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AMENDED

PRELIMINARY ECONOMIC ASSESSMENT

CALICO RESOURCES CORP.

GRASSY MOUNTAIN PROJECT

MALHEUR COUNTY, OREGON, USA

AMENDED DATE

JULY 9, 2015

PREPARED BY

METAL MINING CONSULTANTS INC.

DATE AND SIGNATURE PAGE

The effective date of this technical report entitled "Amended Preliminary Economic Assessment, Calico Resources Corp., Grassy Mountain Project, Malheur County, Oregon, USA" is January 13, 2015

Dated July 9, 2015

Scott Wilson, CPG

William J. Pennstrom Jr., SME

Zachary J. Black, SME-RM

Stephen B. Batman

AUTHOR'S CERTIFICATE

I, Scott E. Wilson, of Highlands Ranch, Colorado, do hereby certify:

1. I am currently employed as President by Metal Mining Consultants Inc., 9137 S. Ridgeline Blvd., Suite 140, Highlands Ranch, Colorado 80129.
2. I graduated with a Bachelor of Arts degree in Geology from the California State University, Sacramento in 1989.
3. I am a Certified Professional Geologist and member of the American Institute of Professional Geologists (CPG #10965) and a Registered Member (#4025107) of the Society for Mining, Metallurgy and Exploration, Inc.
4. I have been employed as either a geologist or an engineer continuously for a total of 27 years. My experience included resource estimation, mine planning, geological modeling, geostatistical evaluations, project development, and authorship of numerous technical reports and preliminary economic assessments of various projects throughout North America, South America and Europe. Of note I was responsible for the mineral resource estimation for Hemco Nicaragua from 2009 through 2012, which is a currently producing underground epithermal gold deposit. I have employed and mentored mining engineers and geologists continuously since 2003.
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 made a personal inspection of the Grassy Mountain Project on November 10 and 11, 2014 for 2 days.
7. I am responsible for sections 1 through 12, portions of Section 14, section 20 and sections 23 through 27 of the technical report titled "Amended Preliminary Economic Assessment, Calico Resources Corp., Grassy Mountain Project, Malheur County, Oregon, USA," effective January 13, 2015 (the "Technical Report.").
8. I have had no prior involvement with the property
9. As of the effective date of this report, to the best of my knowledge, information and belief, the portion of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the portion of the Technical Report for which I am responsible not misleading.
10. That I have read NI 43-101 and Form 43-101F1, and that this Technical Report was prepared in compliance with NI 43-101.
11. I am independent of the issuer as independence is described in Section 1.5 of NI 43-101.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated: July 9, 2015

____

Scott E. Wilson, C.P.G.

AUTHOR'S CERTIFICATE - WILLIAM J. PENNSTROM, JR.

I, William J. Pennstrom, Jr., President of Pennstrom Consulting Inc., do hereby certify that:

1. I am a consulting metallurgical engineer and President of Pennstrom Consulting, Inc. 2728 Southshire Rd. Highlands Ranch, CO 80126, USA.
2. I am a graduate of the University of Missouri Rolla (currently known as Missouri S&T) with a BS degree in Metallurgical Engineering. I am also a graduate of Webster University in St. Louis, MO, with a MA degree in Business Management.
3. I am a Registered Member in good standing of the Society of Mining, Metallurgy and Exploration. I am also a Qualified Professional Member of the Mining and Metallurgical Society of America.
4. I have worked in the Mineral Processing Industry for a total of 32 years since before, during, and after my attending the University of Missouri. I have been an independent process/metallurgical consultant for the last twelve (12) years for the mining industry.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Instrument 43-101.
6. I am responsible for the preparation of Sections 13 and 17, and relevant portions of Sections 1, 2, 18, 21 and 26 of the technical report titled "Amended Preliminary Economic Assessment, Calico Resources Corp., Grassy Mountain Project, Malheur County, Oregon, USA," effective January 13, 2015 (the "Technical Report."). I have not yet visited the Grassy Mountain Project site.
7. Prior to being retained by Calico Resources Corp., I have not previously worked on this deposit.
8. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the portion of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the portion of the Technical Report for which I am responsible not misleading.
9. I am independent of the issuer as independence is described in section 1.5 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated July 9, 2015

SME
Society for Mining, Metallurgy & Exploration
William J. Pennstrom
SME Registered Member No. 2503900
Signature
Date Signed 08/1/2014
Expiration date

William J. Pennstrom, Jr., M.A.

AUTHOR'S CERTIFICATE – Stephen Batman

I, Stephen Batman, of Arvada, Colorado, do hereby certify:

1. I am currently employed as Principle Mining Engineer by SBB Mining Solution, LLC, #232, 12650 W 64th Avenue, Unit E, Arvada, Colorado 80004.
2. I graduated with a Bachelor of Science degree in Mining Engineering from the Colorado School of Mines, Golden, Colorado in 1985.
3. I am a Registered Member (#181580RM) of the Society for Mining, Metallurgy and Exploration, Inc.
4. I have been employed as either a miner or an engineer continuously for a total of 30 years. My experience included resource estimation, mine planning, pit optimizations and geostatistical evaluations of numerous technical reports and preliminary economic assessments of various projects throughout North America, South America and Africa. I have been involved in the evaluation and conceptual development of new and existing mining projects, managing studies to develop projects and managing due diligences for acquisitions. Prior to entering the consulting business, I was employed as a mining engineer twenty five of my thirty years at operating mines in Nevada, the US and Australia. I have prepared capital and operating budgets and developed mining and haulage studies. I have overseen and developed operational schedules and implemented mine plans to meet targets. I have been involved with mine supervision in several large pits, mining equipment purchases, and construction projects. I have employed and mentored mining engineers over the last ten years.
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 am a contributing author of the technical report titled "Amended Preliminary Economic Assessment – Calico Resources Corp., Grassy Mountain Project, Malheur County," in Oregon, USA, dated February 27, 2015 (the "Technical Report"). I have not visited the Grassy Mountain site.
7. I am responsible for sections 15, 16, 18, 19, 21 and 22 of the technical report titled "Preliminary Economic Assessment, Calico Resources Corp., Grassy Mountain Project, Malheur County, Oregon, USA," effective January 13, 2015 (the "Technical Report.").
8. I have had no prior involvement with the property.
9. As of the effective date of this report, to the best of my knowledge, information and belief, the portion of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the portion of the Technical Report for which I am responsible not misleading.
10. I have read NI 43-101 and Form 43-101F1, and that this Technical Report was prepared in compliance with NI 43-101.
11. I am independent of the issuer as independence is described in Section 1.5 of NI 43-101.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated: July 9, 2015

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Stephen B. Batman

AUTHOR'S CERTIFICATE

I, Zachary J. Black, of Littleton, Colorado, do hereby certify:

1. I am currently a Director with Hard Rock Consulting, LLC, 10901 W. Toller Dr., Suite 205, Littleton, Colorado 80127.
2. I am a graduate of the University of Nevada with a Bachelor of Science in Geological Engineering, and have practiced my profession continuously since 2005.
3. I am a registered member of the Society of Mining Metallurgy and Exploration (No. 4156858RM).
4. I have worked as a Geological Engineer/Resource Estimation Geologist for a total of nine years since my graduation from university; as an employee of a major mining company, a major engineering company, and as a consulting engineer with extensive experience in structurally controlled precious metal deposits.
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 made a personal inspection of the Grassy Mountain Project on January 18 and 19, 2012 for 2 days.
7. I am responsible for section 14 of the technical report titled "Amended Preliminary Economic Assessment, Calico Resources Corp., Grassy Mountain Project, Malheur County, Oregon, USA," effective January 13, 2015 (the "Technical Report.").
8. I have had prior involvement with the Grassy Mountain Gold Project that is the subject of this Technical Report. I visited the property on January 18 and 19, 2012, and contributed to the technical reports titled "NI 43-101 Technical Report on Resources, Grassy Mountain Gold Project, Malheur County, Oregon," dated March 29, 2012, effective date March 1, 2012, and "NI 43-101 Technical Report on Resources, Grassy Mountain Gold Project, Malheur County, Oregon," dated November 30, 2012, with an effective date of September 26, 2012.
9. As of the effective date of this report, to the best of my knowledge, information and belief, the portion of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the portion of the Technical Report for which I am responsible not misleading.
10. That I have read NI 43-101 and Form 43-101F1, and that this Technical Report was prepared in compliance with NI 43-101.
11. I am independent of the issuer as independence is described in Section 1.5 of NI 43-101.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated: July 9, 2015

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Zachary J. Black, SME-RM

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1 SUMMARY

1.1 INTRODUCTION

Metal Mining Consultants Inc. ("MMC") was retained by Calico Resources Corp. ("Calico" or the "Company") to complete a Preliminary Economic Assessment ("PEA") and associated National Instrument 43-101 ("NI 43-101") Technical Report for the Grassy Mountain Project (the "Project" or the "Grassy Mountain Project") in Malheur County, Oregon.

The PEA is preliminary in nature, and there is no certainty that the results set forth in the PEA will be realized. The mineral resource estimate included in this report includes inferred mineral resources which are too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. Mineral resources that are not mineral reserves do not have demonstrated economic viability. This report presents the results of the PEA based on all available technical data and information as of January 13, 2015.

