0.15  | 0.18 | 0.18 | 0.16 | 0.19 | 0.34 | 0.21 | 0.15 | 0.21 | 0.22 | 0.28 | 0.28 |
| Mine to Waste Dump   | Mt   | 5.48 | 5.33 | 5.08  | 4.91 | 4.74 | 4.47 | 4.54 | 4.61 | 4.28 | 3.77 | 3.65 | 3.65 | 3.65 | 0.61 |
| Total Material Mined | Mt   | 5.48 | 5.48 | 5.48  | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 1.69 |
| Strip Ratio          |      |      |      | 12.73 | 8.67 | 6.44 | 4.47 | 4.85 | 5.34 | 3.57 | 2.21 | 2.00 | 2.00 | 2.00 | 0.57 |

Material mined per year is further illustrated in Figure 16.5.


**Figure 16.5 – Total Material Mined per Year**

## 16.8 Material Movement

When materials are mined from the pit, they will either be delivered straight to the ROM crusher for ore, the Waste Rock Storage Facility (WRSF) for waste rock or the topsoil storage facility. Creedence were given to Mineralized Waste, however, initial calculations indicated low tonnage compared to overall planned waste movement at very low grades. At this level of study, it was deemed negligible and not included as a separate entity. With that being said, further exploration and conversion of mineral resource into reserves will require further investigation at PFS/FS level studies. General design criteria are:

- Bottom-up construction;

- 2.5:1 overall slope for waste rock;
- 3.5:1 overall slope for overburden/topsoil;
- Placed density of 2.13 t/m<sup>3</sup> in waste rock stockpiles;
- Placed density of 1.64 t/m<sup>3</sup> in all topsoil stockpiles; and
- All stockpiles are planned to avoid existing waterbodies, watercourses, and wetlands where possible.

#### **16.8.1 Ore Handling**

The crusher and ROM stockpile are located directly north of the Lone Star pit. An area of approximately 150m x 150m is allocated to allow sufficient room for rigid dump trucks to dump ore, for ore to be picked up and fed to the crusher and for crushed ore to be stockpiled prior to being hauled to the processing facility. The proposed ROM pad is shown in Figure 16.6.

#### **16.8.2 Waste Rock Storage Facility (WRSF)**

Waste rock for the purpose of this study is any material with a grade of below stated cut-off. The calculated waste volume for the Lone Star pit is 58.75 Mt or 125.14 Mm<sup>3</sup>. The proposed WRSF is shown in Figure 16.6.

#### **16.8.3 Topsoil**

An average topsoil depth of 1.0m is assumed for this study as no other information is available. It is recommended that this be addressed in further engineering studies for a more accurate assessment on the mine topsoil storage requirements. Based on the planned area of clearance, it is calculated that approximately 0.126 Mt or 0.206 Mm<sup>3</sup> of topsoil is required to be stored for future rehabilitation work. The topsoil storage facility is shown in Figure 16.6.

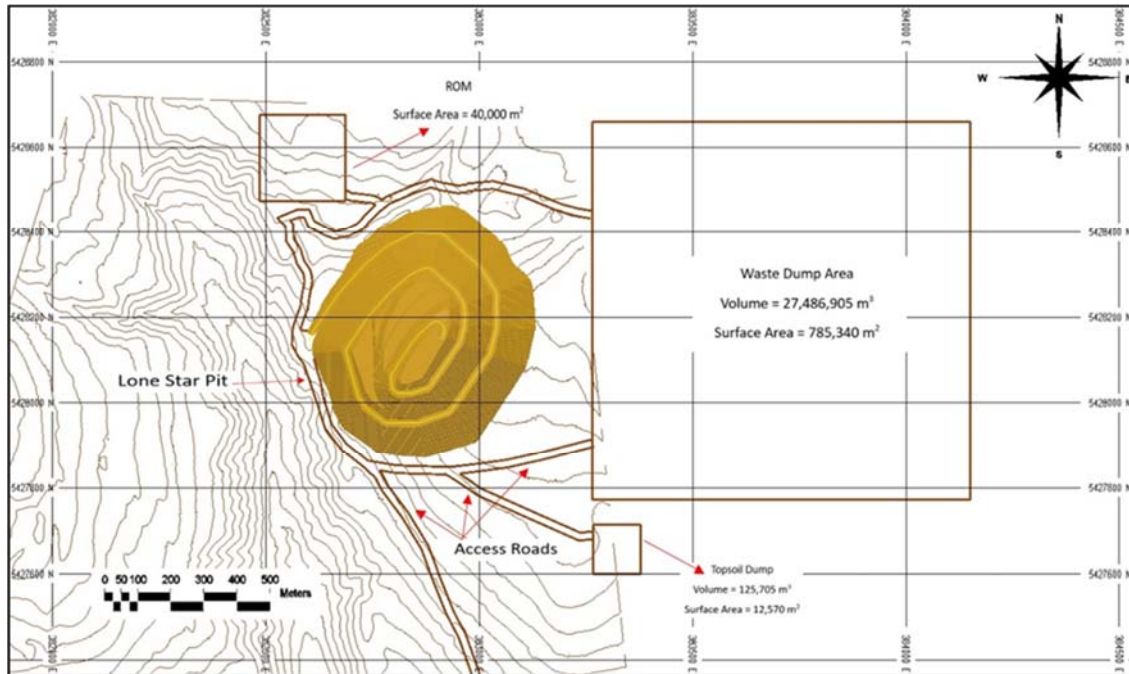


*Figure 16.6 – Lone Star Pit Proposed WRSF, ROM Pad and Topsoil Storage facility*

## 16.9 Mine Equipment Requirements

The mine equipment described below are based on typical surface equipment fleet operated by North American open pit mine operations. It should be expected that mine equipment specifications and fleet sizes will be revised with subsequent engineering studies associated with the Project (for example prefeasibility/feasibility). The mine will employ a conventional truck excavator open pit mining method comprising a single fleet for overburden, waste, and ore movement.

Production drilling will be carried out with Flexiroc D50 DTH drill capable of drilling 90mm to 130mm holes and hole lengths of up to 45m. Drill(s) will be specifically configured to allowed for sampling of cuttings for grade control purposes.

The material extraction fleet consists of two hydraulic excavators based on their ability to minimize losses and dilution. The proposed excavators are Komatsu PC1250SP-11 units with a 15t bucket capacity.

Scania 8x4 Rigid frame haulers (40-tonne payload) are proposed and is flexible enough to use on smaller benches and in selective mining scenarios but are not so small that the fleet size too excessive. The payload capacity is 40 tonnes with the 8x4 configuration (60 tonnes GVW). All Scania mining trucks can be powered by Euro 5 or 6 engines that run on up to 100% of HVO (hydrotreated vegetable oil) or FAME type fuels (Fatty Acid Methyl Ester), offering CO<sub>2</sub>-

reductions of up to 90%. There are also alternatives with LNG or CNG for natural or biogas propulsion. Six of these units will be required.

Grader(s) will be used to maintain the haul routes for the haul trucks and other equipment within the pits and on all routes to the various waste storage locations and mine access roads.

Off-highway trucks of the same size to the rigid frame trucks that are outfitted with a water tank and gravel spreader are included for haul road, pit floor and dump platform maintenance.

Track dozer(s) are included to handle waste rock, and overburden at various locations as well as track rolling operations.

The blasting activities are planned to fall under a contract service agreement with the explosive supplier providing all services up to transporting explosive agents to the borehole. Bulk blasting materials will be stored on site at a dedicated location consisting of silos for ANFO and emulsion and delivered as required. An on-site magazine is planned for initiation systems. The location of the magazine and explosive facility has not been selected at the PEA stage of the Project and will require analysis as the Project develops.

Custom fuel/lube trucks are included for mobile fuel/lube support.

Various small mobile equipment pieces are proposed to handle all other pit service and mobile equipment maintenance functions.

Maintenance activities are generally performed in the maintenance facilities located on site.

Primary mining equipment requirements are summarized in Table 16.4 below.

**Table 16.5 – Primary Mining Equipment Fleet Requirements**

| Equipment                            | Quantity |
|--------------------------------------|----------|
| Scania 8 x 4 Heavy Tipper Haul Truck | 6        |
| Komatsu PC1250SP-11 Excavator        | 2        |
| Flexiroc D50 Production Drill        | 1        |
| Komatsu D51PX-22 Dozer               | 1        |
| CAT 120GC Motor Grader               | 1        |
| Komatsu HM300-3 Water Truck          | 1        |

Additional support mobile equipment included for the development of mine operating cost estimates is summarized below:

- Field fuel/lube truck – 1 Unit;
- Field service truck – 1 Unit;
- Integrated Toolcarrier – 1 Unit;
- Field welding truck – 1 Unit;
- Flatbed Truck – 1 Unit,
- Fire Truck – 1 Unit;
- Telehandler – 2 Units;
- Ambulance – 1 Unit;
- Skidsteer – 1 Unit;
- Trailer mounted lights – 4 Units;
- Light Vehicles, assorted utility – 15 Units.

The equipment classes, as well as number of units, are preliminary scoping level estimates, and modifications by future studies should be anticipated.

### **16.10 Workforce**

A quasi-contract model is proposed for the Lone Star Operation whereby the owner supplies all facilities and equipment, and a contractor supplies the labour. The model assumes the following:

- Owner supplies primary and secondary equipment, thus incurring the capital expenditure;
- Owner supplies management, administration and technical services personnel;
- Contractor supplies all operational, maintenance and support personnel;
- Contractor operates and maintains both primary and secondary fleet(s).

Operations would run on two 12 hrs shifts (Day shift and Night shift) and for analysis purposes an effective 20 duty hours out of 24 hours are assumed to account for pre-shift meetings and other downtime hours.

At the PEA level labour numbers are estimated and this will require further refining and analysis during PFS/FS level studies. At more advanced levels other models may present itself more suitable for this operation.

Depending on employment type, rosters will either be 8/6 changing between dayshift and nightshift, or a 5/2 weekday roster on dayshift only.

The Lone Star operation would require an initial workforce of 124 personnel, peaking at 183 in Y11 to Y13. This is largely driven by truck operators hauling ore to the Kettle River Mill. On site personnel remains mostly steady at 127 personnel over most of the LOM.

A summary of the estimated workforce is given in Table 16.6 and total number illustrated in Figure 16.7.

**Table 16.6 – Workforce Summary**

| Description                | Roster | Shift Type | Per shift # | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 | Y7 | Y8 | Y9 | Y10 | Y11 | Y12 | Y13 | Y14 |
|----------------------------|--------|------------|-------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| Management and Admin       |        |            |             |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
| Mine Manager               | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Mining Superintendent      | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Maintenance Superintendent | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| H&S Superintendent         | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| H&S Officer                | 8/6    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| HR Officer                 | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Admin                      | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Environmental Officer      | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Payroll                    | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| IT                         | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Technical Services         |        |            |             |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
| Senior Mining Engineer     | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Senior Surveyor            | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Senior Geologist           | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Mining Engineer            | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Surveyor                   | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Geologist                  | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Pit Technician             | 8/6    | DS         | 1           | 0  | 0  | 0  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Graduate Mining Engineer   | 5/2    | DS         | 1           | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Maintenance                |        |            |             |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
| Maintenance Supervisor     | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Electrical Supervisor      | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Maintenance Planner        | 5/2    | DS         | 1           | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1   | 1   | 1   | 1   |
| Heavy Diesel Fitter        | 8/6    | DS/NS      | 5           | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20  | 20  | 20  | 20  | 20  |
| Light Vehicle Fitter       | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Welder                     | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Electrician                | 8/6    | DS/NS      | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Storeman                   | 8/6    | DS         | 1           | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   | 2   | 2   | 2   | 2   |
| Apprentices                | 8/6    | DS/NS      | 2           | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8   | 8   | 8   | 8   | 8   |
|                            |        |            |             |    |    |    |    |    |    |    |    |    |     |     |     |     |     |

| Operations           |     |       |    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------------|-----|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Shift Supervisor     | 8/6 | DS/NS | 1  | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Excavator Operator   | 8/6 | DS/NS | 2  | 8   | 8   | 8   | 8   | 8   | 8   | 8   | 8   | 8   | 8   | 8   | 8   | 8   |
| Truck Operator       | 8/6 | DS/NS | 6  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  |
| Drill Operator       | 8/6 | DS/NS | 1  | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Dozer Operator       | 8/6 | DS/NS | 1  | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Grader Operator      | 8/6 | DS    | 1  | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Blast Leading Hand   | 8/6 | DS/NS | 1  | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Blaster              | 8/6 | DS/NS | 3  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |
| Road Truck Operator  | 8/6 | DS/NS | 14 | 0   | 8   | 16  | 20  | 24  | 32  | 32  | 28  | 40  | 52  | 56  | 56  | 36  |
| Water Truck Operator | 8/6 | DS/NS | 1  | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
|                      |     |       |    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                      |     |       |    | 124 | 132 | 141 | 147 | 151 | 159 | 159 | 155 | 167 | 179 | 183 | 183 | 163 |

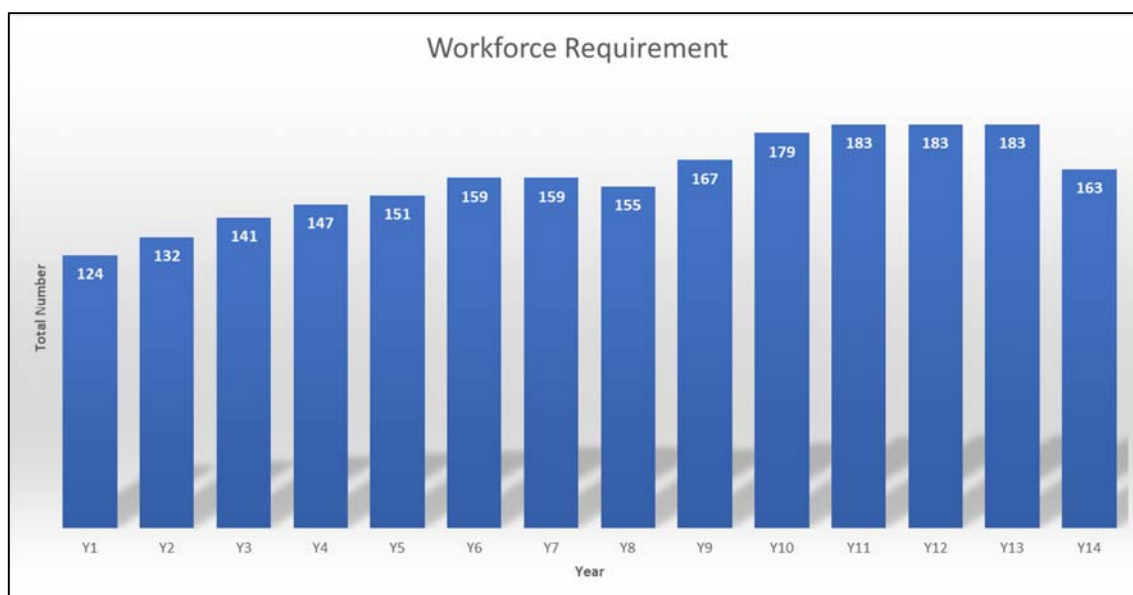


Figure 16.7 – Lone Star Pit Workforce Requirement per Year

## 17 RECOVERY METHODS

### 17.1 Metallurgical Process Selection

Marquee Resources is exploring the option to process resource from the Lone Star deposit at the existing Kinross Kettle River facility under a toll milling basis. The Kettle River facility was a previously operating gold processing plant utilizing whole ore cyanide leaching.

### 17.2 Metallurgical Flow Sheet Diagram

For the purposes of processing the Lone Star resource only the existing crushing, grinding, and gravity circuits would be utilized, and a new flotation circuit would need to be constructed on site. The mill process flowsheet can be found in Figure 3 1 with new equipment identified within the bubble.

No information has been provided about the capacity or design specifications for the crushing circuit at Kettle River and therefore it is not possible to determine the crushing circuit throughput capacity. If the existing crushing circuit could achieve a product size P80 10mm then the grinding circuit is capable of providing a 185 t/hr (1.5 MTPA) throughput. If the existing crushers cannot support 1.5 MTPA at P80 10mm then alternative crushing will be required, or a lower throughput will be realized.

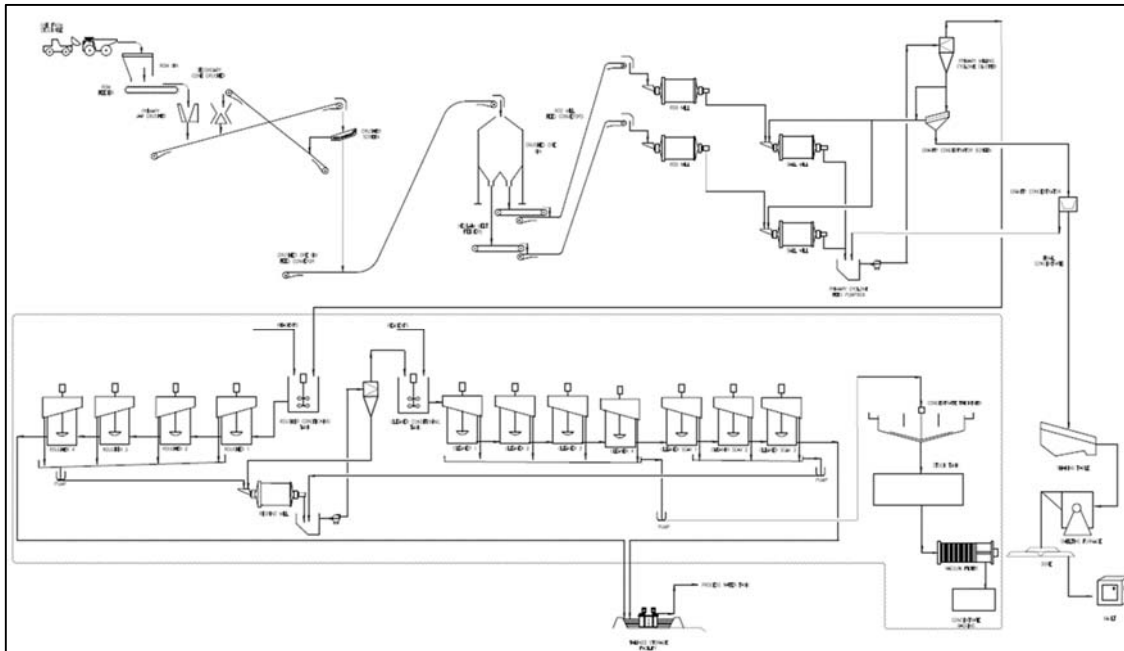


Figure 17.1 – Processing Flowsheet

### 17.3 Process Design Basis

Input for the process design basis is shown in Table 17.1.