This report was prepared in accordance with the Canadian Securities Administrators ("CSA") NI 43-101 and in compliance with the disclosure and reporting requirements set forth in Companion Policy 43-101CP and Form 43-101F1 (June 2011). Mineral resources are classified in accordance with standards as defined by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") "CIM Definition Standards - For Mineral Resources and Mineral Reserves", prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council on December 17, 2010.

Table 1.1 Grassy Mountain Project Highlights

Highlights: Grassy Mountain Underground PEA	
Note: The reader is cautioned that mineral resources are not mineral Reserves, and as such, do not have demonstrated economic viability.	
Project Economic Element	**Underground Production**
Resource (Measured and Indicated)	
M&I Resource (tons) @ 0.065 Au cutoff grade	3,245,483
M&I Resource (oz Au/ton)	0.155
M&I Resource (oz Ag/ton)	0.271
M&I Silver : Gold ratio	1:82
Production	
Mine Life (years)	9
Waste to Resource Ratio (waste/resource)	0.5
Tons / day (nominal)	2,076
Gold Recovery (%)	95%
Silver Recovery (%)	84%
Total oz. Recovered (Au)	478,550
Total oz. Recovered (Ag)	740,087
Total oz. Recovered (Au eq.)(1)	483,165
Project Financials	
Estimated Initial Capital (US $M)	119.7
Estimated Total Capital (US $M)	144.2
Capital / Recovered Au eq oz (US $/oz)	302
Estimated Total Cash Cost / Recovered Au Eq Oz (US $)	880
Cash Cost / Recovered Au eq oz (US $/oz)	578
Net Present Value (NPV), 5%, Pre-Tax (US $M)	144.2
Discounted Cash Flow Rate of Return (DCF/ROR)	32.6%
Payback Period (years)	2.7
(1) Au Price = $1,300/oz; Ag Price = $17.50/oz	

Table 1.2 Projected Grassy Mountain Project Economic Performance (Pre-tax and pre-royalty, US$)

Item	Base Case	Upside Case
Gold Price Per Ounce	$1,300	$1,500
Silver Price Per Ounce	$17.50	$20.00
Pre-Tax Economics		
Net Cash Flow (US $Millions)	202.9	299.2
NPV @ 5% Discount Rate (US $Millions)	144.2	221.9
NPV @ 7.5% Discount Rate (US $Millions)	121.0	191.5
NPV @ 10% Discount Rate (US $Millions)	101.0	165.2
Internal Rate of Return	32.6%	45.1%
Operating Costs Per Ounce of Gold Equivalent Produced (life of mine)	$577	$577
Total Costs Per Ounce of Gold Equivalent Produced (includes all capital)	$880	$880
Post-Tax Economics		
Net Cash Flow (US $Millions)	156.6	223.7
NPV @ 5% Discount Rate (US $Millions)	107.7	162.4
NPV @ 7.5% Discount Rate (US $Millions)	88.5	138.3
NPV @ 10% Discount Rate (US $Millions)	71.8	117.4
Internal Rate of Return	27%	38%
Operating Costs Per Ounce of Gold Equivalent Produced (life of mine)	$577	$577
Total Costs Per Ounce of Gold Equivalent Produced (includes all capital)	$880	$880

1.2 PROPERTY DESCRIPTION AND OWNERSHIP

The Grassy Mountain Project is located in northern Malheur County, Oregon, approximately 22 miles south of Vale, Oregon, and roughly 70 miles west of Boise, Idaho. The project site is situated in the rolling hills of the high desert region of the far western Snake River Plain and consists of 418 unpatented lode claims, 3 patented lode claims, 9 mill site claims, 6 association placer claims, and various leased fee land surface and surface/mineral rights, all totaling roughly 9,300 acres. The local terrain is gentle to moderate, with elevations ranging from 3300 to 4,300 ft. above mean sea level.

Calico Resources USA Corp., an Oregon corporation and wholly owned subsidiary of Calico Resources Corp., a British Columbia corporation, owns and controls an undivided 100% right, title and interest (including water rights) in the Grassy Mountain Gold Project, (subject to certain underlying agreements and royalties).

Calico Resources USA Corp. acquired all right, title and interest in and to the patented mining claims, unpatented mining claims, fee lands and other property rights pertaining to the Grassy Mountain Gold Project pursuant to the “Deed of Assignment of Mining Properties”, between Seabridge Gold Inc. and Seabridge Gold Corporation (Grantors) and Calico Resources USA Corp. (Grantee). Seabridge Gold Corporation retained a 10% Net Profits Interest in the Grassy Mountain Gold Project which can be purchased by Calico for $10,000,000 (CAD).

Figure 1.1 Regional Map of Grassy Mountain Project

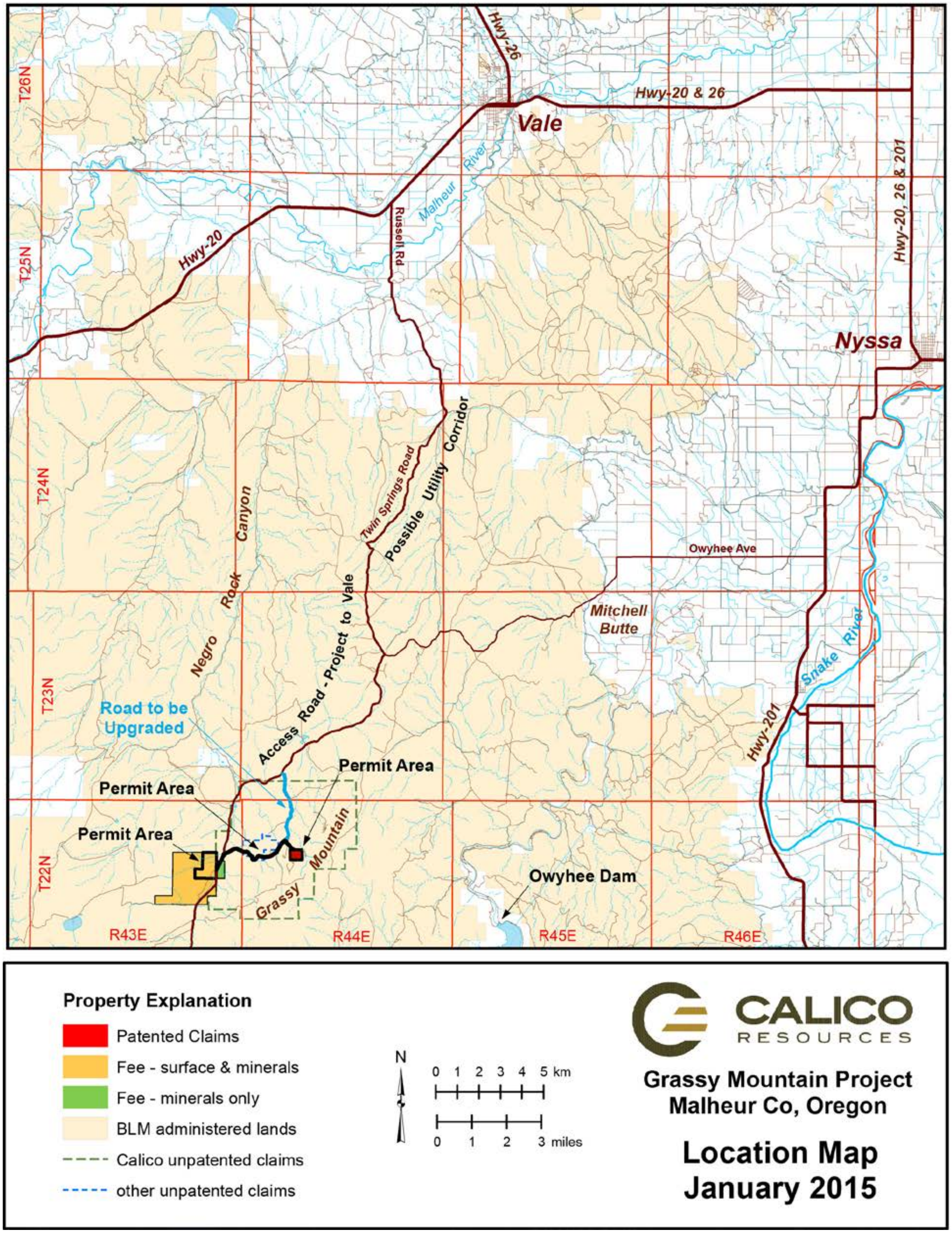
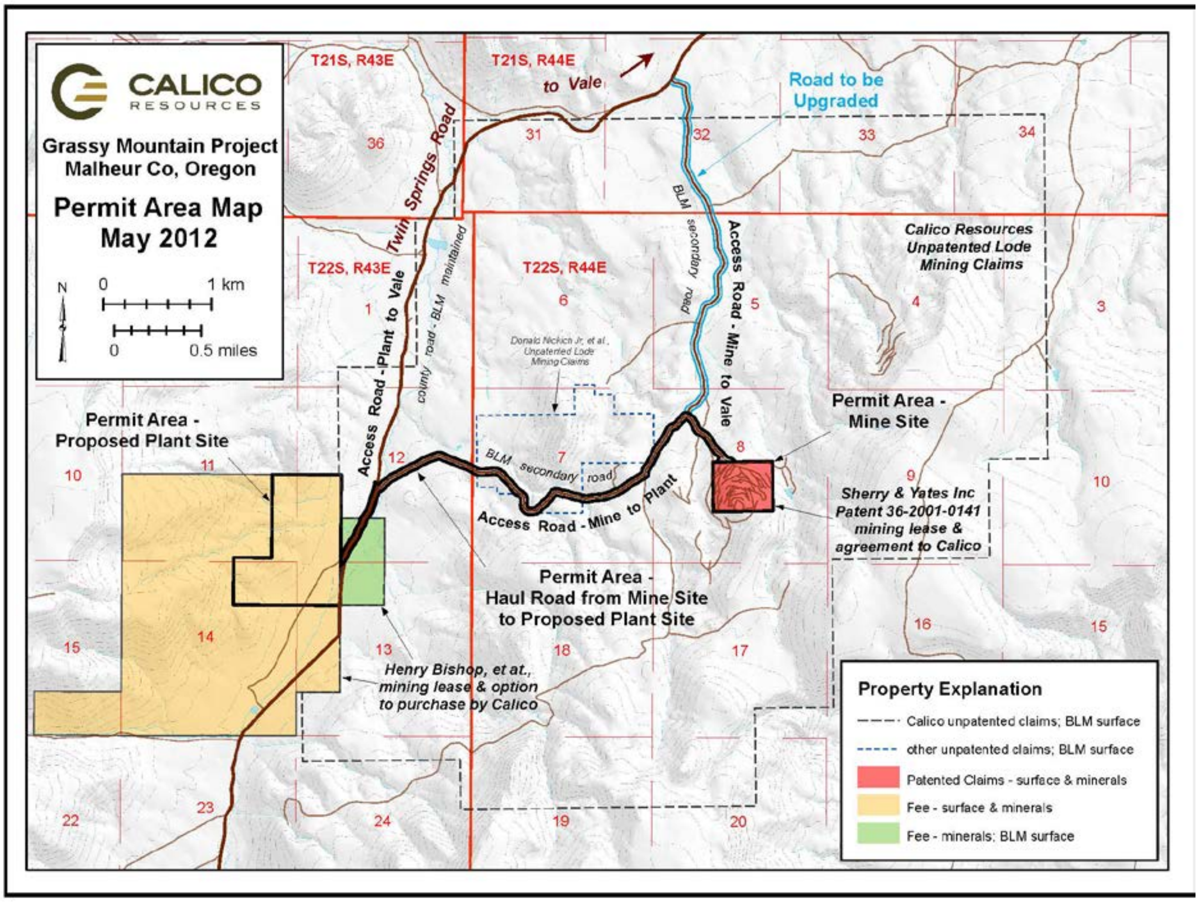


Figure 1.2 Grassy Mountain Project Map



1.3 GEOLOGY AND MINERALIZATION

The geology of the Grassy Mountain property is dominated by the Grassy Mountain Formation, which consists of a thick sequence of pebble conglomerate, arkosic sandstone, sandstone, clay-rich siltstone, reworked tuff, and olivine basalt flows. The sedimentary portion of the Grassy Mountain Formation is 700 to 1000 ft thick, and within the project area most sedimentary units are silicified and strongly indurated.

Gold mineralization at Grassy Mountain occurs primarily in interbedded siltstone and fine-grained sandstone (arkose) sediments that are brecciated and cut by thin quartz chalcedony-adularia veinlets and stockworks. Mineralization is associated with epithermal hot springs deposition, and several siliceous sinter terraces are interbedded with the silicified clastic sediments.

1.4 EXPLORATION

During the 2011 exploration program, Calico mapped and sampled the Grassy Mountain deposit and completed three core and nine reverse circulation drill holes in the primary zone of mineralization on the property. Calico's exploration strategy was to target areas where resource expansion was most probable. Historical data was thoroughly reviewed prior to drilling, and fresh sets of cross-sections and long-sections were constructed based on existing information. New interpretations of the orientation of mineralization and geology were plotted on the new sections. The new sections were then used to select areas where in-fill drilling was needed and areas where gold mineralization was open-ended and resource expansion probable. A detailed geologic model was produced based on the results of the 2011 exploration work, and subsequent supporting geophysical surveys were completed in March, 2012.

1.5 MINERAL RESOURCE ESTIMATION

The mineral resource estimate for the Grassy Mountain Project is summarized in Table 1.3. This mineral resource estimate includes all drill data obtained as of September 26, 2014 and has been independently verified by Hardrock Consulting, LLC ("HRC") and MMC. Table 1.3 summarizes the mineral resources for the Grassy Mountain Project. Underground Resources are reported at a cutff grade of 0.065 opa Au and at a 0.005 opt cutoff for open pit resources. Underground resources are excusive of open pit constrained resources. The authors know of no known legal, political, environmental risks to the project. There is limited geotechnical data for the project however a geotechnical drilling program is recommended as part of this report.

Table 1.3 Mineral Resource Statement for the Grassy Mountain Project

Measured					
	Tons (000s)	**Au opt**	**Ounces Au (000s)**	**Ag opt**	**Ounces Ag (000s)**
Underground (0.065 opt cog)	3,157.2	0.155	490.5	0.263	828.9
Open Pit (0.005 opt cog)	52,644.6	0.020	1,027.1	0.072	3,783.6
Indicated					
	Tons (000s)	**Au opt**	**Ounces Au (000s)**	**Ag opt**	**Ounces Ag (000s)**
Underground (0.065 opt cog)	88.3	0.149	13.2	0.163	14.4
Open Pit (0.005 opt cog)	12,802.8	0.010	121.9	0.027	349.8
Measured plus Indicated					
	Tons (000s)	**Au opt**	**Ounces Au (000s)**	**Ag opt**	**Ounces Ag (000s)**
Underground (0.065 opt cog)	3,245.5	0.155	503.7	0.260	843.2
Open Pit (0.005 opt cog)	65,447.4	0.018	1,149.0	0.063	4,133.3
Inferred					
	Tons (000s)	**Au opt**	**Ounces Au (000s)**	**Ag opt**	**Ounces Ag (000s)**
Underground (0.065 opt cog)	0.0	0.000	0.0	0.000	0.0
Open Pit (0.005 opt cog)	221.3	0.007	1.5	0.010	2.2

Mineral resources are not mineral reserves and do not demonstrate economic viability. There is no certainty that all or any part of the mineral resource will be converted to mineral reserves. Quantity and grade are estimates and are rounded to reflect the fact that the resource estimate is an approximation.

1.6 INTERPRETATIONS, CONCLUSIONS AND RECOMMENDATIONS

Calico has invested considerable effort, in the advancement of the Grassy Mountain Project through drilling, permitting, technical and metallurgical evaluations, internally and with the assistance of reputable consulting firms. This evaluation indicates a strong positive performance of a milling facility at the Project at the current metal price environment. The project performance is most sensitive to gold price and gold recovery. Metallurgical data to this point indicates economic extraction of metals is not complicated.

The project economics suggest that this is a project that can be put into production for a capital investment of approximately US $119 million and being paid back within 3 years of startup. Grassy Mountain is a project that warrants a more advanced review than a scoping study. Measured and Indicated Mineralization has been sufficiently identified and should be used as the basis of a Preliminary Feasibility Study.

Potential exists for the discovery of additional mineral resources at exploration target areas identified within the Grassy Mountain claim block.

MMC is of the opinion that the current mineral resource at Grassy Mountain is sufficient to warrant continued planning and effort to explore, permit, and develop the Grassy Mountain Project.

MMC believes there is sufficient data to support a basic geologic model and continuing development of the project. MMC has suggested a development of a decline to the mineral deposit to allow access to a large pilot scale recovery test and determination of other items that are important to the overall cost structure at Grassy Mountain.

MMC and Hardrock Consulting LLC (HRC) are of the opinion that the detailed geologic model described herein, along with the results of the exploration, drilling, and geophysical surveys completed as of October 2014, are sufficient to support preparation of a PFS.

MMC recommends that additional drilling of the main Grassy Mountain deposit be limited to geotechnical drill holes to acquire the necessary data and information to support engineering design and mine planning. This core drilling will also provide core for additional metallurgical work and confirmation of the cost of metals recovery.

As the base case of this PEA is an underground mining operation, MMC recommends that future economic analyses consider the evaluation of extracting open pit resources subsequent to the exhaustion of underground resources.

MMC recommends that Calico should engage the services of a reputable team in the advancement of the project towards the preliminary feasibility level. The Project represents a resource which includes Measured and Indicated resources. MMC recommends the following plans should be investigated to develop a better knowledge of the deposit economic criteria.

1.6.1 EXPLORATION DECLINE

MMC recommends an exploration decline into the mineralized resource to allow detailed Metallurgy and Geotechnical testing of the mineralized and waste materials to determine the safest roof and mining design and confirm early estimates of recovery and costs across rock type that carry economic grades

1.6.2 GEOTECHNICAL DRILLING PROGRAM

MMC recommends that additional drilling of the main Grassy Mountain deposit be linked to Geotechnical design requirements and metallurgical work. Geotechnical drilling will enhance existing geotechnical data to allow optimization of the mine design.

MMC agrees with Calico's planned expenses for exploration and development at Grassy Mountain, as summarized below.

Recommended work for the next phase of the project;

- Provide 6-10 geotechnical holes to provide a better understanding of the strength of the rock being mined down the decline. This will provide a better understanding of the strength of the rock materials inside the decline and how much it may cost in the future to develop the rest of the mineral deposit once in production.
    - MMC suggests 4 holes in the recommended decline to provide information within 50 feet of the decline alignment.
    - MMC suggests additional drilling to allow a better understanding of the rock strengths near the decline and within the mineralized zones. This core drilling can also be used to supplement the metallurgical understanding of the deposit and improve future recoveries, if production in the Grassy Mountain mine is permitted.
- Continue with the permitting of the project, and push to obtain consent of the State of Oregon as this project is perceived by the public to be a safe development for an impoverished area of southeastern Oregon.