**Table 17.1 – List of Buildings and Facilities**

| Parameter                    | Unit | Value |
|------------------------------|------|-------|
| Total Feed Processing Rate   | MTPA | 1.5   |
| Crushing                     |      |       |
| Crushing Circuit Utilization | %    | 70    |
| Nominal Crushing Rate        | TPH  | 245   |
| Crushed Ore Bin Storage      | T    |       |
| Grinding                     |      |       |
| Concentrator Utilization     | %    | 92    |
| Nominal Fresh Feed Rate      | TPH  | 185   |
| Primary Grind Size           | µm   | 200   |
| Flotation - New              |      |       |
| Rougher Mass Yield           | %    | 9.5   |
| Rougher Recovery – Cu        | %    | 93.1  |
| Rougher Recovery - Au        | %    | 88.2  |
| Regrind Grind Size           | µm   | 30    |
| Cleaner Mass Yield           | %    | 1.6   |
| Total Concentrate Production | TPD  | 70    |
| Final Recovery – Cu          | %    | 89.2  |
| Concentrate Grade - Cu       | %    | 27.8  |
| Final Recovery - Au          | %    | 83.3  |
| Concentrate Grade - Au       | g/t  | 11.3  |

## 17.4 Major Equipment Items

### 17.4.1 Crushing - Existing

The Kettle River process facility includes a primary jaw crusher and a secondary cone crusher. Mined material transported from Lone Star is dumped onto a ROM pad and would be front end loaded into a bin that feeds a jaw crusher that discharges onto a crushed product conveyor. The crushed product conveyor feeds a vibrating screen with undersized material reporting to a transfer conveyor to a storage bin, and oversize material recycled to the secondary cone crusher. The secondary cone crusher also discharges onto the crushed product conveyor.

Equipment size and specifications are not known, and the circuit capacity has not been assessed.

### 17.4.2 Grinding - Existing

The Kettle River process facility grinding circuit is comprised of 2 parallel circuits consisting of a primary rod mill and a secondary ball mill. The rod mills are each 9.5' x 12' 500 HP and the secondary balls mills are each 10.5' x 16' 900 HP providing a combined total grinding energy of 2080 kW. On a preliminary basis with a measured Bond grindability index of 14.3 kWh/t the existing milling circuit should be suitable for 185 t/hr or approximately 1.5 MTPA assuming a crushed product P80 of 10 mm and a final grind product P80 200 µm.

### 17.4.3 Gravity Circuit - Existing

The gravity circuit consists of a Falcon Concentrator reporting concentrate to a shaking table. The metallurgical test program identified the possible presence of coarse grained gold.

### 17.4.4 Flotation Circuit - New

The flotation area will be a new addition to the Kettle River site and will be constructed in a new purpose-built building. It will consist of a rougher flotation circuit, rougher concentrate regrind, and cleaner flotation.

Flotation feed will have a nominal particle size of 200 µm and be delivered to the flotation circuit with a pulp density of 35-40% solids. The rougher flotation circuit consists of 4x 50m<sup>3</sup> conventional tank cells. Flotation tails will go to final tails and concentrate will be reground.

The regrind mill be a 500 kW ball mill that will reduce the particle size to a nominal 30 µm prior to cleaner flotation.

The cleaner flotation circuit includes a bank of 4x 38m<sup>3</sup> cleaner cells and 2x 5m<sup>3</sup> scavenger cells. Cleaner cells and scavenger cells are all conventional tank cells. Scavenger concentrate

reports back to the regrind mill discharge sump for another opportunity through the cleaner circuit. Cleaner concentrate goes to a concentrate thickener.

Flotation reagents used will include Potassium Amyl Xanthate (PAX) and Aero 3894 as collectors and Methyl Isobutyl Carbinol (MIBC) as a frother.

#### **17.4.5 Concentrate Dewatering - New**

Cleaner flotation concentrate reports to a 11m diameter high rate thickener to thicken the concentrate slurry to 45% solids. The thickened concentrate is filtered using a plate and frame filter with concentrate discharged onto the ground and handled with a front-end loader.

## 18 PROJECT INFRASTRUCTURE

---

Infrastructure to support the Lone Star Project will consist of site civil work, site facilities and buildings, water management systems, and site electrical power. Site facilities will include:

- Mine facilities include offices, truckshop, warehouse, and washbay;
- Common facilities include a gatehouse and administration building;
- On site electrical power farm;
- RO water plant for provision of potable water;
- Mine facilities will be serviced with potable water, fire water, compressed air, power, diesel, communication, and sanitary systems.

The Lone Star property may provide sufficient area to establish mine infrastructure such as waste storage areas, haul and access roads and ROM pad. Currently, selected infrastructure locations were based on optimum placement rather than considering property boundaries in order to analyse the deposit rather than a “constrained” deposit. This means that portions of current infrastructure fall outside of property boundaries. Marquee may be required to purchase more land to facilitate the current planned layout or more detailed engineering is required to confirm the suitability and sufficiency of the current property area in PFS/FS level studies. These will encompass the required trade-off studies, which is not covered at the PEA level.

### 18.1 Site Preparation

The existing roads connected to the project for site accesses will be upgraded to allow for operations to commence. This is further detailed in Section 18.5. Forest clearing and topsoil removal is expected to be required to allow construction of the buildings and facilities. Site civil work includes design for the following infrastructure:

- light vehicle and heavy equipment roads
- access roads
- topsoil and overburden stockpile area
- rock storage facilities.

Initial site preparation will include clearing land in the designed pit footprint, the WRSF footprint, the ROM footprint and areas designated for site infrastructure. Topsoil storage at this stage was limited to the pit footprint until a better understanding of topsoil thickness and environmental and other permitting is better understood. This will likely be done during PFS/FS level studies and the current topsoil footprint can easily be adjusted. The total estimated clearance requirement is 20.6 ha. The associated removed topsoil will be relocated to the designated Topsoil Storage area. Figure 18.1 illustrates selected site building and infrastructure.

## **18.2 Power, Fuel, and Water Utilities**

### **18.2.1 Power**

With processing taking place off-site, power requirements will be significantly lower than typical. Power requirements will be limited to the powering of site facilities such as office buildings and workshops. HV power is noted just off highway 21, approximately 4km away from site. Residential power boxes were noted closer to site at approximately 1.5km away. It is not believed that the residential infrastructure is sufficient to supply site feed requirements. Extending HV to site will be a difficult endeavour due to terrain constraints. This will likely be cost prohibitive. It is recommended that a diesel power farm be utilised, sized for site operations. Complete mobile power farms can be hired and is inclusive of generators, substations, and fuel tank. These units require minimal site preparations and are fully self-contained.

It is recommended that all electrical option be revisited during PFS/FS level studies.

### **18.2.2 Fuel**

Due to the small size of the operation, a single fuel farm is required. This fuel farm will be fitted with a quickfill system for heavy diesel equipment and a standard bowser system for diesel equipment not suited or fitted with a quickfill system. Similar to power generation mobile units, fuel storage and dispensing unit system can be hired. These units require minimal site preparation works and are typically fully self contained and bundled. In terms of environmental and other legislative requirements, such units are highly desirable and recommended for this operation.

### **18.2.3 Water Utilities**

Water for general site use, potable and otherwise, can be sourced from the nearby Goosmus Creek. The water will be treated via a suitable and sized Reverse Osmosis (RO) plant. Water will be disseminated throughout the site from the RO plant as required.

## **18.3 Sewage, Grey Water and Stormwater Drainage**

Sewage from buildings will be captured in septic systems with suitable leach drains for drainage. Grey water and stormwater drainage was not considered in the study as no hydrogeological or water balance studies have been conducted to date. Future work will require these to be conducted during PFS/FS level studies.

## **18.4 Buildings and Facilities**

Due to the small size of the operation, buildings and infrastructure will be kept to the minimum requirement to conduct operations safely and effectively. With processing taking

place off site at the Kettle River Mill, site requirements are greatly reduced Table 18.1 summarizes the anticipated building and facility requirements.

**Table 18.1 – List of Buildings and Facilities**

| Description             | Construction Type          | Permanent/Temporary | Purchase/Rent                |
|-------------------------|----------------------------|---------------------|------------------------------|
| Gatehouse               | Modular                    | Temporary           | Purchase                     |
| Administration Building | Modular                    | Temporary           | Purchase                     |
| HV Workshop             | Container/Dome             | Temporary           | Purchase                     |
| LV Workshop             | Container/Dome             | Temporary           | Purchase                     |
| Vehicle Washbay         | Per supplier specification | Permanent           | Purchase                     |
| Warehouse               | Steel/Steel framed         | Permanent           | Purchase                     |
| Power Farm              | As supplied                | Temporary           | Rent                         |
| Bulk Explosives Storage | As supplied                | Temporary           | Rent (under supply contract) |
| Magazine                | Container                  | Temporary           | Rent                         |
| RO Plant                | Steel/Steel framed         | Permanent           | Purchase                     |

## 18.5 Transportation Infrastructure

The typical method of clearing, topsoil removal, and excavation will be employed, incorporating drains, safety bunds and backfilling with granular material and aggregates for road structure.

### 18.5.1 Access Roads

The site can be accessed by following Big Goosmus Creek Road (SR637) that extend 4 km northwest from Highway 21. Once turning off Highway 21, the road becomes unsealed for approximately 2.5km and then becomes a two-lane track after the Brenner Rd and Rockabye Rd turnoffs for the remaining 1.5km.

From Highway 21 to the Brenner Rd turn-off, general vegetation clearing will be required and basic roadworks such as grading and infilling in selected spots. In general, the condition of this section of the road is acceptable for mining operations.

After the Brenner Rd turnoff, an access road to the mine site will be constructed as a 1.5 km gravel-based road to ensure light and heavy vehicle access from site to Highway 21.

#### **18.5.2 Interior Roads**

Internal roads will be constructed to connect on-site infrastructure, the pit, storage facilities and other mine areas and will be generally 6 m wide and designed with adequate drainage. Haul roads connecting the mine pits, stockpiles and ROM pad will be 18 m wide.

Mine haul roads outside of the open pits are planned to haul resource and waste materials from the open pits to the scheduled destinations such as waste rock storage facilities, ROM stockpiles, and the topsoil storage locations. Centreline routes for the ex-pit mine haul roads have been laid out with the following conceptual features:

- 1 m wide, incorporating a dual lane running width, drainage ditches, and berms on both sides of the road;
- Sized to handle 40tonne payload rigid-frame haul trucks; and
- 10% maximum grade.

The ex-pit haul road centrelines are shown in the Project layout drawing. See Figure 18.1.



*Figure 18.1 – Planned Site Layout*

## 18.6 Communications Infrastructure

Cell phone reception is available on site although this is spotty in areas of lower elevation, such as in the nearby creek valley. No other fixed communications infrastructure is available on site.

Internet can easily be established via the “Starlink” system.

Radio communications will require infrastructure suitably placed on site for coverage in-pit and all areas where heavy and/or light vehicle traffic is planned to operate. Typically, UHF/VHF radio communications require a communications building, placed in an optimum location, which houses the communications equipment. Radio units will then be installed in the required mobile equipment and at required base station locations around site.

## 18.7 Processing Infrastructure

The Kettle River overall site layout illustrated in Figure 18.2 shows the existing site facilities including the existing processing facilities, workshops and office, and tailings storage facility.



*Figure 18.2 – Kettle River Site Layout*

#### **18.7.1 Facilities**

The Kettle River site facilities will be utilised by Marquee Resource as part of the toll-mill agreement. The facilities will include offices, workshops, warehouse and the dry.

A new building will be erected on the site to accommodate the flotation plant and concentrate handling area. The building will be a pre-engineered building with a 30m x 40m footprint and an overall height of 20m. The building will be equipped with an overhead crane. Views of the new flotation building are provided in Figures 18.3 to 18.5 below.

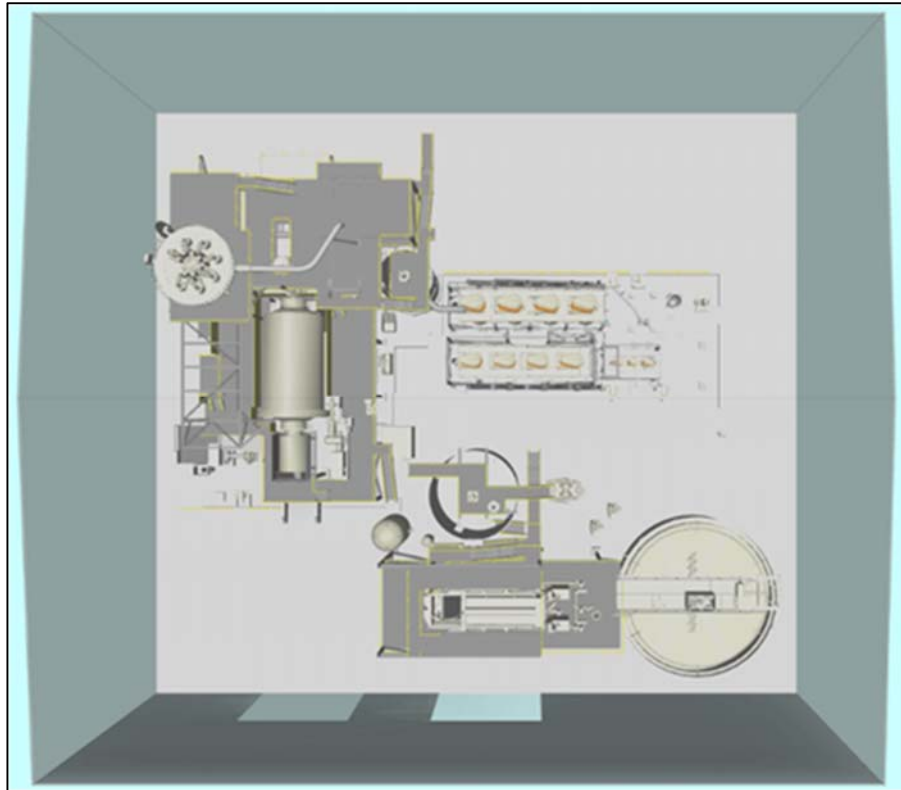


Figure 18.3 – Flotation Building Plan View

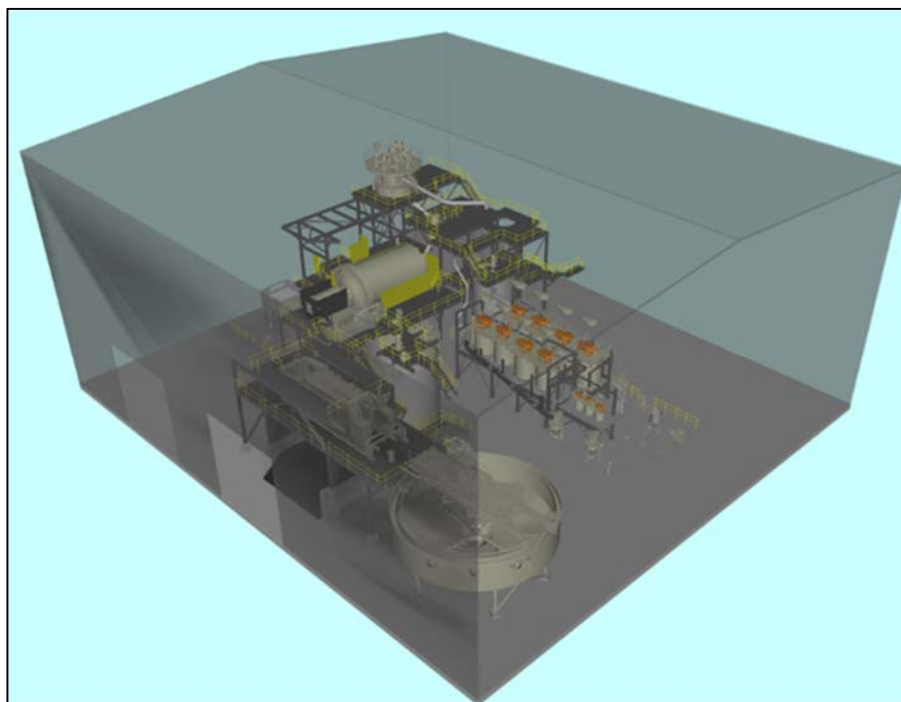


Figure 18.4 – Flotation Building View 1

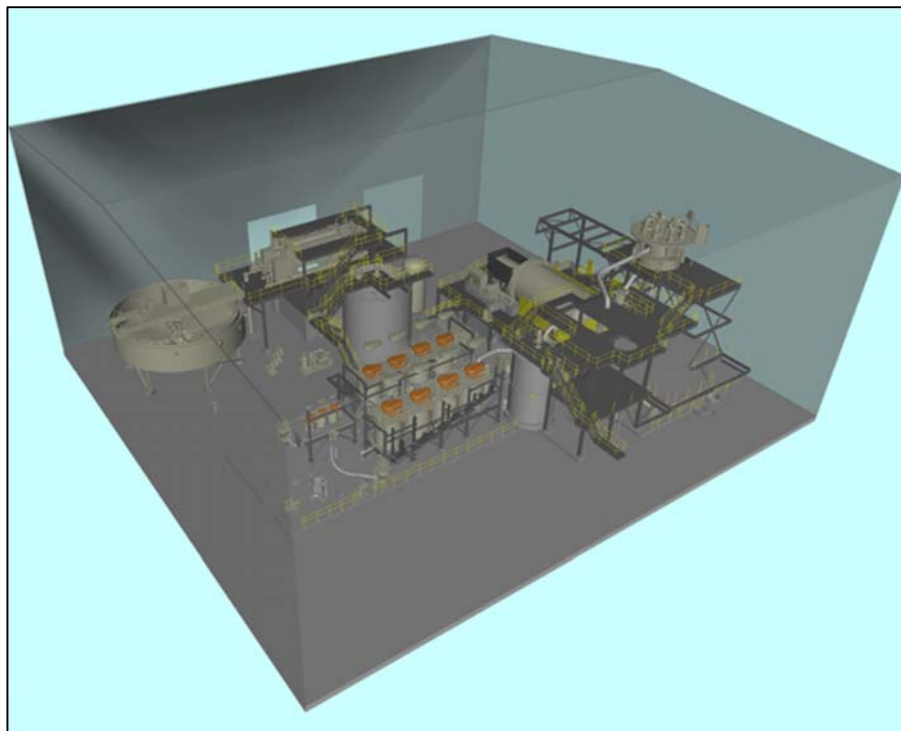


*Figure 18.5 – Flotation Building View 2*

The new flotation building would fit into multiple locations on the Kettle River property. It is proposed to place this building next to the crushing building, screening building and crushed ore bin as illustrated in Figure 18.6 below. This location would provide easy access for trucks to transport away the flotation concentrate, would require minimal additional earthworks, and should provide simple tie-ins to the existing processing plant.



*Figure 18.6 –Building Inserted on Kettle River Property*

### 18.7.2 Power

The new flotation circuit will have an installed power of approximately 4.0 MW which increases the total power requirement related to processing to approximately 12.0 MW. It has not been confirmed that the incoming power supply and on-site substation are currently equipped for that load.

### 18.7.3 Tailings Storage

An assumption has been made that the existing tailings storage facility at the Kettle River property is suitable for use. No costs associated with expansion or maintenance of the tailings storage facility as it would be expected that this cost would be borne by the property owner.

## 19 MARKET STUDIES AND CONTRACTS

### 19.1 Product Specification Requirements

The Lone Star Project would produce tailed gold concentrate from the gravity circuit, copper concentrate with gold credits from the flotation circuit.