1.6.3 METALLURGY AND PROCESS DESIGN

The above mentioned holes would also allow further metallurgical work to be undertaken to fine tune the processing portion of this design report. MMC would also suggest a final pilot scale test to support the processing parameters of this report.

1.6.4 INFRASTRUCTURE

A transportation study should be considered. This would include recommendations for road enhancement and logistics between the minesite and Vale.

MMC recommends the following work plan:

Table 1.3 Proposed Work Plan for Grassy Mountain

Work Program at Grassy Mountain	
Geotechnical Drilling including Met Work	$1,500,000
Exploration Decline	$3,000,000
Permitting and Environmental Costs	$1,500,000
Resource Model/Mine Planning Updates	$200,000
Total	$6,200,000

2 INTRODUCTION AND TERMS OF REFERENCE

2.1 PURPOSE OF TECHNICAL REPORT

At the request of Calico Resources Corp. ("Calico" or the "Company"), this technical report has been prepared by Metal Mining Consultants Inc. (MMC) on the Grassy Mountain Project (the "Project" or the "Grassy Mountain") in Malheur County, Oregon. The purpose of this report is to provide Calico and its investors with an independent opinion on the technical and economic aspects and mineral resources at Grassy Mountain. This report conforms to the standards specified in Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101CP and Form 43-101F1 ("NI43-101", "43-101" or the "Instrument".)

Calico's subsidiary, Calico Resources USA Corp. acquired all right, title and interest in the project on February 05, 2013. The work completed by Calico, along with abundant historical data, forms the basis of this report. Some historical information was generated before the use of NI 43-101 reports and therefore does not comply with all of the requirements of the Instrument.

This report describes the property economic potential, geology, mineralization, exploration activities and exploration potential based on compilations of published and unpublished data and maps, geological reports and a field examination by the authors. The authors have been provided documents, maps, reports and analytical results by Calico. This report is based on the information provided, field observations and the author's familiarity with mineral occurrences and deposits in the Great Basin and worldwide. All references are cited at the end of the report in Section 27, References.

This report is considered a preliminary economic assessment ("PEA") of the Project. A PEA provides a basis to estimate project operating and capital costs and establish a projection of conceptually extractable resources including measured, indicated and inferred categories as permitted under 43-101. A PEA is preliminary in nature, and there is no certainty that the economic results within the PEA will be realized. This PEA may include inferred mineral resources which are too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. Mineral resources that are not mineral reserves do not have demonstrated economic viability. This report presents the results of the PEA based on all available technical data and information as of January 13, 2015.

2.2 QUALIFICATIONS

The Consultants preparing this technical report are specialists in the fields of geology, exploration, mineral resource and mineral reserve estimation and classification, surface and underground mining, environmental permitting, metallurgical testing, mineral processing, processing design, capital and operating cost estimation, and mineral economics. None of the Consultants or any associates employed in the preparation of this report has any beneficial interest in Calico. The Consultants are not insiders, associates, or affiliates of Calico. The results of this Technical Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between Calico and the Consultants. The Consultants are being paid a fee for their work in accordance with normal professional consulting practices.

The following authors, by virtue of their education, experience and professional association, are considered Qualified Persons (QP) as defined in the NI 43-101 standard, for this report, and are members in good standing of appropriate professional institutions:

- Mr. Scott E. Wilson
- Mr. William Pennstrom
- Mr. Zachary J. Black
- Mr. Stephen B. Batman

2.3 TERMS OF REFERENCE

The report fulfills the requirements of Calico to list as a publically traded company in Canada. The reader of this report can rely on its contents to represent an accurate assessment of the technical information in regards to Calico's Grassy Mountain Project.

2.3.1 UNITS OF MEASURE

Unless stated otherwise, all measurements reported here are in US Commercial Imperial units, tons are short tons, grades are troy ounces per ton and currencies are expressed in constant 2014 US dollars.

2.3.2 ACRONYMS AND ABBREVIATIONS

ft	Feet
mi	Mile
opt	Troy Ounces per Ton
Ac	Acres
oz	Troy Ounces
Au	Gold
Ag	Silver
Cu	Copper
Pb	Zinc
Less than	<
Million	M
Parts per billion	ppb
Parts per million	ppm
Percent	%
Square foot	ft^2
Square inch	in^2
Ton	t
Ton per day	tpd
Ton per hour	tph
Tons per year	tpy
Calcium carbonate	$CaCO^3$
Copper	Cu
Cyanide	CN
Gold	Au
Hydrogen	H
Iron	Fe
Lead	Pb
Silver	Ag
Sodium	Na

Sulfur	S
AA	Atomic Absorption
AuEq	Gold Equivalent
CIM	Canadian Institute of Mining, Metallurgy and Petroleum Engineers
ISO	International Standards Organization
NPI	Net Profit Interest
NSR	Net Smelter Return
RQD	Rock Quality Designation
RC or RVC	Reverse Circulation

2.3.3 DETAILS OF PERSONAL INSPECTION

Company Representative, Michael McGinnis, Calico and Lead Report Author Scott Wilson visited the Grassy Mountain Project site and Calico's Vale, Oregon field office on November 10 and 11, 2014. While on site, the author team conducted general geologic field reconnaissance and verified drill collar locations in the field using a hand held GPS unit. At the Vale office, the team reviewed drill core, drill logs, historic survey data, and assay certificates. Core logging and splitting procedures, data handling and sample security protocols, and chain of custody were reviewed with Calico field personnel.

3 RELIANCE ON OTHER EXPERTS

Robert T. (Rick) Richins

Mr. Richins is the founder of RTR Resource Management, Inc. (RTR). RTR is a respected environmental consulting business known throughout the Idaho, Oregon, Alaska, and Nevada mining communities. He has over 35 years of experience in the areas of permitting, EISs, feasibility studies, project development, and final reclamation and closure. Prior to starting up RTR, he was Senior Vice President of Environmental and Governmental Affairs, Coeur d' Alene Mines Corporation for 15 years. His responsibilities included designing and implementing the company's environmental policy, and permitting and providing all necessary environmental services for 7 major gold and silver mining operations in the U.S. and internationally. Mr. Richins is not a Qualified Person as defined by NI43-101. However, his opinions regarding regulatory compliance are widely sought after. His recommendations are highly regarded and typically followed. The author knows of Mr. Richins' reputation, and has relied on his contributions to Section 20 of this PEA.

During preparation of this report, the Authors relied on Calico for information regarding land agreements, options, claims of accuracy of title, and royalty information, for the project through the following documents:

Erwin & Thompson LLP, 2011: Title Opinion, Confidential Legal Advice prepared by Erwin & Thompson LLP, dated June 3, 2011; and

C. Joel Casburn, 2012: Memorandum, 43-101 - Update Grassy Mountain Project, dated January 23, 2012

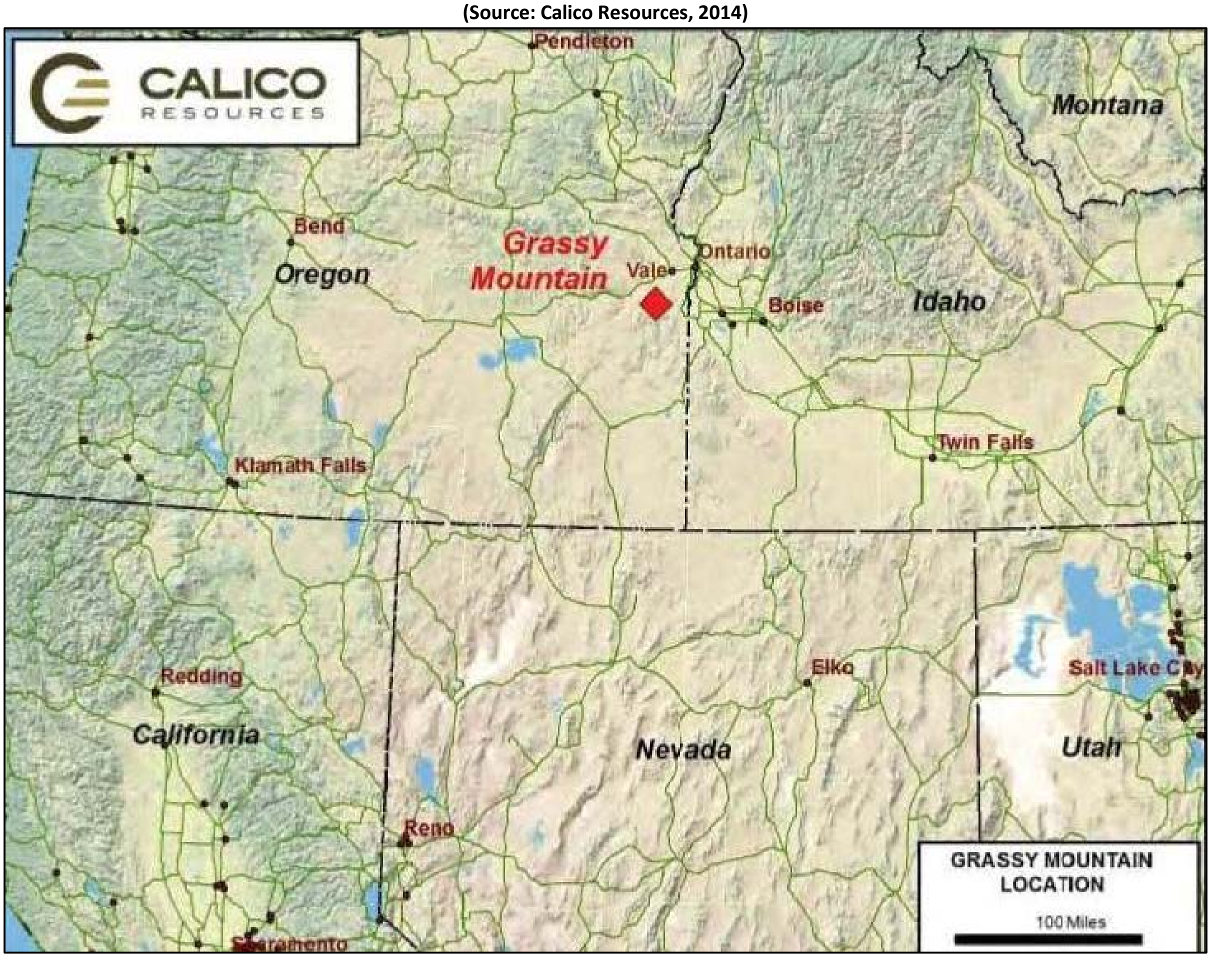
4 PROPERTY DESCRIPTION AND LOCATION

4.1 PROPERTY LOCATION

The Grassy Mountain property is situated along the far western edge of the Snake River Plain in eastern Oregon, 20 miles south of the town of Vale, Oregon and roughly 70 miles west of Boise, Idaho (Figure 4.1). The project area encompasses approximately 9,300 acres (3765 ha), all located within surveyed townships (4.2). The geographic center of the property is located at 43° 40' N latitude and 117° 2 1' W longitude, and the primary zone of mineralization on the property is located in Section 8, Township 22 South (T22S), Range 44 East (R44E).

Figure 4.1 Property Location

(Source: Calico Resources, 2014)



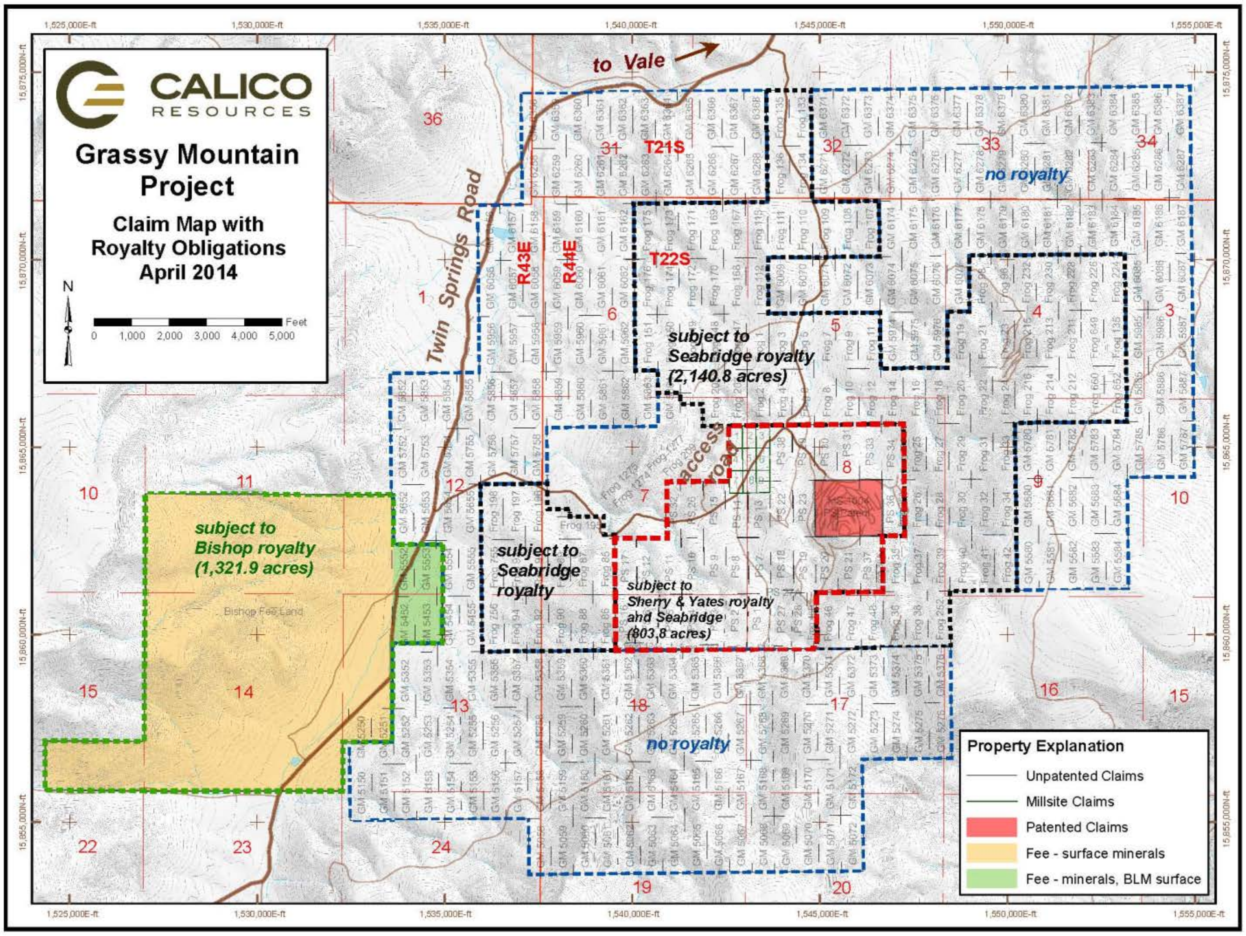
4.2 MINERAL TITLES

The Grassy Mountain Project consists of 418 unpatented lode claims, 9 mill site claims, 6 association placer claims, 3 patented claims, and two Fee land leases covering portions of Sections 11 through 15 and 24 of T22S, R43E; portions of Sections 3 through 10 and 16 through 20, T22S, R44E; Sections 31 through 34, T21S, R44E; and Section 36, T21S, R43E, as shown on Figure 4.2. Patented claims were individually surveyed at the time of location. Unpatented claim and Fee land boundaries were established initially by

GPS handheld units and in 2011 by onsite survey work. All claims are valid through September 1, 2015, and are subject to annual renewal. Claim information is summarized in Table 4.1 through Table 4.3.

Figure 4.2 Claim Boundaries & Royalty Obligations.

(Source: Calico Resources, 2014)



4.2.1 NATURE AND EXTENT OF ISSUER'S INTEREST

Calico Resources USA Corp. acquired all right, title and interest in and to the unpatented mining claims, patented mining claims, fee lands and mining leases including but not limited to all existing exploration and water rights pertaining to the Grassy Mountain Gold Project pursuant to the "Deed and Assignment of Mining Properties", between Seabridge Gold Inc. and Seabridge Gold Corporation and Calico Resources USA Corp., dated February 05, 2013.

4.3 ROYALTIES, AGREEMENTS AND ENCUMBRANCES

Calico Resources USA Corp., a wholly owned subsidiary of Calico Resources Corp., a British Columbia corporation, owns and controls 100% of the Grassy Mountain Gold Project, subject to the following underlying agreements and royalties (Summarized in Table 4.1).

4.3.1 SEABRIDGE GOLD CORPORATION

Seabridge retained a 10% Net Profits Interest in the Grassy Mountain Gold Project pursuant to the "Deed of Royalties", between Calico Resources USA Corp. and Seabridge Gold Corporation, dated February 05, 2013. Pursuant to the "Deed of Royalties", within 30 days following the day that Calico has delivered to Seabridge a Feasibility Study on the Grassy Mountain Gold Project, Seabridge may elect to cause Calico to purchase the 10% Net Profits Interest for $10M (CAD).

4.3.2 SHERRY & YATES, INC.

The Mining Lease and Agreement, as amended with Sherry & Yates Inc., dated February 16, 2004, includes the following terms (Summarized in Table 4.2):

- The Term shall be 20 years, expiring February 16, 2024;
- Calico must pay Sherry & Yates annual Advance Royalty payments of $100,000 USD to keep the Mining Lease and Agreement in good standing;
- Option to Purchase:
    - At any time up to February 16, 2015, Calico, or its assigns, has the right, but not the obligation to purchase the property, subject to a 1% royalty to be retained by Sherry & Yates, Inc., for $2,100,000 USD.
    - From February 17, 2015 until February 16, 2016, Calico, or its assigns, has the right, but not the obligation to purchase the property, subject to a 1% royalty to be retained by Sherry & Yates, Inc., for $2,200,000 USD.
    - From February 17, 2016 until February 16, 2017, Calico, or its assigns, has the right, but not the obligation to purchase the property, subject to a 1.25% royalty to be retained by Sherry & Yates, Inc., for $2,300,000 USD.
    - From February 17, 2017 until February 16, 2018, Calico, or its assigns, has the right, but not the obligation to purchase the property, subject to a 1.5% royalty to be retained by Sherry & Yates, Inc., for $2,400,000 USD;
- If an option to purchase is not exercised by Calico, or its assigns, and the price of gold is above $800 USD per ounce, Sherry & Yates, Inc. will retain a 6% gross proceeds royalty. A 4% gross proceeds royalty will apply to any additional metals other than gold that may be recovered from the property;
- Sherry & Yates, Inc. has an area of interest clause which applies to one-half mile surrounding the perimeter of the property. This area of interest clause is in the favor of Calico and only applies in the event that Sherry & Yates acquires any additional rights, titles, or interest in the property after the execution of the agreement, or locates any additional unpatented mining claims within the one-half mile area of interest. Any properties acquired within the area of interest would then be subject to the agreement.