### 19.2 Market Demand Studies

Copper demand drives copper concentrate demand and therefore, to a large extent, commodity prices. This section explores projected copper global demand in order to determine if the project in this technical report is expected to operate in a favourable demand environment.

Copper demand outlook falls into two camps, the bullish camp and the bearish camp. According to a Reuters article dated 10 May 2023, it is reported that: Citi is in the bear camp. “A copper stock out is extremely unlikely in 2023 in our view,” was the bank’s May 3 response. It cited weak global demand. Conversely, Goldman Sachs states there is “now no new mine supply wave this year” and is warning of a stock out episode due to demand exceeding supply. Both cases only deal with shorter term forecast range.

The general consensus is that the demand for copper over the next decade will likely be very strong, largely driven by the “green revolution” and the demand for renewable energy sources and electric vehicles. According to S&P Global Market Intelligence, annual global copper demand will nearly double to 50 million tonnes by 2035 with demand outstripping supply in certain scenarios (Figure 19.1)

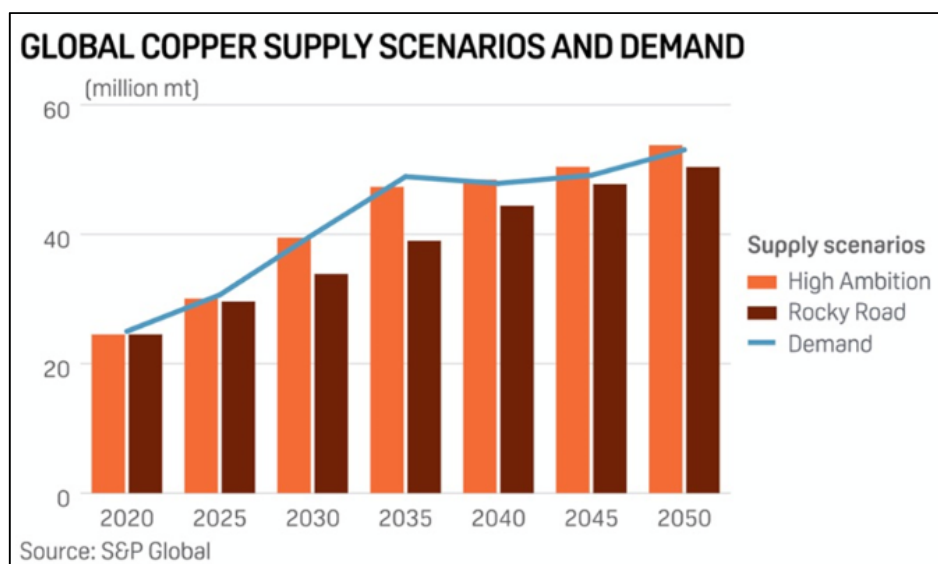


Figure 19.1 – Forecasted Copper Supply and Demand

No market studies have been conducted on the gold that will be produced by Lone Star. Gold is a freely traded commodity on the world market for which there is a steady demand from numerous buyers. Gold production is expected to be sold on the spot market. Terms and conditions included as part of the sales contracts are expected to be typical for this commodity. Gold is bought and sold on many markets in the world, and it is not difficult to obtain a market price at any time. The gold market is very liquid with many buyers and sellers active at any given time.

### 19.3 Commodity Price and Exchange Rate Projections

#### 19.3.1 Copper Price

In a 2022 article by The Assay, in the short term, copper's performance has seen some inevitable volatility since the beginning of 2022, similar to commodity prices of nickel and zinc, with ever-looming uncertainties of economic growth in global markets due to several reasons, such as the war in Ukraine, risks of Covid lockdowns in China, surging inflation, and rising interest rates.

The World Bank's price forecasts predict that copper could average US\$10,000 per tonne (\$4.35/lb) in 2022 before retreating to US\$9,700 (&4.39/lb) in 2023 and US\$9,000 (\$4.08/lb) in 2024, respectively. The outlook prediction is based on constraints including water shortages in Chile, a labour dispute in Peru, and credit issues faced by China's major smelters.

In the long run, Commodity Insights predicts global demand for refined copper to increase steadily to 31.1 Mt in 2030. As copper demand in the electric vehicle (EV) and clean energy sectors remains strong at a pace where production cannot keep up in the next few years, analysts from Goldman Sachs predict a bright outlook for the copper market with the red metal's price rising to \$15,000 per tonne (%6.80/lb) by 2025.

Although not as bullish as Goldman Sach, copper forecasts according to S&P Global follow the same trend with prices expected to increase over time. Lower range prices are forecasted at \$3.98/lb and higher ranges to \$4.65/lb. The S&P Global forecast is shown in Figure 19.2.

| <b>Copper forecast at a glance (000 t)</b>                                                                                                                                                                                                          |              |              |              |              |              |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                                                                                                                                                                                                                                     | <b>2022e</b> | <b>2023f</b> | <b>2024f</b> | <b>2025f</b> | <b>2026f</b> | <b>2027f</b> |
| Supply                                                                                                                                                                                                                                              | 25,039       | 26,406       | 27,886       | 29,159       | 29,934       | 30,158       |
| Demand                                                                                                                                                                                                                                              | 25,503       | 26,350       | 27,510       | 28,664       | 29,725       | 30,335       |
| Refined balance                                                                                                                                                                                                                                     | -465         | 56           | 376          | 496          | 209          | -177         |
| LME 3M price (\$/t)                                                                                                                                                                                                                                 | 8,784        | 8,785        | 8,881        | 9,220        | 9,655        | 10,260       |
| <small>As of May 15, 2023.<br/> e = estimate; f = forecast; LME 3M = London Metal Exchange three-month; \$/t = dollars per metric ton.<br/> Sources: S&amp;P Global Market Intelligence; London Metal Exchange.<br/> © 2023 S&amp;P Global.</small> |              |              |              |              |              |              |

*Figure 19.2 – Forecasted Copper Supply, Demand, Balance, and Price*

Forecasts by S&P Global is further corroborated by the Citi Group in a 2021 report “Copper Book: 2021-2030 Outlook”. This is shown in Figure 19.3.

**Figure 14. Copper base, bull and bear price forecasts, including long term forecasts and ‘call on scrap’ implied price levels**

|               | Scenario Weight | Unit | 2021F | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | \$2021 LR real (from 2026, 2% inflation) | Average 2021F-2030F | Call on scrap implied average 2021F-2030F |
|---------------|-----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------------------------|---------------------|-------------------------------------------|
| Copper - Bull | 35%             | \$/t | 9292  | 10500 | 12000 | 12500 | 13000 | 13249 | 13514 | 13784 | 14060 | 14341 | 12000                                    | 12624               | 12417                                     |
| Copper - Base | 50%             | \$/t | 9067  | 9150  | 9000  | 9500  | 9800  | 9937  | 10135 | 10338 | 10545 | 10756 | 9000                                     | 9823                | 8725                                      |
| Copper - Bear | 15%             | \$/t | 8917  | 7500  | 7500  | 8000  | 8000  | 8281  | 8446  | 8615  | 8787  | 8963  | 7500                                     | 8301                |                                           |

Source: Citi Research, Bloomberg

*Figure 19.3 – Forecasted Copper Price, Citi Research*

Lower range prices are forecasted at \$4.08/lb and higher ranges to \$4.87/lb as per base case price ranges.

Based on forecast data currently available, it is reasonable to assume and adopt a copper price of \$4.10/lb for the purpose of this technical report.

### 19.3.2 Gold Price

Gold price forecasts are harder to predict due to significant differences in views on what are key price drivers. Forecasts can range significantly, depending on which source is to be believed. For this report the S&P Global consensus target prices, as shown in Figure 19.4, will be assumed as relevant.

**Consensus commodity target prices, September 2023**

| Commodity*        |                   | Price as of Sept. 29 | Q4'23f   | 2022     | Average target price as of Sept. 29, 2023 |          |          |          |          |
|-------------------|-------------------|----------------------|----------|----------|-------------------------------------------|----------|----------|----------|----------|
|                   |                   |                      |          |          | 2023f                                     | 2024f    | 2025f    | 2026f    | 2027f    |
| Gold (\$/oz)      | COMEX Settlement  | 1,866.10             | 1,904.22 | 1,803.96 | 1,930.84                                  | 1,926.90 | 1,876.33 | 1,792.63 | 1,765.08 |
| Silver (\$/oz)    | COMEX Settlement  | 22.45                | 21.71    | 21.78    | 23.29                                     | 23.68    | 23.30    | 22.67    | 22.65    |
| Platinum (\$/oz)  | NYMEX Settlement  | 906.80               | 1,072.00 | 960.84   | 1,017.61                                  | 1,066.44 | 1,114.00 | 1,175.57 | 1,232.33 |
| Palladium (\$/oz) | NYMEX Settlement  | 1,256.00             | 1,608.75 | 2,098.60 | 1,485.05                                  | 1,446.61 | 1,414.89 | 1,398.00 | 1,303.43 |
| Aluminum          | LME Cash Official | 1.12                 | 1.02     | 1.21     | 1.05                                      | 1.10     | 1.16     | 1.25     | 1.24     |
| Cobalt            | LME Cash          | 14.96                | 16.15    | 28.95    | 17.84                                     | 22.47    | 23.25    | 28.17    | 29.09    |
| Copper            | COMEX Settlement  | 3.74                 | 3.88     | 4.00     | 3.89                                      | 3.96     | 4.16     | 4.24     | 4.32     |
| Iron ore (\$/t)   | NYMEX Settlement  | 119.74               | 107.50   | 120.70   | 109.44                                    | 99.98    | 96.04    | 92.30    | 90.34    |
| Lead              | LME Cash Official | 1.00                 | 0.94     | 0.96     | 0.95                                      | 0.94     | 0.94     | 0.94     | 0.94     |
| Nickel            | LME Cash Official | 9.05                 | 9.69     | 11.90    | 10.29                                     | 9.46     | 9.18     | 9.09     | 9.08     |
| Tin               | LME Cash Official | 10.98                | 11.87    | 14.23    | 11.96                                     | 11.34    | 9.98     | 10.04    | 10.14    |
| Zinc              | LME Cash Official | 1.22                 | 1.13     | 1.41     | 1.22                                      | 1.22     | 1.23     | 1.24     | 1.25     |
| Uranium           | NYMEX Settlement  | NA                   | 62.50    | 50.53    | 53.24                                     | 58.22    | 61.53    | 63.21    | 66.29    |

As of Sept. 29, 2023.  
f = forecast; LME = London Metal Exchange; NA = not available; \$/t = dollars per metric ton.  
\* US dollars per pound unless stated otherwise.  
Prices in red represent a 1% or lower forecast, while prices in green represent a 1% or higher forecast, compared with last month's consensus estimate target price.  
Source: S&P Global Market Intelligence.

*Figure 19.4 – Forecasted Gold Price, S&P Global*

Gold price forecasts trends within the high \$1,700/oz and low \$1,800/oz. Compared with the three year gold price chart (Figure 19.5) where average closing prices range between \$1,773.73/oz (2020) and \$1,934.12 (2023 ytd), it is reasonable to assume and adopt a gold price of \$1750/oz for this report.

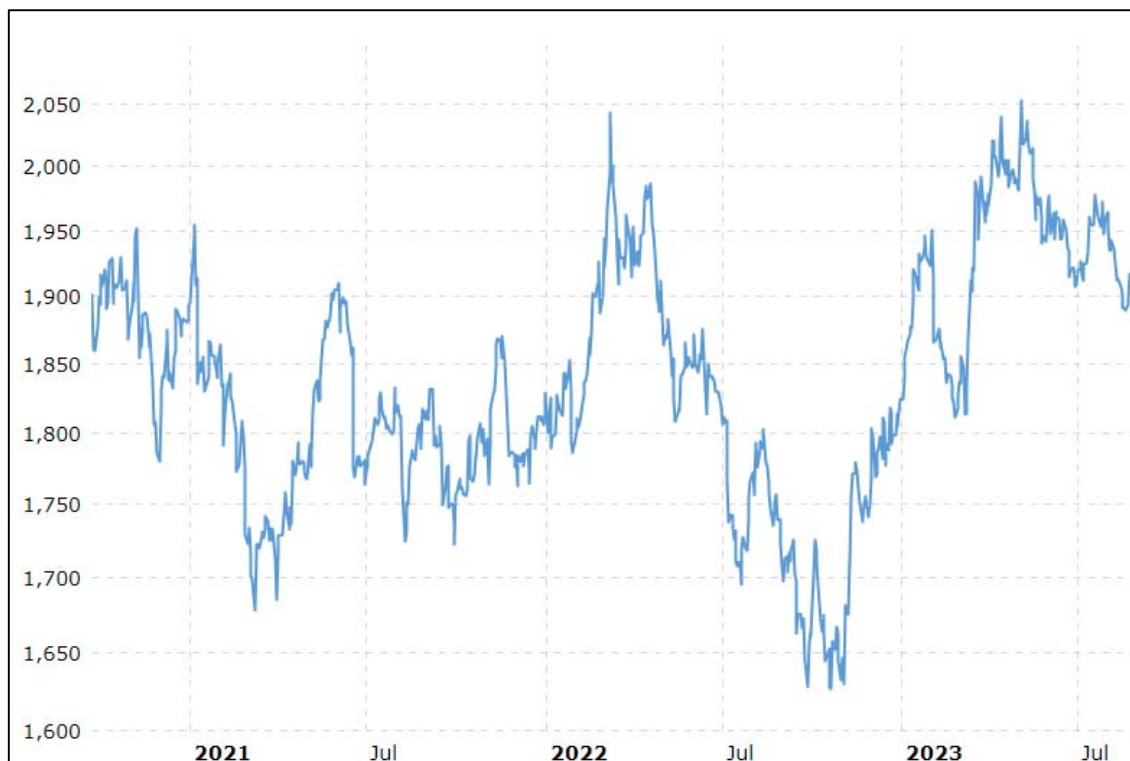


*Figure 19.5 – Three Year Gold Price Chart*

#### 19.4 Market Contracts

No contractual arrangements for concentrate trucking, port usage, shipping, smelting or refining exist at this time. There are no contracts in place for the sale of gravity and flotation products. It is assumed that the concentrate produced at Lone Star would be marketed to international smelters in Asia and Europe. No deleterious elements have been identified or considered at this time.

## 20 ENVIRONMENTAL STUDIES AND PERMITTING

### 20.1 Introduction

Exploration level activities and mining operations on private land in Washington are regulated by the Washington Department of Natural Resources (DNR), and by the Bureau of Land Management (BLM) or the United States Forest Service (USFS) on public land. For exploration projects on public land creating less than five acres of disturbance, a Notice of Intent (NOI) and reclamation bond is required by the BLM or the USFS. For projects proposing disturbance of over five acres, a Plan of Operations (PoO) and National Environmental Policy Act (NEPA) compliance is required by the land management agency along with a reclamation permit issued by DNR. Regulatory authority for the reclamation permit requirement is set forth in Metals Mining and Milling Act (Chapter 78.56 RCW); Surface Mine Reclamation Act (Chapter 78.44 RCW).

The Project is located on private lands (patented mining claims) and public lands and would be subject to both Washington State and Federal permitting requirements.

To date, no permitting has been completed on the project.

Baseline studies will be required for both exploration and mining activities on site. Exploration activities will require cultural resource surveys as well as biological surveys to determine the extent of threatened or endangered species present. To date, no baseline surveys have been initiated.

Table 20.1 summarizes the baseline studies that may be required based on completion of a baseline needs assessment.

Potential environmental impacts may be identified during the baseline data collection that will be used in preparation of the PoO. Environmental protection measures and project design features to avoid or minimize the potential for significant impact to sensitive resources can be incorporated into the PoO to expedite the permitting timeline. Additional protection measures and mitigation may be identified during the NEPA process.

**Table 20.1 – Lone Star Environmental Baseline Studies for Mining Activities**

| Study                    | Resources Surveyed                                                                                                                                                                                                            | Status      |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Cultural Resources       | Class III Cultural Resource Inventory Results confidential.                                                                                                                                                                   | Not started |
| Biological Survey Report | Biological Surveys needed. <ul style="list-style-type: none"> <li>• Vegetation</li> <li>• Special Status Plant Species</li> <li>• Noxious Weeds</li> <li>• General Wildlife</li> <li>• Migratory Birds and Raptors</li> </ul> | Not started |

|                                          |                                                                                                                                                                                                    |             |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
|                                          | <ul style="list-style-type: none"> <li>Threatened, Endangered and Candidate Wildlife Species</li> </ul>                                                                                            |             |
| Waste Rock and Ore Characterization      | Materials Characterization <ul style="list-style-type: none"> <li>Acid base accounting</li> <li>Meteoric water mobility procedures</li> <li>Whole rock geochemistry</li> <li>Mineralogy</li> </ul> | Not started |
| Surface Water Survey                     | Baseline Spring, Seep, and Riparian Evaluation                                                                                                                                                     | Not started |
| Groundwater Survey Report                | Production Well and Monitoring Well Development, Baseline Testing and Sampling                                                                                                                     | Not started |
| Visual Resources Survey Report           | Analysis of impacts to visual resources                                                                                                                                                            | Not started |
| Transportation Survey Report             | A review of transportation resources and potential impacts from the project activities and ore haulage                                                                                             | Not started |
| Socioeconomics and Environmental Justice | A review of socioeconomics and environmental justice baseline conditions and potential impacts                                                                                                     | Not started |
| Recreation and Wilderness Areas          | A review of recreation and wilderness baseline conditions and potential impacts.                                                                                                                   | Not started |
| Air Quality Survey Report                | Report on baseline air quality conditions and modeling of air quality impacts from proposed mine plan.                                                                                             | Not started |
| Noise                                    | Review of baseline noise conditions and modeling of potential noise levels from proposed operations.                                                                                               | Not started |
| Geology                                  | Review of baseline geologic conditions and assessment of potential impacts to geologic resources.                                                                                                  | Not started |
| Soils                                    | Review of baseline soils conditions and analysis of available soil resources to reclaim the mine plan.                                                                                             | Not started |

## 20.2 Baseline Studies

Baseline studies will be required by both the BLM and DNR and will be the basis for the advance exploration and mine permitting. The PoO will be developed to specifically avoid or minimize environmental impacts. A series of Environmental Protection Measures (EPMs) may be for impacts that could not be avoided but could be minimized by applying management controls. These EPMs were then carried into the PoO and included in the NEPA documents.

### 20.2.1 Biological Resources

The baseline study will require vegetation community and wildlife habitat mapping, noxious weed and invasive species surveys, BLM Special Status Species surveys, migratory bird and raptor surveys, acoustic bat surveys, raptor habitat analysis, and an Ecological Site Inventory analyzing rangeland health indicators.

### **20.2.2 Cultural Resources**

Class III Cultural Inventories will be required to be performed by a BLM/DNR approved archeologist. These inventories will include the project area and access Cultural surveys must be approved by the BLM and the State Historic Preservation Office (SHPO).

Prior to project construction, a treatment plan will be required that, once approved by SHPO, will guide the mitigation of the sites under oversight by the BLM. The above steps are required to be in compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA).