4.3.3 BISHOP I & BISHOP II

The Mining Leases, as amended, with Bishop et al, dated September 11, 1989, include the following terms (Summarized in Table 4.3):

- The Terms shall be 10 years, as amended in 2009, expiring September 11, 2019;
- Annual Minimum royalty payments of $30,000 USD (Bishop I) and $3,000 USD (Bishop II) must be paid by Calico, or its assigns, to keep the Mining Lease and Agreement in good standing. All minimum royalty payments are recoverable against future production royalty payments;
- Bishop retains a 6% NSR royalty based on a gold price above $800 USD per ounce. If ore minerals other than gold are produced they would be subject to an additional 4% NSR royalty.
- Minimum royalty payments made to date indicate that there is an accumulated credit of $670,000 and $67,000 that would apply to the Bishop I and Bishop II Leases, respectively;
- A provision in the Bishop I lease agreement provides for payments to be made by the lessee to Bishop as follows:
  - $50 for each drill hole on Fee land
  - $100 for each acre of disturbed Fee land
  - $300 for each acre disturbed and lost for Bishop's use

Table 4.1 Calico Resources Owned Claim Summary

Calico Resources USA Corp. Owned Claims					
Claim Name/Number	BLM ORMC Number	Location Date	Claim Name/Number	BLM ORMC Number	Location Date
GM 5058	167998	9/15/2011	GM 5787	168124	9/22/2011
GM 5059	167999	9/15/2011	GM 5852	168125	9/24/2011
GM 5060	168000	9/15/2011	GM 5853	168126	9/24/2011
GM 5061	168001	9/15/2011	GM 5854	168127	9/24/2011
GM 5062	168002	9/15/2011	GM 5855	168128	9/24/2011
GM 5063	168003	9/17/2011	GM 5856	168129	9/24/2011
GM 5064	168004	9/17/2011	GM 5857	168130	9/24/2011
GM 5065	168005	9/17/2011	GM 5858	168131	9/24/2011
GM 5066	168006	9/17/2011	GM 5859	168132	9/24/2011
GM 5067	168007	9/17/2011	GM 5860	168133	9/24/2011
GM 5068	168008	9/17/2011	GM 5861	168134	9/24/2011
GM 5069	168009	9/17/2011	GM 5862	168135	9/24/2011
GM 5070	168010	9/17/2011	GM 5863	168136	9/24/2011
GM 5071	168011	9/17/2011	GM 5864	168137	9/24/2011
GM 5072	168012	9/17/2011	GM 5885	168138	9/22/2011
GM 5150	168013	9/15/2011	GM 5886	168139	9/22/2011
GM 5151	168014	9/15/2011	GM 5887	168140	9/22/2011
GM 5152	168015	9/15/2011	GM 5956	168141	9/24/2011
GM 5153	168016	9/15/2011	GM 5957	168142	9/24/2011
GM 5154	168017	9/15/2011	GM 5958	168143	9/24/2011
GM 5155	168018	9/15/2011	GM 5959	168144	9/24/2011
GM 5156	168019	9/15/2011	GM 5960	168145	9/24/2011
GM 5157	168020	9/15/2011	GM 5961	168146	9/24/2011
GM 5158	168021	9/15/2011	GM 5962	168147	9/24/2011
GM 5159	168022	9/15/2011	GM 5974	168148	9/21/2011
GM 5160	168023	9/15/2011	GM 5975	168149	9/21/2011
GM 5161	168024	9/15/2011	GM 5976	168150	9/21/2011
GM 5162	168025	9/15/2011	GM 5985	168151	9/22/2011
GM 5163	168026	9/17/2011	GM 5986	168152	9/22/2011
GM 5164	168027	9/17/2011	GM 5987	168153	9/22/2011
GM 5165	168028	9/17/2011	GM 6056	168154	9/24/2011

Calico Resources USA Corp. Owned Claims					
Claim Name/Number	BLM ORMC Number	Location Date	Claim Name/Number	BLM ORMC Number	Location Date
GM 5166	168029	9/17/2011	GM 6057	168155	9/24/2011
GM 5167	168030	9/17/2011	GM 6058	168156	9/24/2011
GM 5168	168031	9/17/2011	GM 6059	168157	9/24/2011
GM 5169	168032	9/17/2011	GM 6060	168158	9/24/2011
GM 5170	168033	9/17/2011	GM 6061	168159	9/24/2011
GM 5171	168034	9/17/2011	GM 6062	168160	9/24/2011
GM 5172	168035	9/17/2011	GM 6069	168161	9/21/2011
GM 5250	168036	9/15/2011	GM 6070	168162	9/21/2011
GM 5251	168037	9/15/2011	GM 6071	168163	9/21/2011
GM 5252	168038	9/15/2011	GM 6072	168164	9/21/2011
GM 5253	168039	9/15/2011	GM 6073	168165	9/21/2011
GM 5254	168040	9/15/2011	GM 6074	168166	9/21/2011
GM 5255	168041	9/15/2011	GM 6075	168167	9/21/2011
GM 5256	168042	9/15/2011	GM 6076	168168	9/21/2011
GM5257	168043	9/15/2011	GM 6077	168169	9/21/2011
GM 5258	168044	9/15/2011	GM 6085	168170	9/21/2011
GM 5259	168045	9/15/2011	GM 6086	168171	9/21/2011
GM 5260	168046	9/15/2011	GM 6087	168172	9/21/2011
GM 5261	168047	9/16/2011	GM 6156	168173	9/24/2011
GM 5262	168048	9/16/2011	GM 6157	168174	9/24/2011
GM 5263	168049	9/16/2011	GM 6158	168175	9/24/2011
GM 5264	168050	9/16/2011	GM 6159	168176	9/24/2011
GM 5265	168051	9/16/2011	GM 6160	168177	9/24/2011
GM 5266	168052	9/16/2011	GM 6161	168178	9/24/2011
GM 5267	168053	9/23/2011	GM 6162	168179	9/24/2011
GM 5268	168054	9/23/2011	GM 6174	168180	9/21/2011
GM 5269	168055	9/23/2011	GM 6175	168181	9/21/2011
GM 5270	168056	9/23/2011	GM 6176	168182	9/21/2011
GM 5271	168057	9/23/2011	GM 6177	168183	9/21/2011
GM 5272	168058	9/23/2011	GM 6178	168184	9/21/2011
GM 5273	168059	9/23/2011	GM 6179	168185	9/21/2011
GM 5274	168060	9/23/2011	GM 6180	168186	9/21/2011
GM 5275	168061	9/23/2011	GM 6181	168187	9/21/2011
GM 5276	168062	9/23/2011	GM 6182	168188	9/21/2011
GM 5352	168063	9/15/2011	GM 6183	168189	9/21/2011
GM 5353	168064	9/15/2011	GM 6184	168190	9/21/2011
GM 5354	168065	9/15/2011	GM 6185	168191	9/21/2011
GM 5355	168066	9/15/2011	GM 6186	168192	9/21/2011
GM 5356	168067	9/15/2011	GM 6187	168193	9/21/2011
GM 5357	168068	9/15/2011	GM 6258	168194	9/21/2011
GM 5358	168069	9/15/2011	GM 6259	168195	9/21/2011
GM 5359	168070	9/15/2011	GM 6260	168196	9/21/2011
GM 5360	168071	9/15/2011	GM 6261	168197	9/21/2011
GM 5361	168072	9/16/2011	GM 6262	168198	9/21/2011
GM 5362	168073	9/16/2011	GM 6263	168199	9/21/2011
GM 5363	168074	9/16/2011	GM 6264	168200	9/21/2011
GM 5364	168075	9/16/2011	GM 6265	168201	9/21/2011
GM 5365	168076	9/16/2011	GM 6266	168202	9/21/2011
GM 5366	168077	9/16/2011	GM 6267	168203	9/21/2011
GM 5367	168078	9/23/2011	GM 6268	168204	9/21/2011
GM 5368	168079	9/23/2011	GM 6271	168205	9/20/2011

Calico Resources USA Corp. Owned Claims					
Claim Name/Number	BLM ORMC Number	Location Date	Claim Name/Number	BLM ORMC Number	Location Date
GM 5369	168080	9/23/2011	GM 6272	168206	9/20/2011
GM 5370	168081	9/23/2011	GM 6273	168207	9/20/2011
GM 5371	168082	9/23/2011	GM 6274	168208	9/20/2011
GM 5372	168083	9/23/2011	GM 6275	168209	9/20/2011
GM 5373	168084	9/23/2011	GM 6276	168210	9/20/2011
GM 5374	168085	9/23/2011	GM 6277	168211	9/20/2011
GM 5375	168086	9/23/2011	GM 6278	168212	9/20/2011
GM 5376	168087	9/23/2011	GM 6279	168213	9/20/2011
GM 5452	168088	9/19/2011	GM 6280	168214	9/20/2011
GM 5453	168089	9/19/2011	GM 6281	168215	9/22/2011
GM 5454	168090	9/19/2011	GM 6282	168216	9/22/2011
GM 5455	168091	9/19/2011	GM 6283	168217	9/22/2011
GM 5552	168092	9/19/2011	GM 6284	168218	9/22/2011
GM 5553	168093	9/19/2011	GM 6285	168219	9/22/2011
GM 5554	168094	9/19/2011	GM 6286	168220	9/22/2011
GM 5555	168095	9/19/2011	GM 6287	168221	9/22/2011
GM 5580	168096	9/23/2011	GM 6358	168222	9/21/2011
GM 5581	168097	9/23/2011	GM 6359	168223	9/21/2011
GM 5582	168098	9/23/2011	GM 6360	168224	9/21/2011
GM 5583	168099	9/23/2011	GM 6361	168225	9/21/2011
GM 5584	168100	9/23/2011	GM 6362	168226	9/21/2011
GM 5652	168101	9/18/2011	GM 6363	168227	9/21/2011
GM 5653	168102	9/18/2011	GM 6364	168228	9/21/2011
GM 5654	168103	9/18/2011	GM 6365	168229	9/21/2011
GM 5655	168104	9/18/2011	GM 6366	168230	9/21/2011
GM 5680	168105	9/22/2011	GM 6367	168231	9/21/2011
GM 5681	168106	9/22/2011	GM 6368	168232	9/21/2011
GM 5682	168107	9/22/2011	GM 6371	168233	9/20/2011
GM 5683	168108	9/22/2011	GM 6372	168234	9/20/2011
GM 5684	168109	9/22/2011	GM 6373	168235	9/20/2011
GM 5752	168110	9/18/2011	GM 6374	168236	9/20/2011
GM 5753	168111	9/18/2011	GM 6375	168237	9/20/2011
GM 5754	168112	9/18/2011	GM 6376	168238	9/20/2011
GM 5755	168113	9/18/2011	GM 6377	168239	9/20/2011
GM 5756	168114	9/25/2011	GM 6378	168240	9/20/2011
GM 5757	168115	9/25/2011	GM 6379	168241	9/20/2011
GM 5758	168116	9/25/2011	GM 6380	168242	9/20/2011
GM 5780	168117	9/22/2011	GM 6381	168243	9/22/2011
GM 5781	168118	9/22/2011	GM 6382	168244	9/22/2011
GM 5782	168119	9/22/2011	GM 6383	168245	9/22/2011
GM 5783	168120	9/22/2011	GM 6384	168246	9/22/2011
GM 5784	168121	9/22/2011	GM 6385	168247	9/22/2011
GM 5785	168122	9/22/2011	GM 6386	168248	9/22/2011
GM 5786	168123	9/22/2011	GM 6387	168249	9/22/2011
Frog #1	104797	5/6/1988	Frog #169	104962	5/19/1988
Frog #2	104798	5/6/1988	Frog #170	104963	5/19/1988
Frog #5	104801	5/6/1988	Frog #171	104964	5/19/1988
Frog #6	104802	5/6/1988	Frog #172	104965	5/19/1988
Frog #7	104803	5/6/1988	Frog #173	104966	5/19/1988
Frog #8	104804	5/6/1988	Frog #174	104967	5/19/1988
Frog #9	104805	5/6/1988	Frog #175	104968	5/19/1988

Calico Resources USA Corp. Owned Claims					
Claim Name/Number	BLM ORMC Number	Location Date	Claim Name/Number	BLM ORMC Number	Location Date
Frog #10	104806	5/6/1988	Frog #176	104969	5/19/1988
Frog #11	104807	5/6/1988	Frog #195	104988	5/22/1988
Frog #12	104808	5/6/1988	Frog #196	104989	5/22/1988
Frog #14	104810	5/6/1988	Frog #197	104990	5/22/1988
Frog #16	104812	5/6/1988	Frog #198	104991	5/21/1988
Frog #18	104814	5/6/1988	Frog #207	105000	5/29/1988
Frog #19	104815	5/6/1988	Frog #208	105001	5/29/1988
Frog #20	104816	5/6/1988	Frog #209	105002	5/29/1988
Frog #21	104817	5/6/1988	Frog #210	105003	5/24/1988
Frog #22	104818	5/6/1988	Frog #211	105004	5/27/1988
Frog #23	104819	5/6/1988	Frog #212	105005	5/27/1988
Frog #24	104820	5/6/1988	Frog #213	105006	5/27/1988
Frog #25	104821	5/7/1988	Frog #214	105007	5/27/1988
Frog #26	104822	5/7/1988	Frog #215	105008	5/27/1988
Frog #27	104823	5/7/1988	Frog #216	105009	5/27/1988
Frog #28	104824	5/7/1988	Frog #224	105017	5/26/1988
Frog #29	104825	5/7/1988	Frog #226	105019	5/26/1988
Frog #30	104826	5/7/1988	Frog #228	105021	5/26/1988
Frog #31	104827	5/7/1988	Frog #230	105023	5/26/1988
Frog #32	104828	5/7/1988	Frog #232	105025	5/26/1988
Frog #33	104829	5/7/1988	Frog #252	105913	7/21/1988
Frog #34	104830	5/7/1988	Frog #649	107597	8/17/1988
Frog #35	104831	5/7/1988	Frog #650	107598	8/17/1988
Frog #36	104832	5/7/1988	Frog #651	107599	8/17/1988
Frog #37	104833	5/7/1988	Frog #652	107600	8/17/1988
Frog #38	104834	5/7/1988	Frog #755	107703	8/23/1988
Frog #39	104835	5/7/1988	Frog #756	107704	8/23/1988
Frog #40	104836	5/7/1988	Frog #10A	108086	9/28/1988
Frog #41	104837	5/7/1988	Frog #25A	108087	9/27/1988
Frog #42	104838	5/7/1988	Frog #26A	108088	9/27/1988
Frog #46	104839	5/7/1988	Frog #35A	108089	9/27/1988
Frog #47	104840	5/7/1988	Frog #46A	108090	9/27/1988
Frog #48	104841	5/7/1988	Frog #46B	108091	9/27/1988
Frog #85	104878	5/8/1988	Frog #151	125178	10/4/1989
Frog #86	104879	5/8/1988	Frog #3	126210	10/29/1989
Frog #87	104880	5/8/1988	Frog #4	126211	10/29/1989
Frog #88	104881	5/8/1988	Frog #1274	126212	10/27/1989
Frog #89	104882	5/8/1988	Frog #1275	126213	10/27/1989
Frog #90	104883	5/8/1988	Frog #1277	126215	10/27/1989
Frog #91	104884	5/8/1988	Poison Springs 1A	146318	7/19/1993
Frog #92	104885	5/8/1988	Poison Springs 3A	146319	7/19/1993
Frog #93	104886	5/8/1988	Poison Springs 5A	146320	7/20/1993
Frog #94	104887	5/8/1988	Poison Springs 6A	146321	7/20/1993
Frog #96	104889	5/17/1988	Poison Springs 7A	146322	7/18/1993
Frog #98	104891	5/17/1988	Poison Springs 8A	146323	7/18/1993
Frog #107	104900	5/20/1988	Poison Springs 9A	146324	7/19/1993
Frog #108	104901	5/20/1988	Poison Springs 11A	146325	7/19/1993
Frog #109	104902	5/20/1988	Poison Springs 14A	146326	7/18/1993
Frog #110	104903	5/20/1988	Poison Springs 18A	146327	7/18/1993
Frog #111	104904	5/20/1988	Poison Springs 22A	146328	7/18/1993
Frog #112	104905	5/19/1988	Poison Springs 26A	146329	7/18/1993

Calico Resources USA Corp. Owned Claims					
Claim Name/Number	BLM ORMC Number	Location Date	Claim Name/Number	BLM ORMC Number	Location Date
Frog #113	104906	5/19/1988	Poison Springs 27A	146330	7/19/1993
Frog #133	104926	5/20/1988	Poison Springs 38A	146331	7/18/1993
Frog #134	104927	5/20/1988	Don #1	108077	9/28/1988
Frog #135	104928	5/20/1988	Don #2	108078	9/28/1988
Frog #136	104929	5/20/1988	Don #3	108079	9/28/1988
Frog #147	104940	5/22/1988	Don #4	108080	9/28/1988
Frog #148	104941	5/22/1988	Don #5	108081	9/28/1988
Frog #149	104942	5/22/1988	Don #6	108082	9/28/1988
Frog #150	104943	5/22/1988	Don #7	108083	9/28/1988
Frog #167	104960	5/19/1988	Don #8	108084	9/28/1988
Frog #168	104961	5/19/1988	Don #9	108085	