### **20.2.3 Surface Water Resources**

A spring, seep, and riparian study will be required to identify surface water resources within the main hydrographic basin which the Project area falls within. If dewatering of the open pit is required, a hydrologic model may be required to analyze potential impacts to surface water resources.

### **20.2.4 Ground Water Resources**

Ground water resources baseline data collection will require characterization of groundwater quality, quantity and hydrogeologic controls to groundwater flow.

#### **20.2.4.1 Well Installation**

Monitoring wells will be the key component of the groundwater baseline data collection. Early installation of these monitoring wells will define any preexisting baseline exceedances in groundwater quality that will be crucial in future compliance monitoring programs.

#### **20.2.4.2 Aquifer Testing**

If the site water supply will be from on-site production wells, an aquifer testing program will be required that measures the sustained yield from the production wells as well as the aquifer drawdown.

### **20.2.5 Geochemical Considerations**

Standard geochemical tests consisting of multi-element analyses, static acid base accounting (ABA) tests, net acid generating tests, and leachability tests will be required by BLM and DNR on identified material types to determine which rock types may have the potential to generate acid rock drainage when exposed to surface conditions. This test work will form the basis for the Waste Rock Management Plan.

### 20.3 Environmental Considerations/Monitoring Programs

Establishment of baseline water conditions (quantity, quality, and hydrogeologic parameters) are often one of the longest lead time monitoring programs, often taking 12-24 months to complete. Much of this work can be integrated into the exploration drilling program through data collection and conversion of exploration drill holes into groundwater monitoring wells. There are currently no active environmental monitoring programs associated with the proposed Project. Upon completion of permitting, various waste rock management, process fluid management, and other monitoring/sampling programs will be implemented.

Monitoring programs will be developed based on requirements of the regulatory agencies and the associated permits/approvals issued by those agencies. Some of the major permits driving the monitoring programs would include, DNR water protection permit, Reclamation Permit, Air Quality Operating Permit, NEPA Record of Decision (Environmental Impact Statement) or Finding of No Significant Impacts (Environmental Assessment), and various other federal, state and local permits and approvals.

Reclamation bonds associated with the reclamation permit must be posted prior to the start of project construction and will be reviewed and updated periodically to assess adequacy of the bond to cover current reclamation costs.

### 20.4 Key Environmental Issues

The NEPA environmental impact assessment process is focused on key environmental issues that will be identified during agency and public scoping and guide the preparation of the NEPA document. Key issues anticipated for the Lone Star project will likely focus on water quality, geochemistry, air quality, visual resources, and cultural resources. Through the NEPA impact analysis, DNR and the BLM will work closely with the cooperating regulatory agencies to document the measures developed to avoid, minimize, or mitigate potential impacts resulting from these issues.

### 20.5 Proposed Mining Activities

Mining will be conducted using conventional truck and excavator methods. Open pit mining will provide the mineral processing plant feed at a rate of 5,000 tpd, which was based on processing capacity inputs assumed for this project.

Infrastructure to support the Lone Star Project will consist of site civil work, buildings, water management systems, and site electrical power. Site facilities will include mine facilities only as the current assumption rests on ore being processed off-site at the nearby Kettle River Processing facility.

### 20.5.1 Surface Disturbance

New exploration disturbances created thus far by Marquee Resources activities are approximately 0.3 acres. Total surface disturbance for the mining activities has not yet been determined.

### 20.5.2 Stockpiles

When materials are mined from the pit, they will either be delivered straight to the ROM crusher for ore and then to an ore stockpile, the Waste Rock Storage Facility (WRSF) for waste rock, the topsoil storage facility, or the low-grade mineralized material stockpiles. General design criteria are:

2.5:1 overall slopes for waste rock;

3.5:1 overall slopes for overburden/topsoil;

All stockpiles are planned to avoid existing waterbodies, watercourses, and wetlands where possible.

During ground clearing and grubbing operations, an average depth of 300mm of topsoil would be stripped, salvaged, and stockpiled. Topsoil stockpiles would be placed in designated areas within the Project area to the nearest associated mine component. Growth media stockpiles would be sized to accommodate the amount of topsoil obtained from nearby surface disturbance areas associated with various mine components. Stockpiles will be constructed and operated to minimize meteoric water run-off and will be closed and reclaimed according to approved reclamation plan.

### 20.5.3 Waste Rock Storage Facility (WRSF)

WRSFs will be designed and operated in accordance with DNR and BLM requirements. Waste rock will be managed in accordance with an approved Waste Rock Management Plan (WRMP), which will be based on the Potentially Acid Generating (PAG) characteristics of the waste rock.

After construction of the WRSF is completed, the face would be regraded. Once regraded, the lift would be covered with topsoil. The area would be subsequently seeded with an appropriate and BLM approved seed mixture.

WRSFs will be reclaimed in accordance with DNR and BLM requirements. Reclamation measures may include the following:

- Regrading to enhance stability, reduce susceptibility to erosion and facilitate revegetation success.
- Revegetation

- Diverting run-off from precipitation events and snowmelt
- Implementing measures to stabilize, manage, control, or treat mine-impacted waters.

#### 20.5.4 Water Management

Water inflows to the Lone Star pit will include both groundwater inflow and surface water runoff. The contributions from groundwater will progressively increase as the pit extends below the groundwater table but is not considered an impediment to mining operations at this stage. The contributions from surface water will be via direct precipitation into the pit and runoff from the contributing catchments around the pit excavation. The inflows from direct precipitation will increase with expanding pit area in conjunction with groundwater inflows as the pit increases in depth. No site-specific data for groundwater was available as of the writing of this report. It is recommended that a hydrogeological study is performed for studies at PFS and/or FS level.

#### 20.6 Closure Plan

Marquee Resources will need to meet BLM and DNR objectives for post mining land uses. Major land uses occurring in the Project area include mineral exploration and development, livestock grazing, wildlife habitat and dispersed recreation.

Following closure, the Project area will support the multiple land uses of mineral exploration and development, livestock grazing, wildlife habitat, and recreation. Project personnel will work with the agencies and local governments to evaluate alternative land uses that could provide long-term socioeconomic benefits from the mine infrastructure. Post-closure land uses will be in conformance with the BLM and Ferry County Land Use Plans.

Because the NEPA process based on the PoO has not been completed with BLM, reclamation bonding estimates have not been completed or approved by the authorizing agencies (BLM and DNR). Key aspects of the reclamation plan include the following:

- Long-term goals for reclamation of exploration disturbances are to:
  - Ensure public safety.
  - Provide physical and chemical stability of the site.
  - Establish a productive vegetative community based on the post-exploration land uses of selected wildlife habitat, domestic grazing, dispersed recreation activities, and mineral exploration and development.
- With these goals in mind, reclamation activities are designed to:
  - Stabilize the disturbed areas to a safe condition, and
  - Protect both disturbed and undisturbed areas from unnecessary and undue degradation.

## 20.7 Permitting Considerations

### 20.7.1 Permit Requirement Assumptions

The review of permit requirements for the project assumes the specific development scenario outlined in this document which is based on the following assumptions:

- New Project activities would occur on both patented claims and unpatented claims on public lands administered by the BLM.
- DNR will concur that the Project can be operated and closed in a manner protective of human health and the environment through the issuance of the state permits.
- Federal approval received from the BLM following completion of the NEPA analysis (either an Environmental Assessment or an Environmental Impact Statement).
- Goosmus Creek is designated as Waters of the United States and will require a 404 permit from the US Army Corps of Engineers to develop a haulage crossing of the creek.

### 20.7.2 Permitting Requirements

Anticipated environmental and other permits associated with the proposed project would include those identified in Table 20.2.

**Table 20.2 – Key Required Permits and Licences**

| Permits and Authorizations                                                 | Regulatory Agency                                                         |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Plan of Operations/Record of Decision                                      | Bureau of Land Management                                                 |
| State Environmental Policy Act (SEPA)                                      | Department of Ecology's Environmental Review Section                      |
| Explosives Permit                                                          | U.S. Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms |
| Air Contaminant Source Operation Permit                                    | Washington Department of Ecology                                          |
| Water Pollution Control Act                                                | Washington Department of Ecology                                          |
| Groundwater And Surface-Water withdrawal                                   | Washington Department of Ecology                                          |
| Mining Reclamation Permit                                                  | DNR                                                                       |
| Landfill Permit                                                            | Washington Department of Ecology                                          |
| General Discharge Permit (Stormwater)                                      | Washington Department of Ecology                                          |
| Hazardous Materials Storage Permit                                         | Washington Department of Ecology                                          |
| Hazardous Waste Identification Number                                      | United States Environmental Protection Agency                             |
| Septic Treatment Permit                                                    | Washington Department of Ecology                                          |
| On-site Sewage System Permit                                               |                                                                           |
| Oil Pollution Act- Spill Prevention Control and Countermeasure Plan (SPCC) | U.S. Environmental Protection Agency                                      |
| Potable Water System Permit                                                | Washington Department of Ecology                                          |
| <b>Local Permits</b>                                                       |                                                                           |
| County Road Use and Maintenance Permit/Agreement                           | Ferry County Building Planning Department                                 |

The permits with the longest lead times are discussed individually in the following sub-sections.

#### 20.7.2.1 BLM Plan of Operations/DNR Reclamation Permit

Prior to commencing any mining operations on public lands administered by the BLM, a PoO describing how Marquee Resources will prevent unnecessary and undue degradation of the land and reclaim the disturbed areas must be submitted to the BLM. Concurrently, Marquee Resources will need to apply for issuance of a Reclamation Permit to DNR. The final approval of the PoO will be included in the Record of Decision for the NEPA document. The NEPA process can take between one and 5 years, with an average of 3.4 years, depending on the complexity and nature of the proposed action and variability among the BLM offices. The DNR will need to issue a Mining Reclamation Permit. The PoO document described above fulfills the requirements of the application for the Mining Reclamation Permit. Application review takes the DNR approximately 180 days from submittal but will be issued concurrent with the BLM PoO approval. The BLM and the DNR will jointly agree on the reclamation bond amount.

#### 20.7.2.2 Water Pollution Control

An application for issuance of a WPCP must include the following:

- Assessment of area of review
- Waste Rock Management Plan
- Environmental Impact Studies
- Engineering design report, specifics of fluid management system
- Proposed operating plans, including plans for temporary closure and tentative plans for permanent closure.

#### 20.7.2.3 Anticipated Permitting Time

Table 20.3 presents a summary of the estimated time that it takes to prepare and submit additional permit applications, agency processing and issuance of the permit.

These timelines are variable depending on changes in regulations, changes in regulatory staff assigned to the project, and other unforeseen delays.

In addition to the approvals discussed in this section, Marquee Resources must notify the Mine Safety and Health Administration (MSHA) prior to the commencement of mining operations. In addition to the notification of operations, the facility must also submit a training plan to MSHA for approval 30 days prior to operations and obtain a Mine Identification number.

**Table 20.3 – Estimated Timeframe for Major Permits**

| Permit/Approval                                | Duration of Permitting (days) |
|------------------------------------------------|-------------------------------|
| Air Quality Permit – Class II Operating Permit | 100                           |
| Water Pollution Control Permit                 | 180–240                       |
| Reclamation Permit                             | 180                           |
| Landfill permit                                | 30                            |
| Hazardous Materials Storage Permit             | 35                            |
| Explosives Permit                              | 60                            |
| Hazardous Waste Generator Filing Status        | 20                            |
| Domestic Water Supply Permit                   | 45                            |

## 20.8 Social and Cultural Considerations

Marquee Resources will need to take all the necessary steps to engage the local community to create awareness regarding the Project. During the NEPA process, the public will have multiple opportunities to engage and comment on the project and express support or concerns.

The BLM will coordinate with local Native American tribes and interested parties throughout the permitting and NEPA process. The NEPA document will analyze how the Project will affect the social and economic values of the community.

Additional coordination between Marquee Resources and local governments, local Native American tribes, and interested parties will occur throughout the planning and permitting phase, operating phase, and closure phase of the Project to ensure that the Project addresses social and cultural considerations.

The relatively small number of workforce members required for the anticipated mining facilities will likely be drawn from the regional workforce and will not substantially change the regional workforce numbers with a large influx of workers. No substantial impact to the communities in terms of housing, schools or infrastructure are anticipated.

## 20.9 Significant Risk Factors

The regulatory permitting process for this project may require additional geochemical baseline data collection and closure planning based on the geochemistry of the waste rock. Therefore, any future agency concurrence with data collection protocols and the determination of data adequacy and closure design requirements could be subject to reviews and revisions.

## 20.10 Social Licence Considerations

Marquee Resources will need to conduct community consultations. The company should plan to continue to take all the necessary steps to engage the local community to create awareness regarding the Project. Community consultation is required as part of NEPA documentation.

## 20.11 Comments

Based on the above discussion, the following comments are provided:

- The Project has not started the mining permitting stage. There do not appear to be any significant impediments to obtaining environmental or operating permits.
- There is a reasonable expectation that the company can obtain the necessary permits. However, the geochemical characterization of the low-grade ore stockpiles and the waste rock may require additional testing to satisfy the regulatory agencies that the mine can be operated and closed in a manner protective of human health and the environment. Marquee Resources may be required to design the facility with a higher level of engineering and agency oversight to satisfy the regulatory agencies.

## 21 CAPITAL AND OPERATING COSTS

### 21.1 Capital Costs

The total estimated capital cost is US\$73.1m and is summarized in Table 21.1 below.

The capital costs estimate is comprised of an initial cost upfront prior to the commencement of operations. This accounts for the acquisition of the main mining equipment, supporting mining equipment, infrastructure/ buildings, and a 10% contingency.

A sustaining capital cost estimate has been estimated to occur 7 years after the commencement of operations. It covers the calculated rebuild costs of all mining equipment, 2/3 of the initial main and support equipment costs, and includes a 10% contingency.

**Table 21.1 – Summary of Mining Capital Cost Estimate**

| Initial Capital                  | Unit        | Value               | Source             |
|----------------------------------|-------------|---------------------|--------------------|
| Processing                       | US\$        | 57,815,759.0        | Calculated Sedgman |
| Main mining equipment            | US\$        | 4,273,748.0         | Calculated MPUS    |
| Support Mining                   | US\$        | 3,806,000.0         | Calculated MPUS    |
| Infra/Buildings                  | US\$        | 409,000.0           | Calculated MPUS    |
| Contingency                      | US\$        | 10%                 | Assumption         |
| <b>Total Initial Mining cost</b> | <b>US\$</b> | <b>67,153,381.8</b> | Calculated         |

| Sustaining Capital (Rebuild in 7 years) | Unit          | Value/LOM          | Source     |
|-----------------------------------------|---------------|--------------------|------------|
| Main mining equipment                   | M US\$        | 2,849,165.3        | Calculated |
| Support Mining                          | M US\$        | 2,537,333.3        | Calculated |
| Contingency                             | M US\$        | 10%                | Assumption |
| <b>Total Sustaining Mining cost</b>     | <b>M US\$</b> | <b>5,925,148.5</b> | Calculated |

#### 21.1.1 Initial Capital Cost Estimate

The breakdown of the initial capital cost estimate is summarized below in Table 21.2 and Table 21.3. The Main Mining fleet purchase assumptions were based on new or near-new equipment to ensure maximum operating life prior to re-build or replacement incurred cost.

Infrastructure and building cost estimates were based on second hand or a more cost-effective approach due to limited LOM and new or near-new buildings and infrastructure could not be justified. Allowance was made for some site access roadworks and general earthworks; however, it was assumed that the bulk of these would form part of the pre-stripping operations and is considered captured within mining operating costs.

**Table 21.2 – Breakdown of the individual equipment costs for the main mining and supporting mining equipment fleets.**

| Main mining equipment         | Units | Unit Cost | Total     | Source   |
|-------------------------------|-------|-----------|-----------|----------|
| Komatsu PC1250SP-11 Excavator | 2     | 1,292,410 | 2,584,820 | Estimate |
| Scania 8 x 4 Haul Trucks      | 6     | 181,700   | 1,090,200 | Estimate |
| Drill Flexiroc D50            | 1     | 598,728   | 598,728   | Estimate |

| Mining Support Equipment    | Units | Unit Cost | Total   | Source   |
|-----------------------------|-------|-----------|---------|----------|
| CATERPILLAR 907 or Simillar | 1     | 190,000   | 190,000 | Estimate |
| Komatsu D51PX-22 or Similar | 1     | 150,000   | 150,000 | Estimate |
| Fuel Truck                  | 1     | 280,000   | 280,000 | Estimate |
| 2013 KOMATSU HM300-3        | 1     | 306,000   | 306,000 | Estimate |
| CAT 120GC                   | 1     | 375,000   | 375,000 | Estimate |
| Field fuel/lube truck       | 1     | 200,000   | 200,000 | Estimate |
| Field Service Truck         | 1     | 200,000   | 200,000 | Estimate |
| IT                          | 1     | 250,000   | 250,000 | Estimate |
| Welding Truck               | 1     | 75,000    | 75,000  | Estimate |
| Flatbed Truck               | 1     | 100,000   | 100,000 | Estimate |
| Fire Truck                  | 1     | 200,000   | 200,000 | Estimate |
| Ambulance                   | 1     | 180,000   | 180,000 | Estimate |
| Skidsteer                   | 1     | 85,000    | 85,000  | Estimate |
| Trailer Mounted Lights      | 4     | 10,000    | 40,000  | Estimate |
| Mine Spec Light Vehicles    | 15    | 65,000    | 975,000 | Estimate |
| Telehandler                 | 2     | 100,000   | 200,000 | Estimate |

**Table 21.3 – Breakdown of the cost for the various infrastructure/ building costs**

| Infrastructure/Buildings | Units | Unit Cost | Total  | Source   |
|--------------------------|-------|-----------|--------|----------|
| Offices and Ablutions    | 1     | 12,500    | 12,500 | Estimate |
| Nursing Station          | 1     | 25,000    | 25,000 | Estimate |
| Workshop                 | 2     | 18,500    | 37,000 | Estimate |

|                              |   |        |        |          |
|------------------------------|---|--------|--------|----------|
| LV Workshop                  | 1 | 7,500  | 7,500  | Estimate |
| Washbay (HV and LV use)      | 1 | 5,000  | 5,000  | Estimate |
| Gatehouse                    | 1 | 25,000 | 25,000 | Estimate |
| Warehouse                    | 1 | 32,000 | 32,000 | Estimate |
| Fuel Station                 | 1 | 25,000 | 25,000 | Estimate |
| Site Access Roadworks        | 1 | 75,000 | 75,000 | Estimate |
| Bulk Explosives Storage Yard | 1 | 5,000  | 5,000  | Estimate |
| Magazine                     | 1 | 5,000  | 5,000  | Estimate |
| Site Water Supply (RO plant) | 1 | 25,000 | 25,000 | Estimate |
| Site Power                   | 1 | 30,000 | 30,000 | Estimate |
| Site General Earthworks      | 1 | 50,000 | 50,000 | Estimate |
| Mine Haul Roads              | 1 | 50,000 | 50,000 | Estimate |

### 21.1.2 New Flotation Circuit

With the intention of toll processing mined material from the Lone Star property at the Kettle River process facility it would be necessary to install new flotation circuit capable of production a copper concentrate. The existing facility has a crushing and grinding circuit that can be utilized.

The new flotation plant will require:

- Rougher flotation cells.
- Concentrate regrind mill.
- Cleaner flotation cells.
- Cleaner concentrate thickener.
- Cleaner concentrate filter.
- Plant air (flotation / filtration)
- Pre-Engineering building.

The capital cost estimate for the new flotation plant is based on the process flow diagrams (PFD), flotation building plan view drawing, scope definition and includes the areas as laid out in Section 17, Recovery Methods.

The estimated cost for the new Flotation plant is presented in Table 25.4. The costs provided are installed costs that would consider the capital equipment, platework and pipework, structure and required ancillaries. A pre-engineered building to house the flotation circuit has been included however any earthworks to prepare the location for the building have not been considered.

The direct cost for the flotation circuit has been estimated at \$ 37,061,384 USD.

**Table 21.4 – Flotation Circuit Capital Direct Cost Estimate**

| Item                                | Detail                                     | Estimated Cost (USD\$) |
|-------------------------------------|--------------------------------------------|------------------------|
| Rougher Flotation Circuit           | 4x 50m <sup>3</sup> Tank cells             | \$ 6,697,700           |
| Concentrate Regrind Mill / Cyclones | 2.7x 4.6m 400kW Ball Mill                  | \$ 7,125,400           |
| Cleaner Flotation Circuit           | 4x 38m <sup>3</sup> Tank Cells             | \$ 2,607,700           |
| Cleaner Scavenger Flotation Circuit | 3x 3m <sup>3</sup> Tank Cells              | \$ 561,400             |
| Concentrate Thickener               | 9m Diameter                                | \$ 1,882,309           |
| Concentrate Filter                  | 1m x 16 Plate – Horizontal Plate and Frame | \$ 5,928,875           |
| Reagent Mixing / Dosing             |                                            | \$ 3,784,900           |
| Plant Air (Flotation / Filtering)   |                                            | \$ 1,240,500           |
| Pre-Engineered Building             | 30m x 40m                                  | \$ 7,232,600           |
|                                     | <b>Total</b>                               | <b>\$ 37,061,384</b>   |

### 21.1.3 Indirect Costs

Initial indirect capital costs allowed for include Engineering, Procurement, and Construction Management (EPCM) estimated at 30% of the costs of the new flotation plant.

Indirect costs: \$11,118,415 USD.

### 21.1.4 Contingency

A contingency rate of 20% has been applied to direct and indirect capital costs that make up the new flotation circuit. Contingency has not been applied to the estimated refurbishment and replacement costs associated with the existing equipment as these would typically be borne by the toll-milling operator.

Contingency: \$9,635,960 USD.

### 21.1.5 Other Capital Costs

Closure and reclamation costs have been estimated at US\$5m. This is a ballpark figure that is typically required for most surface mining operations of this scale. The costs cover general

closure of waste storage facilities and drainage equipment, and removal of surface infrastructure facilities and land reclamation.

## 21.2 Operating Costs

The mine operating costs have been estimated by utilizing benchmark mining cost data from S&P Capital IQ market intelligence platform.

The processing cost is based on \$/t ore treated through toll treating facility. The transport costs are the cost associated with the freight of the ore to the processing facility.

Costs associated with the treatment and refining of the copper and gold concentrate have also been estimated. This is required to adequately estimate the revenue generated from the sale of concentrate. It essentially discounts the realized gold and copper prices used in estimating the revenue generated.

See Table 21.5 below for the estimated operating costs.

**Table 21.5 – Summary of the Estimated Operating Costs**

| Operating Cost      | Unit          | Unit Cost | Source             |
|---------------------|---------------|-----------|--------------------|
| Mining              | \$/ t mined   | 3.24      | Benchmark Estimate |
| Processing          | \$/ t treated | 14.49     | Estimate           |
| Transport           | \$/ tkm       | 0.1       | Estimate           |
| General & Admin     | \$/ t treated | 1         | Estimate           |
| NSR Treatment       | \$/ dmt       | 88        | Estimate           |
| NSR Gold Refining   | \$/ dmt       | 1.44      | Calculated         |
| NSR Copper Refining | \$/ dmt       | 30.62     | Calculated         |

### 21.2.1 Cost Benchmarking

Mining Plus extracted mining cost data from the S&P Capital Market Intelligence platform. The data was filtered to include projects within North America that are operating open pit gold and copper mines.

The Lone Star project was benchmarked against the various projects on an annual total material mined basis. A weighted average was taken across all the projects that were flagged as comparable.

## 22 ECONOMIC ANALYSIS

---

### 22.1 Basis of Evaluation

A pre-tax real dollar assessment has been performed on the Lone Star Copper Gold Project by utilizing an excel based financial model from which the Net Present Value (NPV), Internal Rate of Return (IRR), and payback can be determined. The NPV and IRR can assist in the determination of the economic value and viability of the project.

### 22.2 Economic, Taxation and Royalty Assumptions

#### 22.2.1 Exchange Rates

The model has been forecasted in US dollars, all cost estimates and metal prices are in US dollars. All the results have been presented in US dollars. Therefore, no exchange rate was required.

#### 22.2.2 Inflation Rate and Escalation

The model was prepared using constant dollars (real dollars) and as such no inflation or escalation factors have been used.

#### 22.2.3 Discount Rate

A 12% discount rate has been utilized. This is a generally accepted discounted rate used in economic evaluations for similar projects. It is advised that a more detailed review of the discount rate be performed.

Typically, the Weighted Average Cost of Capital of the operating company is used as the discount rate.

#### 22.2.4 Metal Prices

The financial model has been prepared in a manner which allows the flexing of the model under three metal price scenarios.

The base case scenario, named Management, is based on the metal prices utilized during the mine optimization process. The basis for these prices is detailed in Section 19 of the technical report. The alternate scenarios are based on consensus price forecasting and spot prices.

The consensus price forecast was taken from forecast provided by Argonaut Securities quarterly Resources Thermometer.

The spot metals price was observed on 20/10/2023 from Kitco.com.

Table 22.1 below summarized the various metal price scenarios.

**Table 22.1 – Financial Model Metal Prices**

| Scenario          | Copper (\$/lb) | Gold (\$/oz) |
|-------------------|----------------|--------------|
| Management (base) | 4.10           | 1,750        |
| Consensus         | 4.06           | 1,863        |
| Spot              | 3.60           | 1,975        |

#### 22.2.5 NSR Royalty

A 2.5% NSR royalty has been applied to the model. The NSR royalty is for the owners of the land, Lema Trust for Children.

No other royalties have been identified or applied against the estimated revenue generated.

#### 22.2.6 Taxation

The model has been prepared and presented pre-tax. This has been due to the initial stages of the project evaluations. Post-tax calculations can be time-consuming and may only be necessary for projects that pass this initial screening stage.

Typically, both pre-tax and post-tax NPV figures should be calculated and considered in a comprehensive financial analysis to provide a more complete picture of a project's viability and risk.

#### 22.2.7 Net Smelter Return

The proposed concentrate to be produced at Lone Star will be sold on to a buyer or directly to smelters. It is not understood which is the best or most possible situation at this stage. Usually when concentrate is sold to a smelter, they will issue their smelter terms that will outline the terms of payment of the metal, and the deductions for treatment and refining, to be applied in the economic model.

However, the Lone Star economic model has followed calculations contained within AUSIMM's Cost Estimation Handbook – Monograph 27 2nd Edition. The calculations are based on inputs as can be seen in Table 22.2. No deductions have been made for deleterious elements or transport.

**Table 22.2 – NSR Calculation Inputs and Results**

| Item                                          | Value  | Unit   |
|-----------------------------------------------|--------|--------|
| <b>Inputs</b>                                 |        |        |
| Copper in concentrate                         | 28.8   | %      |
| Gold in concentrate                           | 13.5   | g/t    |
| Copper Recovery                               | 89.2   | %      |
| Gold Recovery                                 | 83.3   | %      |
| Payable Copper                                | 96.5   | %      |
| - Subject to a deduction of 1.0 per cent unit | 1      | %      |
| Payable Gold - >3g/dmt & <5g/dmt              | 94     | %      |
| Payable Gold - >5g/dmt & <10g/dmt             | 95     | %      |
| Payable Gold - >10g/dmt & <15g/dmt            | 96     | %      |
| Payable Gold - >15g/dmt & <20g/dmt            | 96.5   | %      |
| Treatment Charge                              | 88     | \$/dmt |
| Refining Charge Copper                        | 0.088  | \$/lb  |
| Refining Charge Gold                          | 5      | \$/oz  |
|                                               |        |        |
| <b>Results (LOM)</b>                          |        |        |
| Copper Payability                             | 96     | %      |
| Gold Payability                               | 96.5   | %      |
| Copper Revenue                                | 401.74 | \$m    |
| Gold Revenue                                  | 136.56 | \$m    |
| Treatment Charge                              | 21.81  | \$m    |
| Copper Refining Charge                        | 8.62   | \$m    |
| Gold Refining Charge                          | 0.39   | \$m    |

#### 22.2.8 Cash Flow Summary

The cash flow summary for the Lone Star Project is project is shown in Table 22.3 and the discounted cash flow summary in Table 22.4.

**Table 22.3 – Economic Model – Financials Section**

| Period                                         |                 |                   |                    | -                   | 1                   | 2                   | 3                   | 4                  | 5                  | 6                  | 7                 | 8                  | 9                   | 10                 | 11                | 12                | 13                |
|------------------------------------------------|-----------------|-------------------|--------------------|---------------------|---------------------|---------------------|---------------------|--------------------|--------------------|--------------------|-------------------|--------------------|---------------------|--------------------|-------------------|-------------------|-------------------|
| <b>Financials</b>                              |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
|                                                |                 |                   | Total              |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| <b>NSR in Concentrate Prices</b>               |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| Gold                                           | \$/dmt          | 478               | na                 | 0.0                 | 200.6               | 367.5               | 456.2               | 456.2              | 405.5              | 481.6              | 862.5             | 546.4              | 373.8               | 544.3              | 554.9             | 724.5             | 724.5             |
| Copper                                         | \$/dmt          | 1,430             | na                 | 0.0                 | 529.2               | 1,102.9             | 1,653.7             | 1,837.3            | 1,630.8            | 1,584.9            | 1,791.4           | 1,500.7            | 1,183.3             | 1,229.2            | 1,799.0           | 2,073.3           | 2,107.3           |
| <b>Financial Statements</b>                    |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| <b>NSR Gross Revenue</b>                       |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| Gold                                           | \$              | 9,754,467         | 136,562,536        | -                   | 525,968             | 2,574,565           | 4,538,721           | 5,896,717          | 7,130,045          | 7,911,317          | 13,091,407        | 11,500,560         | 11,215,636          | 17,448,864         | 17,790,998        | 23,226,103        | 13,711,615        |
| Copper                                         | \$              | 28,695,584        | 481,737,854        | -                   | 1,387,484           | 7,726,621           | 16,451,980          | 23,747,375         | 28,672,167         | 26,836,647         | 27,191,224        | 31,587,183         | 35,496,553          | 39,486,388         | 57,676,921        | 66,470,680        | 39,884,073        |
| <b>NSR Total Revenue</b>                       |                 | <b>38,449,971</b> | <b>538,299,590</b> | -                   | <b>1,913,371</b>    | <b>10,301,286</b>   | <b>20,990,701</b>   | <b>29,644,092</b>  | <b>35,802,211</b>  | <b>33,947,964</b>  | <b>40,282,631</b> | <b>43,087,663</b>  | <b>46,714,189</b>   | <b>56,955,252</b>  | <b>75,467,919</b> | <b>89,696,784</b> | <b>53,595,687</b> |
| <b>NSR Royalties</b>                           |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| Average                                        | \$              | 2.5%              | 13,457,490         | -                   | 47,834              | 257,530             | 524,768             | 741,102            | 895,055            | 848,699            | 1,007,066         | 1,077,192          | 1,167,855           | 1,421,381          | 1,886,698         | 2,242,418         | 1,339,892         |
| <b>Total Royalties</b>                         |                 | <b>\$</b>         | <b>961,249</b>     | -                   | <b>47,834</b>       | <b>257,530</b>      | <b>524,768</b>      | <b>741,102</b>     | <b>895,055</b>     | <b>848,699</b>     | <b>1,007,066</b>  | <b>1,077,192</b>   | <b>1,167,855</b>    | <b>1,421,381</b>   | <b>1,886,698</b>  | <b>2,242,418</b>  | <b>1,339,892</b>  |
| <b>Unit Operating Costs</b>                    |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| Mining                                         | \$/tonne mined  | 3.24              | na                 | 3.24                | 3.24                | 3.24                | 3.24                | 3.24               | 3.24               | 3.24               | 3.24              | 3.24               | 3.24                | 3.24               | 3.24              | 3.24              | 3.24              |
| Processing                                     | \$/tonne milled | 14.49             | na                 | 14.49               | 14.49               | 14.49               | 14.49               | 14.49              | 14.49              | 14.49              | 14.49             | 14.49              | 14.49               | 14.49              | 14.49             | 14.49             | 14.49             |
| Transport                                      | \$/t.km         | 0.10              | na                 | 0.10                | 0.10                | 0.10                | 0.10                | 0.10               | 0.10               | 0.10               | 0.10              | 0.10               | 0.10                | 0.10               | 0.10              | 0.10              | 0.10              |
| General & Admin                                | \$/tonne milled | 1.00              | na                 | 1.00                | 1.00                | 1.00                | 1.00                | 1.00               | 1.00               | 1.00               | 1.00              | 1.00               | 1.00                | 1.00               | 1.00              | 1.00              | 1.00              |
| NSR Treatment                                  | \$/dmt          | 88.00             | na                 | 88.00               | 88.00               | 88.00               | 88.00               | 88.00              | 88.00              | 88.00              | 88.00             | 88.00              | 88.00               | 88.00              | 88.00             | 88.00             | 88.00             |
| NSR Gold Refining                              | \$/dmt          | 1.37              | na                 | -                   | 0.57                | 1.05                | 1.30                | 1.30               | 1.16               | 1.38               | 2.45              | 1.56               | 1.07                | 1.56               | 1.59              | 2.07              | 2.07              |
| NSR Copper Refining                            | \$/dmt          | 30.70             | na                 | -                   | 11.36               | 23.67               | 35.49               | 39.43              | 35.00              | 34.02              | 38.45             | 32.21              | 25.40               | 26.38              | 38.61             | 44.50             | 45.23             |
| <b>Total Operating Costs</b>                   |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| Mining                                         | \$              | 16,862,306        | 236,072,287        | 17,739,000          | 17,739,000          | 17,739,000          | 17,739,000          | 17,739,000         | 17,739,000         | 17,739,000         | 17,739,000        | 17,739,000         | 17,739,000          | 17,739,000         | 17,739,000        | 17,739,000        | 5,465,287         |
| Processing                                     | \$              | 14,602,356        | 204,432,988        | -                   | 2,162,398           | 5,779,430           | 8,206,002           | 10,661,259         | 14,502,502         | 13,550,829         | 12,520,120        | 17,361,342         | 24,745,860          | 26,444,250         | 26,444,250        | 26,444,250        | 15,611,495        |
| Transport                                      | \$              | 4,877,530         | 68,285,415         | -                   | 722,252             | 1,930,131           | 2,740,997           | 3,561,111          | 4,944,176          | 4,506,295          | 4,182,014         | 5,799,096          | 8,265,698           | 8,833,000          | 8,833,000         | 8,833,000         | 5,214,606         |
| General & Admin                                | \$              | 1,007,754         | 14,108,557         | -                   | 149,234             | 398,787             | 566,322             | 735,767            | 1,000,863          | 935,185            | 864,052           | 1,198,160          | 1,707,789           | 1,825,000          | 1,825,000         | 1,825,000         | 1,077,398         |
| NSR Treatment Charge                           | \$              | 1,557,881         | 21,810,329         | -                   | 230,700             | 616,483             | 875,473             | 1,137,417          | 1,547,228          | 1,445,696          | 1,335,733         | 1,852,228          | 2,640,060           | 2,821,256          | 2,821,256         | 2,821,256         | 1,665,543         |
| NSR Refining Charge                            | \$              | 643,773           | 9,012,828          | -                   | 31,281              | 173,196             | 366,083             | 526,548            | 635,774            | 581,439            | 621,021           | 710,826            | 793,965             | 895,650            | 1,288,775         | 1,493,046         | 895,224           |
| <b>Total</b>                                   | <b>\$</b>       | <b>38,551,600</b> | <b>553,722,404</b> | <b>17,739,000</b>   | <b>21,034,904</b>   | <b>26,636,028</b>   | <b>30,493,878</b>   | <b>34,361,100</b>  | <b>40,269,542</b>  | <b>38,778,445</b>  | <b>37,261,940</b> | <b>44,660,652</b>  | <b>55,892,372</b>   | <b>58,558,156</b>  | <b>58,951,281</b> | <b>58,155,552</b> | <b>29,929,552</b> |
| <b>Total Operating Costs (Gold By-Product)</b> |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
|                                                |                 | <b>29,797,133</b> | <b>417,159,868</b> | <b>17,739,000</b>   | <b>20,588,937</b>   | <b>24,861,443</b>   | <b>25,955,157</b>   | <b>28,464,383</b>  | <b>33,139,498</b>  | <b>30,867,128</b>  | <b>24,170,533</b> | <b>33,168,893</b>  | <b>44,676,736</b>   | <b>41,189,292</b>  | <b>41,168,283</b> | <b>35,929,448</b> | <b>16,217,938</b> |
| <b>Capital Costs</b>                           |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
| Initial Capital                                | \$              | 4,796,670         | 67,153,382         | 67,153,382          | -                   | -                   | -                   | -                  | -                  | -                  | -                 | -                  | -                   | -                  | -                 | -                 | -                 |
| Sustaining Capital                             | \$              | 423,225           | 5,925,149          | -                   | -                   | -                   | -                   | -                  | -                  | -                  | 5,925,149         | -                  | -                   | -                  | -                 | -                 | -                 |
| <b>Total Capital Costs</b>                     | <b>\$</b>       | <b>5,219,895</b>  | <b>73,078,530</b>  | <b>67,153,382</b>   | <b>-</b>            | <b>-</b>            | <b>-</b>            | <b>-</b>           | <b>-</b>           | <b>-</b>           | <b>5,925,149</b>  | <b>-</b>           | <b>-</b>            | <b>-</b>           | <b>-</b>          | <b>-</b>          | <b>-</b>          |
| <b>Reclamation Costs</b>                       |                 |                   |                    |                     |                     |                     |                     |                    |                    |                    |                   |                    |                     |                    |                   |                   |                   |
|                                                |                 | -                 | -                  | -                   | -                   | -                   | -                   | -                  | -                  | -                  | -                 | -                  | -                   | -                  | -                 | -                 | 5,000,000         |
| <b>Operating Cash Flow</b>                     | <b>\$</b>       | <b>-2,862,879</b> | <b>-28,888,383</b> | <b>(17,739,000)</b> | <b>(19,169,367)</b> | <b>(16,592,352)</b> | <b>(19,827,945)</b> | <b>(5,458,110)</b> | <b>(5,362,386)</b> | <b>(5,679,180)</b> | <b>2,813,625</b>  | <b>(2,658,181)</b> | <b>(10,346,837)</b> | <b>(3,124,265)</b> | <b>14,629,940</b> | <b>28,298,734</b> | <b>22,326,243</b> |

Table 22.4 – Economic Model - DCF Section

| Period                        |     |              |              | -            | 1             | 2             | 3             | 4             | 5             | 6             | 7             | 8             | 9             | 10            | 11            | 12            | 13            |
|-------------------------------|-----|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| DCF Model                     |     |              |              |              |               |               |               |               |               |               |               |               |               |               |               |               |               |
| Pre-tax Net Cash Flow         | \$  | -7,639,917   | -106,958,833 | (84,892,382) | (19,169,367)  | (16,592,352)  | (10,027,945)  | (5,458,110)   | (5,362,386)   | (5,679,180)   | (3,911,523)   | (2,650,181)   | (10,346,037)  | (3,124,285)   | 14,629,940    | 28,298,734    | 17,326,243    |
| Discount Rate/Factor          | 12% | na           | na           | 1.0000       | 0.8929        | 0.7972        | 0.7118        | 0.6355        | 0.5674        | 0.5066        | 0.4523        | 0.4039        | 0.3606        | 0.3220        | 0.2875        | 0.2567        | 0.2292        |
| Discounted Cash Flow          | \$  |              |              |              |               |               |               |               |               |               |               |               |               |               |               |               |               |
| Asset NPV                     |     | -123,898,136 | -            | (84,892,382) | (17,115,596)  | (13,227,322)  | (7,137,693)   | (3,468,728)   | (3,042,762)   | (2,877,249)   | (1,769,375)   | (1,070,364)   | (3,730,885)   | (1,005,936)   | 4,285,758     | 7,263,580     | 3,970,728     |
| Asset IRR                     |     | -18.2%       |              |              |               |               |               |               |               |               |               |               |               |               |               |               |               |
| Payback                       |     |              |              |              |               |               |               |               |               |               |               |               |               |               |               |               |               |
| Purchase Price                |     |              |              | (84,892,382) | (19,169,367)  | (16,592,352)  | (10,027,945)  | (5,458,110)   | (5,362,386)   | (5,679,180)   | (3,911,523)   | (2,650,181)   | (10,346,037)  | (3,124,285)   | 14,629,940    | 28,298,734    | 17,326,243    |
| Free Cash Flow (undiscounted) |     |              |              | (84,892,382) | (19,169,367)  | (16,592,352)  | (10,027,945)  | (5,458,110)   | (5,362,386)   | (5,679,180)   | (3,911,523)   | (2,650,181)   | (10,346,037)  | (3,124,285)   | 14,629,940    | 28,298,734    | 17,326,243    |
| Total                         |     |              |              | (84,892,382) | (19,169,367)  | (16,592,352)  | (10,027,945)  | (5,458,110)   | (5,362,386)   | (5,679,180)   | (3,911,523)   | (2,650,181)   | (10,346,037)  | (3,124,285)   | 14,629,940    | 28,298,734    | 17,326,243    |
| Cumulative                    |     |              |              | (84,892,382) | (104,061,749) | (120,654,101) | (130,682,046) | (136,140,157) | (141,502,543) | (147,181,723) | (151,093,246) | (153,743,428) | (164,089,465) | (167,213,750) | (152,583,810) | (124,285,076) | (106,958,833) |
| Years                         |     | 14           |              | 1            | 2             | 3             | 4             | 5             | 6             | 7             | 8             | 9             | 10            | 11            | 12            | 13            | 14            |

### 22.2.9 Base Case Evaluation

The base case evaluation, which is in real dollars, was evaluated by determining the pre-tax NPV at a discount rate of 12%. The result is a negative NPV of \$123.9m.

The estimated costs are believed to be a fair reflection of the potential operation. However, transports costs are significant relative to the other estimated costs due to the location of the project to the near toll treatment facility.

The biggest challenge is the relatively low-grade ore and the ultimate metal content. This translates into significant volumes of ore to be transported and treated.

## 22.3 Sensitivity Analysis

Table 22.5 summarizes the sensitivity analysis performed on the NPV and IRR. Sensitivities were performed by flexing the Revenue, Operating Cost and the Discount Factor.

Both revenue and operating cashflows were increased and decreased by 10% to analyse the impact it has on the NPV. The discount factor was tested at 10%, 12% (base case) and 14%. Each sensitivity scenario was flexed independently by keeping all other inputs constant.

**Table 22.5 –Mining Cost Sensitivity Analysis on NPV and IRR**

| Revenue                | NPV      | IRR     |
|------------------------|----------|---------|
| 10%                    | (103.00) | -4.39%  |
| Base Case              | (123.90) | -10.16% |
| -10%                   | (144.80) | -18.52% |
| <b>Operating Cost</b>  |          |         |
| 10%                    | (149.57) | -16.96% |
| Base Case              | (123.90) | -10.16% |
| -10%                   | (98.23)  | -4.55%  |
| <b>Discount Factor</b> |          |         |
| 10%                    | (123.50) | -10.16% |
| Base Case 12%          | (123.90) | -10.16% |
| 14%                    | (123.87) | -10.16% |

## 22.4 Economic Model Cash Flow Charts

The outcome of the economic analysis is a negative NPV. This is largely due to the low revenue generated relative to the operating and capital costs. The first positive operating cash flows occur in year 11 of the project, see Figure 22.1.

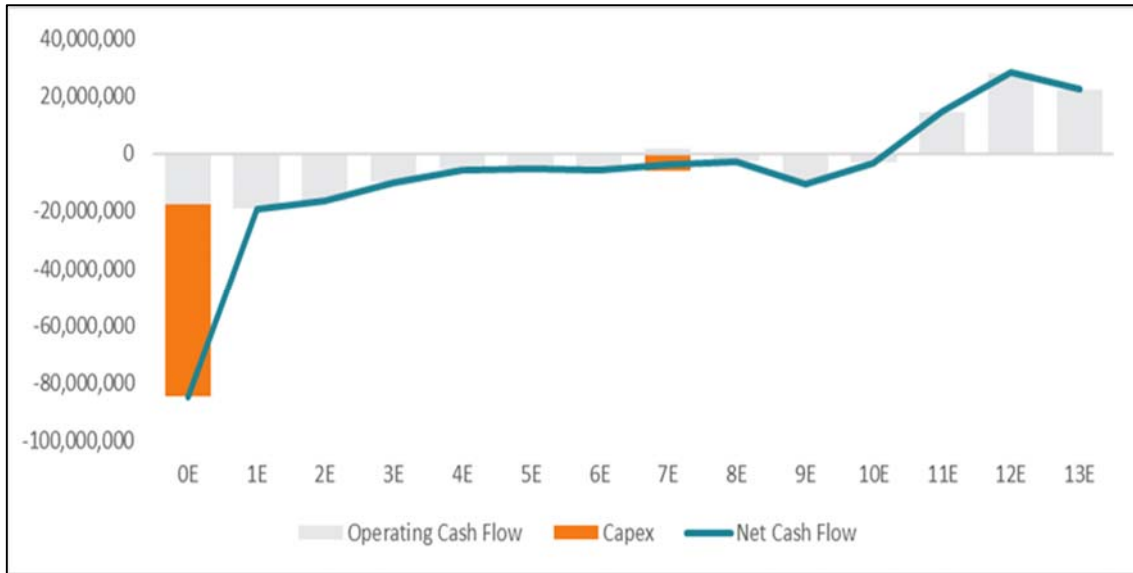


Figure 22.1 – Net Cash Flow vs Operating Cash Flows and Capex

Figure 22.2 cumulative net cash flow shows that project payback is not achieved during the life of mine.

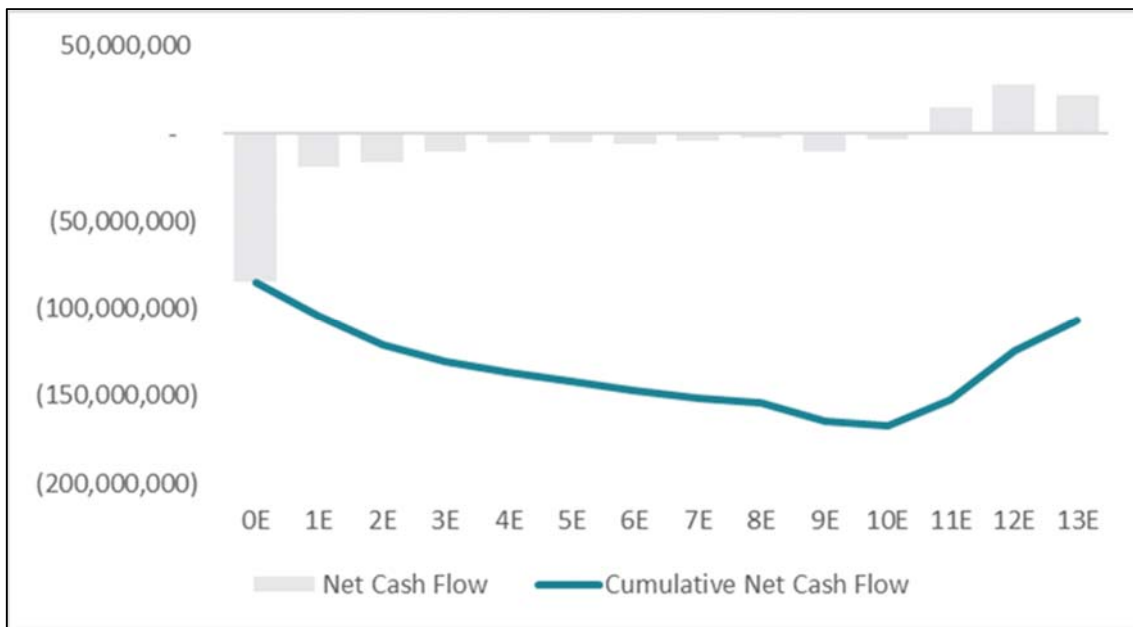


Figure 22.2 – Net Cash Flow vs Operating Cashflows

## 23 ADJACENT PROPERTIES

---

### 23.1 Sources of Information

CIM, 2014: CIM Standards on Mineral Resources and Reserves. Definitions and Guidelines. Prepared by the CIM Standing Committee on Reserve Definitions.

Greenwood Gold Project 2016 NI43-101 PEA TR

### 23.2 Interpretation of this Section

Information in this section was derived from publicly disclosed information by the owner/operator of the adjacent property.

The QP's for this report did not evaluate nor verify the information of the source material on adjacent properties and the information is not necessarily indicative of the mineralization on the property that is the subject of this technical report.

All historical estimates and estimates of mineral resources (MRE) referenced in this section is shown as publicly disclosed, with QP's of this report not validating nor re-classifying any historical estimates or MRE's. Historical estimates and MRE's are not treated as current for the purposes of this report.

### 23.3 Maps of Adjacent Properties and Ownership

#### 23.3.1 Lexington Property

The Lexington Property is currently owned by CanXGold Mining Corporation, formerly known as Golden Dawn Minerals Inc. As far as it is known there is no current mining activities other than care and maintenance activities at this property.

The 2,020-hectare Lexington gold-copper property is centred on an area southeast of Greenwood, B.C., 9 km west of Grand Forks, B.C. The Lone Star Property adjoins the Lexington Property to the north at the US/Canada border. The Lexington-Grenoble Deposit lies 1.1 km north of the Lone Star Deposit. See Figure 23.1.

The geology of the Lexington Property is strongly influenced by the No. 7 Fault. The key rock units related to mineralization are the Lexington Porphyry and an underlying serpentinite. The Lexington-Grenoble Deposit is interpreted as a series of twelve closely spaced shallow to moderately dipping en-echelon overlapping zones hosted within a dacitic pyroclastic unit. Zones are composed of sheeted and stockworked pyrite-chalcopyrite veins, veinlets and disseminations carrying gold. With present knowledge, the multiple zones are confined to an area 525 m along strike, 20-60 m perpendicular to the strike and 25 m vertical thickness.

The area of the Lexington Property has seen periods of intense exploration and mining activity since 1897. Since 1967, the Lexington Property drilling is comprised of 84 percussion and 552 diamond drill holes, all totalling 45,817 m of drilling by various companies, and small-scale gold and copper production from five separate mines. A total of 54,237 tonnes of ore were mined from the underground Lexington-Grenoble Mine by Merit Mining Corp. from April to December 2008 and processed through their Greenwood gravity-flotation plant, producing 5,486 ounces gold, 3,247 ounces silver and 860,259 pounds of copper. Since then, the mine has ceased to operate due to low metal prices and has been kept on care and maintenance.

The Mineral Resources referred to in this report have been taken from the mineral resource estimates contained in the P&E April 8, 2016, Technical Report titled “Technical Report and Updated Mineral Resource Estimate for the Greenwood Gold Project British Columbia, Canada. This is shown in Table 23.1.

**Table 23.1 – Lexington-Grenoble MRE**

| Lexington-Grenoble Deposit Updated Mineral Resource Estimate |         |        |      |          |          |
|--------------------------------------------------------------|---------|--------|------|----------|----------|
| Cut-off 3.50 g/t AuEq                                        |         |        |      |          |          |
| Classification                                               | Tonnes  | Au g/t | Cu % | AuEq g/t | AuEq ozs |
| Measured                                                     | 58,000  | 6.98   | 1.10 | 8.63     | 16,100   |
| Indicated                                                    | 314,000 | 6.38   | 1.04 | 7.94     | 80,200   |
| Measured &<br>Indicated                                      | 372,000 | 6.47   | 1.05 | 8.05     | 96,300   |
| Inferred                                                     | 12,000  | 4.42   | 1.03 | 5.96     | 2,300    |

### 23.3.2 Golden Crown Property

The Golden Crown Property is currently owned by CanXGold Mining Corporation, formerly known as Golden Dawn Minerals Inc. As far as it is known there is no current mining activities other than care and maintenance activities at this property.

The Golden Crown Property is located within the Greenwood Mining Division in south central British Columbia, Canada. The claims are 4 km east southeast of Greenwood, BC. The Lone Star Property adjoins the Lexington Property to the north at the US/Canada border and lies approximately 8,9km south of the Golden Crown Property. See Figure 23.1.

The Golden Crown Property is underlain principally by stratigraphy preserved in the north dipping Lind Creek thrust sheet. Permian-aged Knob Hill Group rocks of greenstone, pillow lava and breccia and serpentinite are intruded by the Old Diorite complex. The Golden Crown Deposit is composed of a corridor of west-northwest trending sub-parallel and closely spaced steeply dipping massive sulphide (pyrrhotite-pyrite+/-chalcopyrite+/-arsenopyrite) and quartz sulphide veins lying within an area 130 m wide by 800 m long. As many as 18 discrete veins have been identified in the system. Veins typically are 0.3-1 m true width, with local developments to 5 m true width near the serpentinite contact. Veins range in sulphide content from 50 to 90 % sulphides in a quartz gangue and carry high gold tenor. The bulk of the gold is free-milling, associated with pyrite.

The area of the Golden Crown Property has had a long history of exploration and development since 1894. Small-scale underground gold-copper production came from the Winnipeg and Golden Crown Mines between 1900 and 1902. Besides the shafts and drifts for this early production, a 2.4 m x 2.4 m trackless 1,070 m long exploration drift developed in 1985 accesses the vein system. The property drilling is comprised of 289 diamond drill holes totalling 19,016.32 m, done since 1968 by various groups, and principally focussed on the vein system that supports the Golden Crown Mineral Resource Estimate.

The Mineral Resources referred to in this report have been taken from the mineral resource estimates contained in the P&E April 8, 2016, Technical Report titled "Technical Report and Updated Mineral Resource Estimate for the Greenwood Gold Project British Columbia, Canada. This is shown in Table 23.2.

**Table 23.2 – Golden Crown MRE**

| Golden Crown Deposit Updated Mineral Resource Estimate |         |        |      |          |          |
|--------------------------------------------------------|---------|--------|------|----------|----------|
| Cut-off 3.50 g/t AuEq                                  |         |        |      |          |          |
| Classification                                         | Tonnes  | Au g/t | Cu % | AuEq g/t | AuEq ozs |
| Indicated                                              | 163,000 | 11.09  | 0.56 | 11.93    | 62,500   |
| Inferred                                               | 42,000  | 9.04   | 0.43 | 9.68     | 13,100   |

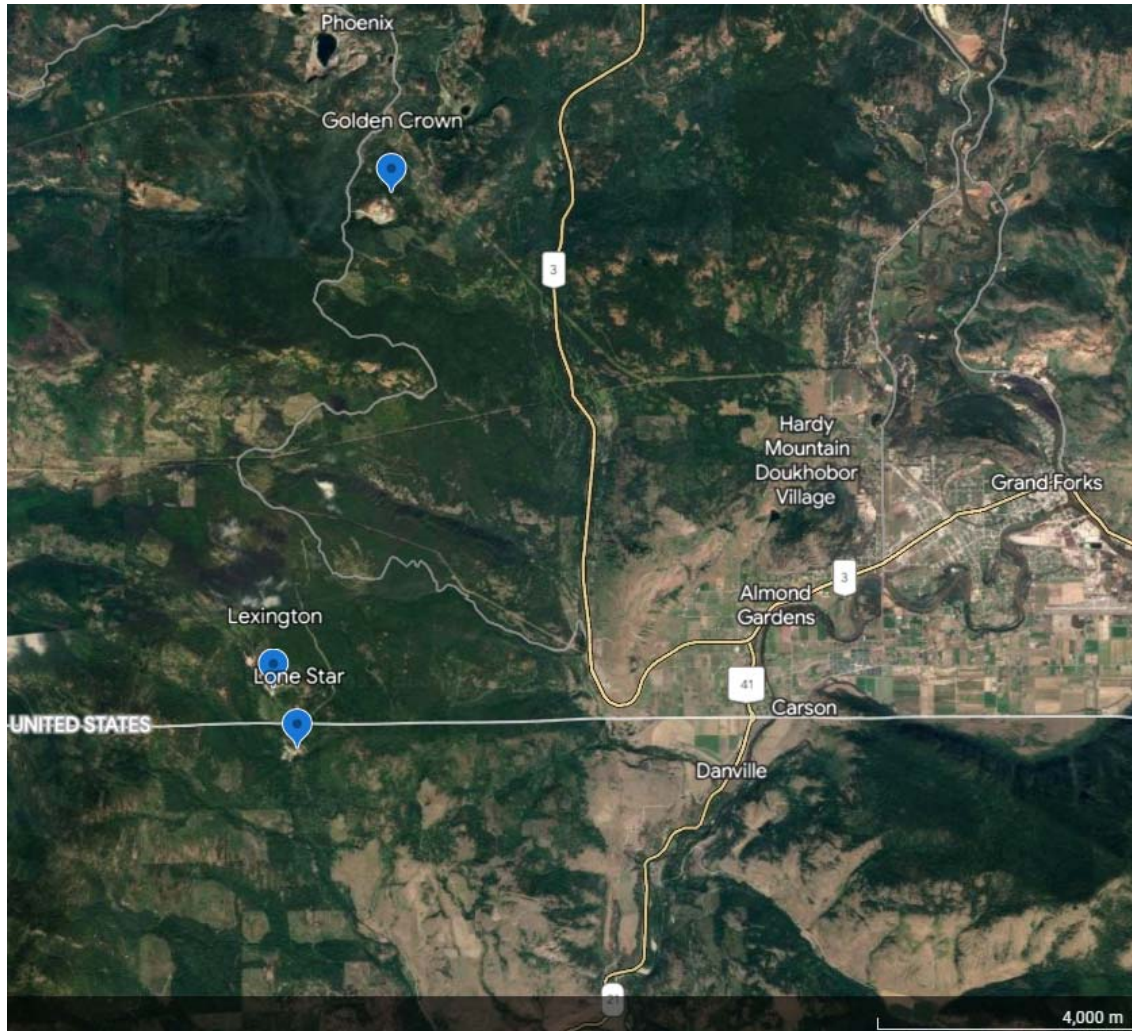


Figure 23.1 – Location of Adjacent Properties

### 23.3.3 Vulcan (aka Gold Dike) Property

The Vulcan (Gold Dike) Mine lies about 3 km S50E (130) of the Lone Star Mine. Near the Vulcan Mine, interbedded units of Permo-Triassic Age argillite, siltite, limestone, and quartzite have been hornfelsed by the later intrusion of Cretaceous Age alkalic rocks of the Shasket Creek Complex (Parker and Calkins, 1964). The host rocks at the Vulcan Mine consist of easterly-trending syenite porphyry dikes. The Vulcan Mine was operated as an open pit by Vulcan Mtn. Inc. of Lamona, Washington. It is a very recent discovery which was not documented by Huntting (1956). During the 1980's, the mine produced about 100,000 tons of ore that averaged about 3.1 g/t (0.10) opt gold and 4.5 g/t (0.15) opt silver (Herdrick and Bunning, undated). Gold and silver were recovered by heap leaching. The ore body lies within the westerly-trending Shasket Creek Alkalic Complex. Mineralization, in order of decreasing abundance, consists of disseminated auriferous pyrite, quartz-pyrite veinlets, and pyritic fracture coatings. Analyses of chalcopryite reveal the existence of anomalous amounts of

platinum and palladium (Herdrick and Bunning, undated), consistent with that of some alkalic igneous intrusives. The mineralized material lies within the upper plate proposed to exist by the author. If that hypothesis is correct, then the Jurassic Age rocks lie at a relatively shallow depth beneath the Chesaw Thrust Fault (Figure 3). This would also explain why easterly-projected mineralization from the Vulcan Mine does not seem to extend into the Kettle River valley. It might not extend into the lower plate. The Vulcan Mine is not part of the Lone Star Property. The Qualified Person has been unable to independently verify the above information and the information is not necessarily indicative of the mineralization on the property that is the subject of the technical report.

#### **23.3.4 Comstock (aka La Fleur, Walla Walla) Property**

The Comstock Property lies about 3 km S50W (130) of the Lone Star Mine. Trachyte syenite hosts copper sulphide mineralization at the Comstock property. The property has been explored with a 100 m (330 foot) adit and several shafts and prospect pits. The mineralized material in one shaft assays 3-5% copper across the face (Huntting, 1956). Platinum is also reported to occur at the Comstock Property (Patty, 1921). The Trachyte syenite crops out as a small stock adjacent to the Vulcan Mine (Herdrick and Bunning, undated). There is no record of production from the Comstock Property. The Comstock Property is not part of the Lone Star Property. The Qualified Person has been unable to independently verify the above information and the information is not necessarily indicative of the mineralization on the property that is the subject of the technical report.

## 24 OTHER RELEVANT DATA AND INFORMATION

---

Mining Plus is not aware of any other data or information that is relevant to the Lone Star Project.

## 25 INTERPRETATION AND CONCLUSIONS

---

### 25.1 Property Description, Location and Access

The Lone Star copper-gold property is centred on an area 40 km north-northwest of Republic, Washington in Ferry County, Washington, USA. The northern limit of the property is adjacent to the Canada-USA border and is adjacent to CanxGold Mining Corporation's Lexington property in British Columbia. The nearest Canadian towns are Greenwood, British Columbia, 12 km to the north-west and Grand Forks, British Columbia, 12 km to the east north-east. The property is centred at 48°59'45"N and 118°37'00"W. Figure 1.1 illustrates the property location.

The Lone Star Property is comprised of 17 patented mining claims totalling 105.2ha owned by Lema Trust for Children. Sixteen of the claims are contiguous and the seventeenth claims lies approximately 100 m south-east of the contiguous claims. The patented claims are under option to BGP Resources Inc., a Washington State company owned 100% by Belmont Resources. Belmont Resources are in a joint venture agreement with Marquee Resources with regards to the Lone Star Property.

It is the conclusion of the authors that the Lone Star property should have sufficient surface area to support mining operations. If toll treating is not feasible, then a processing facility will be required on site. This may lead to current surface area to be insufficient and solutions to this issue will be required.

Site location is within a region that has the capacity to support mining as it has done over the last century in an on-and-off capacity. Although some work is required to provide sufficient access to site for heavy vehicles, the local county road network allows easy access to and from site. There does, however, exist a risk that, due to current (and future) copper and gold pricing, that more resources may become available and that current resources and therefore future resources will fall well outside of current tenements boundaries and onto Federal land.

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

The property is accessible by road from the nearby town of Republic, Washington by traveling paved State Route 20 6.4 km east to Pine Grove Junction, then north on paved State Route 21 for approximately 40 km, then left onto the improved Big Goosmus Creek Road for approximately 6.4 km. The final 1.6 km is unimproved road that leads to the Lone Star Property and is not maintained by the state or county.

The Lone Star Property is within a "Hilly" setting surrounded by Pine Forests. The area is characterized by deep valleys and steep hills and the Goosmus Creek runs just west of the

historic open pit within Federal Land. This will adversely affect site access and mining operations in general.

The climate at the project area is semi-arid, with hot summers and cold winters. Mineral exploration can be conducted year-round. However, it must be noted that seasonal variations are extreme with hot summers to extremely cold winters with significant snowfall. Precipitation generally throughout the year with heavier than normal rainfall during May to July and heavier snowfall throughout November to January.

Mining equipment and personnel are likely available regionally as this area supported mining activities as late as 2017. The general area is serviced by modern telecommunications, commercial airlines (Spokane) and truck transportation.

Communications and power are available along Highway 21. Water resources are locally available. Cell phone coverage extends to the property.

Should mining operations commence, credence will have to be given to local residents as traffic in the local area will greatly increase. This will cause noise pollution and dust issues but likely additional issues that require consideration. Community consulting and permitting as described in Section 20 will be required prior to commencement of any mining operations.

### 25.3 Geological Setting, Mineralization and Deposit Types

The geology of northeastern Washington state is characterized primarily by several alternating Tertiary Age, northerly-trending grabens and the high-grade metamorphic terranes that lie adjacent to the grabens. The Republic Graben is a Tertiary Age geologic feature that may have formed due to extensional tectonics which yielded extensive volcanism. The Lone Star Property straddles the Bacon Creek Fault, which lies along the western margin of the Republic Graben. Pearson and Obradovich (1977) have suggested that quartz monzonite plutons found in the horsts between the grabens may be co-magmatic with Eocene volcanic rocks found in the grabens, and that the quartz monzonite reflects a different crustal level than that of the volcanic rocks in the grabens.

The Lone Star Deposit is likely a Jurassic Age ophiolite complex, which is thought to be laterally extensive beneath a Permo-Triassic upper plate, and gently-dipping to the southeast of the Lone Star Project.

The Lone Star Cu/Au/Ag Deposit lies within a VMS environment. The primary mineralization at the Lone Star Deposit consists of three types of mineralization. The first type of mineralization consists of gently-dipping, syngenetic stratiform chemical sediments in Jurassic Age submarine volcanic rocks. Type 2 mineralization may have been derived partly from remobilization of Type 1 mineralization. The first two consist predominantly of sulphide mineralization within a submarine volcanic stratigraphy. Type 3 mineralization may be

Tertiary Age epithermal gold/silver mineralization, but it is not a focus of this Technical Report.

Several deposit types have been identified on the Lone Star Property. Jurassic submarine volcanogenic mineralization constitutes the primary mineralization of interest. Jurassic Age mineralization is both syngenetic and epigenetic. The Jurassic Age mineralization has relatively good continuity, although copper/gold/silver grades are moderately variable. Thanks to a simple technological advance, the use of diamond saws for core splitting, it is now clear that we are dealing with a submarine volcanic pile. The delicate textures seen clearly on the sawn faces of the core provided proof and textbook features that have established a volcanic stratigraphy. The geologic model used for the 2021-2022 exploration program is that of a submarine rhyolite dome and associated volcanogenic massive sulphide (VMS) and chemical sediment occurrence in Jurassic Age rocks. Subsequent drilling confirmed the accuracy of the model.

In general terms, the Lone Star deposit extents are not fully defined yet. It is open to the south, east and at depth. Further exploration drilling is recommended to potentially expand current resources. Additionally, there is potential for defining separate gold-bearing resources to the west of the Bacon Creek fault, which falls within current Lone Star claims.

## 25.4 Exploration, Drilling and Data Verification

Although mining activities have been recorded as early as 1897, records indicate exploration activities from 1953 onwards. In 1953, Attwood Copper Mines acquired the Lone Star property from Eugene Mining Company. Attwood opened the old underground workings and conducted mapping, sampling, and a diamond drill program. From this time until 2002, the property was owned by various companies that conducted further drilling in different capacities.

In 2005, Merit Mining acquired the Lone Star and Lexington properties. In 2006, Merit Mining conducted a 13 hole diamond drill program. From that drilling, a resource calculation was prepared by P&E Mining Consultants Inc.

Marquee Resources conducted a drilling program of 8,201 m of drilling in 47 drill holes from November 15, 2021, through June 1, 2022. The drill program was designed to verify mineralization encountered by previous operators and also produce a resource estimate that complies with modern industry standards.

The QP has reviewed the adequacy of the exploration information and the property's physical, visual, and geological characteristics. No significant issues or inconsistencies were discovered that would call into question the validity of the data. In the QP's opinion, the Lone Star data is adequate and suitable for use in this technical report.

## 25.5 Mineral Processing and Metallurgical Testing

The metallurgical testing has confirmed that the resource has the potential to be processed through a conventional flotation process. Lock Cycle testing indicates that a saleable concentrate grade of 27.8% Cu can be produced with gold credits with overall recoveries of 89.2% Cu and 83.3 Au. Gold is recovered through a combination of flotation and gravity as testwork indicated the potential for coarse gold in the sample.

## 25.6 Mineral Resource Estimates

The Lone Star Mineral Resource estimate was completed using Leapfrog Geo version 2021.2.4 software in UTM coordinates. The parent block size is 5 m x 5 m x 2 m, and blocks were further sub-blocked to a minimum of 1.25 m x 1.25 m x 0.50 m along the lithology and grade domain boundaries. The block model was constrained by interpreted three-dimensional wireframes of the lithologies and mineralized horizons. Copper and gold were estimated into blocks using Inverse Distance Weighting Squared interpolation.

The Mineral Resource is reported inside a conceptual pit shell at an internal cutoff grade of 0.10% copper equivalent. Based on these criteria, the Lone Star deposit contains an Indicated Mineral Resource of 9.76 Mt at 0.45% copper and 0.23 g/t gold and an Inferred Mineral Resource of 3.35 Mt at 0.31% copper and 0.20 g/t gold. The Mineral Resource is presented below in Table 25.1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

**Table 25.1 - Lone Star Mineral Resource at a 0.10% CuEq Cut-off**

| Classification   | Tonnes (Mt) | CuEq% | Cu%  | Au g/t |
|------------------|-------------|-------|------|--------|
| <b>Indicated</b> | 9.76        | 0.60  | 0.45 | 0.23   |
| <b>Inferred</b>  | 3.35        | 0.44  | 0.31 | 0.20   |

**Notes:**

1. The Mineral Resource has been compiled by Mr. Brian Hartman of Ridge Geoscience LLC, and subcontractor to Mining Plus. Mr. Hartman is a Registered Member of the Society for Mining, Metallurgy & Exploration, and a Practicing Member with Professional Geoscientists Ontario. Mr. Hartman has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined by NI 43-101.
2. All Mineral Resources figures reported in the table above represent estimates at 1 October 2023.
3. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape, and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.
4. Mineral Resources are estimated consistent with CIM Definition Standards and reported in accordance with NI 43-101.
5. Mineral Resources are reported on a dry in-situ basis at a 0.10% CuEq cut-off. Reporting cut-off grade was based on an economic pit shell assuming prices of US\$4.10/lb and US\$1,750/oz for copper and gold, respectively, selling costs of

US\$0.10/lb and US\$50/oz, respectively, assumed metallurgical recoveries of 90% and 90% respectively, mining recovery of 90%, mining costs of US\$2.00/tonne and processing costs of US\$7.00/tonne. An internal cutoff grade of 0.10% copper equivalent is needed to overcome processing costs.

6. Average SG values were assigned based on copper grade zones and/or lithologies as follows: waste = 2.74, low-grade zone = 2.80, high-grade zone = 3.05, overburden = 1.90

## 25.7 Mining Methods

Mining will be conducted using conventional truck and excavator methods. Open pit mining will provide the mineral processing plant feed at a rate of 5,000 tpd, which was based on processing capacity inputs assumed for this project. This yields a LOM of 14 years.

Final design pit quantities are shown in Table 25.2.

**Table 25.2 – Design Pit Quantities**

| Material Classification                                                                          | Tonnage (Mt) | Grade Cu % | Grade Au g/t |
|--------------------------------------------------------------------------------------------------|--------------|------------|--------------|
| Indicated                                                                                        | 10,382,270   | 0.42       | 0.22         |
| Inferred                                                                                         | 3,726,286    | 0.27       | 0.21         |
| Total for processing                                                                             | 14,108,556   | 0.38       | 0.21         |
| Total Waste                                                                                      | 58,753,261   | 0.01       | 0.00         |
| Total Material Mined                                                                             | 72,861,818   | -          | -            |
| Note: Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability |              |            |              |

Year 1 is a pre-strip period with first ore produced during the second year of operation. The ore/waste breakdown, strip ratios and material movement are summarized in Table 25.3.

**Table 25.3 – Mining Schedule**

| Mining Schedule      |      |      |       |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| Period Ending        | Year | Yr1  | Yr2   | Yr3  | Yr4  | Yr5  | Yr6  | Yr7  | Yr8  | Yr9  | Yr10 | Yr11 | Yr12 | Yr13 | Yr14 |
| Days in Period       |      | 365  | 365   | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 365  | 112  |
| Mine to Mill         | Mt   | 0.00 | 0.15  | 0.40 | 0.57 | 0.74 | 1.00 | 0.94 | 0.86 | 1.20 | 1.71 | 1.83 | 1.83 | 1.83 | 1.08 |
| Average Copper Grade | %    | 0.00 | 0.14  | 0.26 | 0.38 | 0.42 | 0.38 | 0.37 | 0.41 | 0.35 | 0.28 | 0.29 | 0.41 | 0.47 | 0.48 |
| Average Gold Grade   | g/t  | 0.00 | 0.08  | 0.15 | 0.18 | 0.18 | 0.16 | 0.19 | 0.34 | 0.21 | 0.15 | 0.21 | 0.22 | 0.28 | 0.28 |
| Mine to Waste Dump   | Mt   | 5.48 | 5.33  | 5.08 | 4.91 | 4.74 | 4.47 | 4.54 | 4.61 | 4.28 | 3.77 | 3.65 | 3.65 | 3.65 | 0.61 |
| Total Material Mined | Mt   | 5.48 | 5.48  | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 5.48 | 1.69 |
| Strip Ratio          |      |      | 12.73 | 8.67 | 6.44 | 4.47 | 4.85 | 5.34 | 3.57 | 2.21 | 2.00 | 2.00 | 2.00 | 2.00 | 0.57 |

The selected mining equipment is considered suitable and typical both in its application within the north American mining scene and for the size and type of the design pit. The primary equipment fleet is summarized in Table 25.4.

**Table 25.4 – Primary Mining Equipment Fleet Requirements**

| Equipment                            | Quantity |
|--------------------------------------|----------|
| Scania 8 x 4 Heavy Tipper Haul Truck | 6        |
| Komatsu PC1250SP-11 Excavator        | 2        |
| Flexiroc D50 Production Drill        | 1        |
| Komatsu D51PX-22 Dozer               | 1        |
| CAT 120GC Motor Grader               | 1        |
| Komatsu HM300-3 Water Truck          | 1        |

Mining operations is supported with a secondary fleet and this information is detailed in section 16 of the report.

A contract model is proposed for the Lone Star Operation whereby the owner supplies all facilities and equipment, and a contractor supplies the labour.

Operations would run on two 12 hrs shifts (Day shift and Night shift) and for analysis purposes an effective 20 duty hours out of 24 hours are assumed to account for pre-shift meetings and other downtime hours.

Depending on employment type, rosters will either be 8/6 changing between dayshift and nightshift, or a 5/2 weekday roster on dayshift only.

The Lone Star operation would require an initial workforce of 124 personnel, peaking at 183 in Y11 to Y13. This is largely driven by truck operators hauling ore to the Kettle River Mill. On site personnel remains mostly steady at 127 personnel over most of the LOM.

The authors consider the selected mining method and associated derivatives suitable for both the level of study and the geometry and type of orebody. Further refining and in-depth analysis are recommended for progressing of this project.

## 25.8 Recovery Methods

Need to consider the risk that if Marquee cannot treat ore at the Kettle River Mill, then this will require a plant to be constructed on site.

It has not been determined that the crushing circuit at Kettle River is sufficient to produce a crushed product P80 10mm at a throughput rate of 1.5 Mtpa, however the milling circuit

would be sufficient to produce a ground product P80 200 µm at 1.5 MTPA assuming a P80 10mm feed.

A new flotation plant would need to be built on site and would produce approximately 70 TPD of copper-gold concentrate at a grade of 27.8% Cu.

## 25.9 Project Infrastructure

### 25.9.1 Mine Site Infrastructure

The project infrastructure considerations for this property were done at PEA level and considered key items that are considered typical for such an operation, pose a potential risk to the operation and drive cost as a function of performing an economic analysis. Infrastructure to support the Lone Star Project will consist of site civil work, site facilities and buildings, water management systems, and site electrical power. Site facilities will include:

- Mine facilities include offices, truckshop, warehouse, and washbay;
- Common facilities include a gatehouse and administration building;
- On site electrical power farm;
- RO water plant for provision of potable water;
- Mine facilities will be serviced with potable water, fire water, compressed air, power, diesel, communication, and sanitary systems.

The Lone Star property may provide sufficient area to establish mine infrastructure such as waste storage areas, haul and access roads and ROM pad. Currently, selected infrastructure locations were based on optimum placement rather than considering property boundaries in order to analyse the deposit rather than a “constrained” deposit. This means that portions of current infrastructure fall outside of property boundaries. Marquee may be required to purchase more land to facilitate the current planned layout or more detailed engineering is required to confirm the suitability and sufficiency of the current property area in PFS/FS level studies. These will encompass the required trade-off studies, which is not covered at the PEA level.

### 25.9.2 Kettle River Processing Facility Infrastructure

The Kettle River site facilities will be utilised by Marquee Resource as part of the toll-mill agreement. The facilities will include offices, workshops, warehouse and the dry.

A new building will be erected on the site to accommodate the flotation plant and concentrate handling area. The building will be a pre-engineered building with a 30m x 40m footprint and an overall height of 20m. The building will be equipped with an overhead crane.

The new flotation circuit will have an installed power of approximately 4.0 MW which increases the total power requirement related to processing to approximately 12.0 MW.

An assumption has been made that the existing tailings storage facility at the Kettle River property is suitable for use. No costs associated with expansion or maintenance of the tailings storage facility as it would be expected that this cost would be borne by the property owner.

Action(s) will be required in the event that toll treatment is not possible off-site. This will potentially force on-site treatment, which will add significant operation complexity, cost, and other considerations. The infrastructure considerations of this PEA level report will likely require a full review and re-design if this should occur.

### **25.10 Environmental Studies, Permitting and Social or Community Initiatives**

The Project has not started the mining permitting stage. There do not appear to be any significant impediments to obtaining environmental or operating permits.

There is a reasonable expectation that the company can obtain the necessary permits. However, the geochemical characterization of the low-grade ore stockpiles and the waste rock may require additional testing to satisfy the regulatory agencies that the mine can be operated and closed in a manner protective of human health and the environment. Marquee Resources may be required to design the facility with a higher level of engineering and agency oversight to satisfy the regulatory agencies.

Marquee Resources will need to conduct community consultations. The company should plan to continue to take all the necessary steps to engage the local community to create awareness regarding the Project. Community consultation is required as part of NEPA documentation.

### **25.11 Capital and Operating Costs**

The total estimated capital cost is US\$73.1m.

The capital costs estimate is comprised of an initial cost upfront prior to the commencement of operations. This accounts for the acquisition of the main mining equipment, supporting mining equipment, infrastructure/ buildings, and a 10% contingency.

A sustaining capital cost estimate has been estimated to occur 7 years after the commencement of operations. It covers the calculated rebuild costs of all mining equipment, 2/3 of the initial main and support equipment costs, and includes a 10% contingency.

The mine operating costs have been estimated by utilizing benchmark mining cost data from S&P Capital IQ market intelligence platform.

The processing cost is based on \$/t ore treated through toll treating facility. The transport costs are the cost associated with the freight of the ore to the processing facility. The transport cost of \$0.10/tkm is a key driver of overall operating costs over the LOM. It is recommended that methods such as ore sorting (but not limited to) be investigated to increase relative ore grade on-site for subsequent reduction of ore hauled for processing.

Costs associated with the treatment and refining of the copper and gold concentrate have also been estimated. This is required to adequately estimate the revenue generated from the sale of concentrate. It essentially discounts the realized gold and copper prices used in estimating the revenue generated. Table 25.5 below summarizes the estimated operating costs.

**Table 25.5 – Summary of Mining Operating Cost Estimate**

| Operating Cost      | Unit          | Unit Cost | Source             |
|---------------------|---------------|-----------|--------------------|
| Mining              | \$/ t mined   | 3.24      | Benchmark Estimate |
| Processing          | \$/ t treated | 14.49     | Estimate           |
| Transport           | \$/ tkm       | 0.1       | Estimate           |
| General & Admin     | \$/ t treated | 1         | Estimate           |
| NSR Treatment       | \$/ dmt       | 88        | Estimate           |
| NSR Gold Refining   | \$/ dmt       | 1.44      | Calculated         |
| NSR Copper Refining | \$/ dmt       | 30.62     | Calculated         |

## 25.12 Economic Analysis

The base case evaluation, which is in real dollars, was evaluated by determining the pre-tax NPV at a discount rate of 12%. The result is a negative NPV of \$123.9m and an asset IRR of negative 10.2%.

The outcome of the economic analysis is a negative NPV. This is largely due to the low revenue generated from a low-grade resource relative to the operating and capital costs. The first positive operating cash flows occur in year 11 of the project.

## 25.13 Risks and Opportunities

The following risks and opportunities have been identified for the Lone Star Project. This is tabulated in Tables 25.1 and 25.2 below with commentary.

**Table 25.6 – Lone Star Risks**

| Relevant Section(s)                  | Risk                                                                                                                                                                                                                                                   | Explanation/Potential Impact                                                                                                                                                                                                                                                                   | Possible Risk Mitigation                                                                                                                                                                                                                                                              |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.12, 14, 16.3, 25.1                 | Current resource falls within property boundaries, however, constraining pit extends beyond property boundaries.                                                                                                                                       | Current pit design extends outside (towards the east) of current property boundaries. Further resource and exploration drilling may expand current resources, which conflates this risk. Currently, property boundaries will severely limit the allowed pit design and thus project economics. | Marquee should investigate the possibility of purchasing or staking unpatented mining claims on BLM land prior to mineral exploitation to ensure all resources fall within land owned or controlled by the company.                                                                   |
| 1.4, 1.16, 4.5, 5.5, 20, 25.1, 25.2  | Big Goosmus Creek running west of the current Lone Star pit is likely jurisdictional Waters of the United States. Furthermore, the “Pyrtis” claim overlays the creek and any deposit defined within this claim will be at risk.                        | Any extraction of a deposit or associated mining activity that may impact such sensitive areas greatly increases complexity, cost and effort to operations and may in certain cases not be allowed/permitted to proceed.                                                                       | The Company will have to specifically address any disturbance to the creek in both Federal and Washington state permitting and will require Section 404 permitting with the US Army Corps of Engineers prior to any disturbance of the creek or riparian lands adjacent to the creek. |
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | If toll treating or other Kettle River Mill treatment options are not achievable, then a plant will have to be placed on the Lone Star property. The risk includes difficult terrain (very hilly with steep valleys) and environmental considerations. | If toll treating off-site is not possible, a trade-off study will be required to determine on-site or alternative options. Note that with on-site treatment options permitting requirements will be significantly increased by construction of a processing plant on site.                     | The company will have to confirm toll treatment at the Kettle River Mill as soon as possible. This will allow the company to implement alternatives as soon as possible, which includes long lead time permitting.                                                                    |
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | Crushing circuit at Kettle River is not sufficient to produce P80 10mm at 1.5 MTPA                                                                                                                                                                     | Reduced plant throughput                                                                                                                                                                                                                                                                       | Supplementary crushing to reduce demands on the crushing circuit.<br><br>Replacement of existing crushing equipment                                                                                                                                                                   |

|                                      |                                                                                                                                                                                                              |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                            |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | Kettle River equipment is not suitable for use                                                                                                                                                               | Refurbishment or replacement cost for existing equipment                                                                                                                                                                                             | Refurbishment or Replacement of existing equipment                                                                                                                                                         |
| 1.14, 17, 18, 20.5, 25.5, 25.8, 25.9 | Hilly terrain will affect mining operations. Placement of mining infrastructure affected by the terrain.                                                                                                     | Mining operation infrastructure already affected by terrain and property boundary considerations, however, will be possible if ore treated off-site. This will become significantly more problematic if a plant and TSF must be constructed on-site. | The company will have to investigate land purchase options or the staking of claims within BLM lands as soon as possible. Consideration to topography, future resource potential is required in this case. |
| 16                                   | Current PEA level study does not include lower dipping overburden angles. If taken into considerations, this will increase the current pit footprint, which further exacerbates the tenement boundary issue. | When taken into consideration, this will increase the current pit footprint, which further exacerbates the tenement boundary issue. It will also increase the amount of required topsoil storage.                                                    | This issue will have to be quantified further in PFS/FS level studies. The company will have to take this into consideration with staking of new claims and/or land purchases.                             |
| 1.16, 20, 25.2, 25.10                | Dust and noise pollution as a result of mining operations/activities.                                                                                                                                        | Increased traffic in the local area will lead to noise pollution, dust and other negative affects to local residents.                                                                                                                                | The company will have to address community issues at the PFS/FS level and prior to any commencement of activities.                                                                                         |
| 1.16, 20                             | Acid mine drainage risk from ore/waste stockpile areas.                                                                                                                                                      | Given the sulfidic nature of the ore and waste rock, geochemical characterization will be a critical component of the mine planning and permitting efforts.                                                                                          | The company will need to integrate the waste rock management plan into the project design to avoid potential impacts from acid mine drainage from the open pit and waste rock dump.                        |
| 18                                   | Kettle River tailings storage facility cannot accommodate Lone Star tailings                                                                                                                                 | Tailings storage facility is of insufficient size and cannot be expanded                                                                                                                                                                             | Need alternative location for tailings disposal                                                                                                                                                            |

**Table 25.7 – Lone Star Opportunities**

| Relevant Section(s) | Opportunity                                                             | Explanation                                                                                                                                                                                                                                                                                      | Possible Benefit                                                                                                                                                                                                                                                        |
|---------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.2.2               | Potential gold deposit approximately 400m west of the Lone Star deposit | Historic drilling, although not deemed reliable, does indicate a potential gold bearing deposit to the west of the Lone Star deposit. The area, called the SW Zone, that runs along the Bacon Creek Fault, has both historic and more recent drilling corroborating mineralisation in this area. | A drilling program, similar to the 2021 to 2022 program may define additional resources close to the current Lone Star resource, which may positively affect current deposit economics.                                                                                 |
| 7.2.2               | Lone Star deposit open to the east and south                            | Based on the current interpretation of the Lone Star orebody, there is a large area to the east and south of the pit that may warrant exploratory drill tests beneath upper plate and adjacent, semi-tabular, gently-dipping Tertiary Age rhyodacite                                             | A larger deposit will likely ensue a larger pit with increased LOM. It will fundamentally change the project economics and options relating to ore treatment. The likely benefit here is that economics of scale will be beneficial in all KPI relating to the project. |
| 17                  | Procure Processing facility and install on-site                         | With consideration of transporting costs to the processing facility, high estimated toll-treating costs and the capital required to install a floatation circuit at the Kettle River Mill, the opportunity exists that this can be done cheaper than currently modelled.                         | An increased capital outlay initially may potentially negate transport costs for the most part and reduce processing opex.                                                                                                                                              |
| 16, 17              | Ore Sorting Technology                                                  | Due to low grade resource, ore transport and treatment forms a large component of overall cost profile.                                                                                                                                                                                          | Ore sorting on site potentially may decrease the amount of ore required to be transported, therefore the amount that requires processing. This will result in a corresponding reduction of opex.                                                                        |

## 26 RECOMMENDATIONS

---

The financial analysis of this PEA demonstrates negative economics. This is largely driven by low grade ore requiring to be hauled at high cost for processing. The following recommendations are considered suitable for the current project status:

### 26.1 Property

- The current MRE and subsequent pit design was aimed at evaluating the orebody and not necessarily the orebody constrained by property boundaries. Although the current MRE falls within property boundaries, the resultant pit design exceeds current boundaries. With that being said, it is recommended that Marquee investigate the purchase of land directly to the west of the current the Sunset and Sunrise and also to the south of Sunrise and Washington claims. Alternatively, the staking of additional claims within Federal lands should be investigated.

### 26.2 Geology

- The SW Zone, which lies approximately 400m west of the Lone Star pit, was not a target of the 2021-2022 drill program because, at the time, it appeared to be less continuous than the Jurassic Age mineralization. This area does hold potential gold mineralization interest. This apparent lack of continuity might be overcome by a closely-spaced drill program similar to the 47-hole drill program completed by Marquee Resources from 2021-2022.
- Based on the current interpretation of the Lone Star orebody, there is a large area to the east and south of the pit that may warrant exploratory drill tests beneath upper plate and adjacent, semi-tabular, gently-dipping Tertiary Age rhyodacite. It is recommended that Marquee further explore the current Lone Star Deposit with the aim to increase the current MRE.

### 26.3 Block Model and MRE

- Further variography analysis and use of Ordinary Kriging is recommended after additional drilling has been completed.
- The SG values are considered reasonable for this level of study, but more work needs to be completed to better understand the variability in densities within ore and waste.

### 26.4 Metallurgy and Recovery

- Continued metallurgical testing considering variability samples from different areas of the resource is required.

- For major composites and variability samples additional testing is required to determine key design parameters and to optimize performance.
- A trade-off study is recommended to determine if on-site processing would be more favourable than the current toll treating model.

## 26.5 Mining

- It is recommended that a hydrogeological study and full water management study (inclusive of water balance study) is performed for at or prior to PFS and/or FS level studies.
- Future studies will require increased level of design, such as lower overburden angles for geotechnical stability, which was not included at the PEA level. Other such considerations will apply.
- Future studies need to better quantify mineralised waste for potential profitable processing.
- It is recommended that future studies better determine average topsoil thickness for more accurate topsoil storage design.
- A trade-off study is recommended to determine the most cost-effective solution between operations taking place within current property boundaries and staking additional claims and/or land purchases.
- Ore sorting technologies should be investigated to determine if the general low grade of ore can be increased via the removal of waste. This may result in less ore (at higher grades) that require transport and processing.

## 26.6 Environmental, Permitting and Social

- Given the long lead time and cost of baseline data collection, it is recommended that water and geochemical baseline data collection be integrated into the current exploration program. This will allow the project to avoid future drilling and sampling costs and utilize the project geology team to have direct input into the geologic characterization of the property.
- Marquee Resources should consider early community consultations. The company should plan to continue to take all the necessary steps to engage the local community to create awareness regarding the Project. Community consultation is required as part of NEPA documentation.

## 26.7 Project Economics

- A more detailed review of the discount rate needs be performed.

## 26.8 Summary of Recommendations

**Table 26.1 – Summary of Recommendations**

| No | Description                                                                                                                                                                                       |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Trade-off Study to determine land purchase options for optimum infrastructure placement vs altered infrastructure placement within current boundaries                                             |
| 2  | Marquee to consider land purchase or staking of claims on BLM lands to allow for increased resource at higher commodity prices and/or in the event that on-site processing is a favourable option |
| 3  | Further exploration drilling of the SW Zone                                                                                                                                                       |
| 4  | Further exploration drilling of the Lone Star Deposit                                                                                                                                             |
| 5  | Further variography analysis and the use of Ordinary Kriging once additional drilling is complete.                                                                                                |
| 6  | Further SG analysis                                                                                                                                                                               |
| 7  | Hydrogeological drilling and test work                                                                                                                                                            |
| 8  | Hydrogeological Study                                                                                                                                                                             |
| 9  | Water Management Study                                                                                                                                                                            |
| 10 | Geotechnical study to improve on current design assumptions                                                                                                                                       |
| 11 | Further mineralised waste analysis                                                                                                                                                                |
| 12 | Topsoil thickness study                                                                                                                                                                           |
| 13 | Environmental Baseline Studies                                                                                                                                                                    |
| 14 | Early community consultations                                                                                                                                                                     |
| 15 | Continued metallurgical testing considering variability samples from different areas of the resource is required                                                                                  |
| 16 | For major composites and variability samples additional testing is required to determine key design parameters and to optimize performance                                                        |
| 17 | Investigate methods to increase ore grade on-site to reduce total ore hauled for processing needs to be investigated                                                                              |

## 27 REFERENCES

---

Bancroft, Howland, 1914, The Ore Deposits of Northeast Washington: USGS Bulletin 550, 215 p.

Canadian Institute of Mining, Metallurgy and Petroleum (CIM). (2014). CIM Standards for Mineral Resources and Mineral Reserves, Definitions and Guidelines: Canadian Institute of Mining, Metallurgy and Petroleum, May 2014.

Canadian Institute of Mining, Metallurgy and Petroleum (CIM). (2019). Estimation of Mineral Resources and Mineral Reserves, Best Practice Guidelines: Canadian Institute of Mining, Metallurgy and Petroleum, November 29, 2019.

Caron, Linda, 2002, Geology of the Morning Star Property, Ferry County, Washington: Brooklyn Mining and Exploration Company, 11 p.

Cheney, Eric S., 2004, The Potential For Volcanogenic Massive Sulfide Deposits At The Morning Star Mine, Danville, Ferry County, WA: for Brooklyn Mining and Exploration Company LLC, 13 p.

Cowley, Paul, P. Geo., and Puritch, Eugene, P. Eng., 2007, Technical Report and Resource Estimate on the Lone Star Deposit, Ferry County, Washington: NI 43-101 Report prepared for Merit Mining Corporation, 85 p.

Cowley, Paul, P. Geo., Puritch, Eugene, P. Eng., Brown, Fred, P. Geo., Burga, Ernest, P. Eng., Hayden, Alfred, P. Eng. and Pearson, James, P. Eng., 2017, Lexington-Grenoble Deposit, Lexington Property, Golden Crown Deposit, Golden Crown Property, Deadwood Deposit, Tam O'Shanter Property, Phoenix Property and Boundary Falls Property: NI 43-101 Report prepared for Golden Dawn Minerals Inc, 397 p.

Fyles, James T. 1984, Geological Setting of the Rossland Mining Camp: Province of British Columbia, Ministry of Energy, Mines, and Petroleum, Resource Bulletin 84, 64 p.

Gilbert, G., 1948, Rossland Camp, in, Structural Geology of Canadian Ore Deposits (Jubilee Vol), C.I.M., pp. 189-196

Herdrick, Melvin and Bunning, Bonnie, undated, Geology of the Gold Dike Mine, Ferry County, Washington: Private Report for Vulcan Mtn. Inc., 4 p.

Hoy, Trygve, P. Eng., and Dunne, Katherine, P. Geo, 1997, Early Jurassic Rossland Group, Southern British Columbia: Part I – Stratigraphy and Tectonics: British Columbia Ministry of Employment and Investment, Energy and Minerals Division, Geological Survey Branch, Bulletin 102, 123 p.

Huntting, Marshall T. 1956, Inventory of Washington Minerals – Part II Metallic Minerals Volume 2: State of Washington, Department of Conservation and Development, Division of Mines and Geology, 428 p.

Jebrak, Michel, and Marcoux, Eric, 2014, Geology of Mineral Resources: Geologic Association of Canada, 662 p.

Parker, Raymond L., and Calkins, James A., 1964, Geology of the Curlew Quadrangle, Ferry County, Washington: USGS Bulletin 1169, 95 p., 4 plates

Patty, E.N., 1921, The Metal Mines of Washington: Washington State Geological Survey Bulletin 23, 366 p.

Pearson, R.C., and Obradovich, J.D., 1977, Eocene Rocks in northeast Washington – Radiometric Ages and Correlation: USGS Bulletin 1433, 41 p., 1 plate

Robertson, Steffen, and Kirsten, 2003, Buckhorn Mountain Technical Report, Prepared for Crown Resources Corporation, 249 p.