Table 4.2 Sherry & Yates Leased Claims Summary

Sherry & Yates, Inc. Leased Claims					
Claim Name/Number	BLM ORMC Number	Location Date	Claim Name/Number	BLM ORMC Number	Location Date
Poison Springs #1	74965	5/1/1984	Poison Springs #20	74984	5/3/1984
Poison Springs #2	74966	5/1/1984	Poison Springs #21	74985	5/3/1984
Poison Springs #3	74967	5/1/1984	Poison Springs #22	74986	5/3/1984
Poison Springs #4	74968	5/1/1984	Poison Springs #23	74987	5/3/1984
Poison Springs #5	74969	5/1/1984	Poison Springs #26	74990	5/25/1984
Poison Springs #6	74970	5/1/1984	Poison Springs #27	74991	5/24/1984
Poison Springs #7	74971	5/1/1984	Poison Springs #28	74992	5/24/1984
Poison Springs #8	74972	5/1/1984	Poison Springs #29	74993	5/25/1984
Poison Springs #9	74973	5/1/1984	Poison Springs #30	74994	5/25/1984
Poison Springs #10	74974	5/1/1984	Poison Springs #31	74995	5/25/1984
Poison Springs #11	74975	5/1/1984	Poison Springs #32	74996	5/25/1984
Poison Springs #12	74976	5/1/1984	Poison Springs #33	82452	4/5/1985
Poison Springs #13	74977	5/2/1984	Poison Springs #34	82453	4/5/1985
Poison Springs #14	74978	5/2/1984	Poison Springs #36	82455	4/5/1985
Poison Springs #15	74979	5/2/1984	Poison Springs #37	82456	4/5/1985
Poison Springs #16	74980	5/2/1984	Poison Springs #38	82457	4/5/1985
Poison Springs #17	74981	5/2/1984	Poison Springs 16A	127904	1/28/1990
Poison Springs #18	74982	5/3/1984	Poison Springs 17A	127905	1/28/1990
Poison Springs #19	74983	5/3/1984	-	-	-

Table 4.3 Bishop Leased Claims Summary

Bishop et al Leased Claims					
Claim Name/Number	BLM ORMC Number	Location Date	Claim Name/Number	BLM ORMC Number	Location Date
Bishop #1	116169	4/22/1989	Bishop 4	116172	4/22/1989
Bishop 2	116170	4/22/1989	Bishop 5	116173	4/22/1989
Bishop 3	116171	4/22/1989	Bishop #5	125516	9/30/1989

4.4 ENVIRONMENTAL LIABILITIES AND PERMMITTING

4.4.1 ENVIRONMENTAL LIABILITIES

There are no known environmental liabilities associated with the Grassy Mountain Project. During preparation of the March 2012 Technical Report discussions were held with the BLM regarding:

- At least two open drill holes that had not been properly abandoned;
- Old drill roads that had not been reclaimed; and
- Two groundwater monitoring wells that need to be reclaimed or used (they are enclosed in a locked housing box).

All concerns identified by the BLM have now been addressed at the site. As of the date of this report, the two open drill holes have been properly abandoned per BLM specifications and the old not-in-use drill roads have been reclaimed. The groundwater monitoring wells are in use for ongoing exploration activities.

4.5 EXPLORATION PERMITS AND JURISDICTIONS

There is a valid existing exploration permit (Plan of Operations) with the Bureau of Land Management (BLM) that was renewed in February 2015 and is valid until February 2016. These exploration permits must be renewed each year. A bond in the amount of $146,000 is associated with the exploration permit. An application for "Extension of Time for a Water Right Permit" was filed with the Director of the Oregon Water Resources Department. Calico has until October 1, 2028 to complete the water system and apply water to beneficial use. The company must submit progress reports on October 1 of 2017, 2022 and 2027. The permit allows a maximum pumping rate of 2.0 cubic feet per second (cfs).

Additionally, Calico holds a separate exploration permit covering soils test pits that were excavated within the project area for the purpose of baseline studies. The outstanding bond for this activity is $3,400. The soils pits have been reclaimed and this bond can be released. In February 2015, Calico made a request to the BLM to release the bond.

4.5.1 PERMITS REQUIRED FOR FULL SCALE MINING

Calico has entered into a Memorandum of Understanding for Cost Recovery (MOU) with the Oregon Department of Geology and Mineral Industries (DOGAMI). The MOU provides a mechanism whereby Calico, as the project proponent, agrees to reimburse DOGAMI and other primary state agencies for their involvement in processing permit applications for the Grassy Mountain Project.

A key permit which will be required is the Consolidated Permitting of Mining Operations Permit, as required under Chapter 735, Division 037, 1991 Oregon Laws (§632-037-0005). Chemical Process Mine means "a mining and processing operation for metal bearing ores that uses chemicals to dissolve metals from ore". The Calico processing facility will employ cyanide in the metallurgical process. The final metallurgical process is being determined as part of this Preliminary Economic Assessment, ongoing optimization studies, and final feasibility. Currently, gravity separation, conventional flotation, and potentially cyanide vat leaching are all being evaluated. Only cyanide vat leaching would "dissolve" gold and silver minerals and be subject to these regulations. However, the Division 037 Rules are a well-defined regulatory pathway with definitive requirements and timelines. Requirements under Division 043 also apply for mining operations which use cyanide to extract metals from rock and which produce wastes or wastewaters containing toxic materials.

Calico has filed a Notice of Intent (NOI) in order to initiate the agency process, and provide for public notice that the project is proceeding into the permitting phase. As part of initiating the public notification, an interagency “Technical Review Team” (TRT) has been organized to provide interdisciplinary review of technical permitting issues for the state consolidated application process. This TRT has met, reviewed and accepted the NOI. They have also met and established written guidelines for the review and approval of required environmental baseline studies, established special subcommittees, and reviewed and approved a number of environmental baseline reports.

In addition, DOGAMI administrators have reviewed the initial Calico Resources USA Corp. Grassy Mountain Mine Project Environmental Baseline Work Plans, and approved them as “complete”. The environmental baseline program has been implemented by Calico, and is expected to involve a one year schedule for most resource categories. Estimated completion for all environmental studies is Quarter 3, 2015.

The State has hired a Project Manager to oversee the permitting program and lead the review team. A “Project Coordinating Committee” (PCC) has also been formed for the purpose of sharing information; further coordinating the federal, state and local permitting requirements; optimizing communication; facilitating the regulatory process; and avoiding duplicative effort. The PCC has met formally and conducted two public meetings in Ontario, Oregon attended by agencies, public officials, project supporters, and non-governmental organizations (NGOs).

Division 037 mandates DOGAMI to manage and facilitate the regulatory permitting process. It requires that a series of public meetings, coordinated by DOGAMI or its contractor, are held. This committee is charged with gathering comments from the public regarding the specifics of the project. DOGAMI acts as the facilitating state agency and state clearinghouse for the mine permitting process. It is the applicant’s responsibility to secure all needed state permits, such as air pollution control, stormwater pollution prevention plan, and land use permits, as may be required. However, the Division 037 process is designed to promote a consolidated permitting pathway.

DOGAMI, where practical, will coordinate with other agencies to avoid duplication on the part of the applicants and related agency requests. The agency is also responsible for reviewing mine operating plans and issuing reclamation permits. It establishes reclamation bond amounts for the project. As part of DOGAMI’s permitting process, it also requires the preparation of detailed environmental baseline data collection work plans described earlier that direct the inventorying of the various existing natural resources that may be impacted by the proposed project. These include: air quality, surface and ground water quality and hydrology, soils and geology, geochemistry, vegetation, fisheries, wildlife, and historical/cultural, and many others.

While the Grassy Mountain Project is located on patented mining claims, some of the planned access needs may occur on BLM lands or via county roads. Other project components, such as the processing facilities, will be located on nearby privately-owned fee land leased by Calico. This leased fee land totals about 1,382 acres and is located approximately 4 miles southwest of the patented claims in Township 22 South, Range 43 East, in Malheur County Oregon.

The basic information for a Division 037 application involves:

- Determining existing environmental baseline conditions;
- Providing an operating plan (mine plan and reclamation/closure plan);
- Conducting an alternatives analysis;
- Providing an environmental evaluation;
- Conducting a socio-economic impact analysis
- Developing a plan to minimize pollution and erosion;
- Protecting fish and wildlife during operations and closure (fish and wildlife standards);
- Providing an environmentally compatible water balance; and
- Meeting financial assurance requirements.

DOGAMI officials have indicated that the Division 037 timeline for this requirement can be expected to be about one year from the date that a “complete application” (as deemed complete by DOGAMI) is submitted for the regulatory process to be concluded, and a permit issued.

A component of the overall State permitting process described earlier, the TRT is designed to provide for a comprehensive interagency evaluation of the environmental baseline studies work scope and the overall permitting process. The intent is to limit unnecessary duplication of effort between agencies for the various permits. It is also a stated objective to facilitate the regulatory process.

Other permits and/or authorizations related to stormwater, water rights, access, air quality, solid waste management, wildlife protection, spill contingency planning and reclamation will also be required. The Project will not discharge to waters of the U.S. Hence, it will not require an EPA NPDES water discharge permit. It will also not require a U.S. Army Corps of Engineers Section 404 permit. No wetlands will be impacted by the project. At this time based on the current project configuration which involves mining on patented mining claims at the mine site and leased fee land at the processing site, it appears some level of environmental analysis by the BLM under the National Environmental Policy Act (NEPA) will be required for the haul road right-of-way.

4.6 OTHER SIGNIFICANT FACTORS AND RISKS

As with most mining projects, there is risk associated with the final outcome of permitting. For example, the Division 037 Permit could be administratively appealed or litigated. The permitting process may be delayed, causing funding issues or adverse effects on a construction schedule. There may be changes in agency personnel or project personnel resulting in decision deferrals. Other risks can involve tightening of regulations and/or restrictive environmental standards. Nearly all the environmental permitting risk deals with the uncertainty of the regulatory process.

Calico has adopted a set of environmental principles designed to limit or mitigate these risks. The following are some of the more important risk management measures:

- Minimize the project disturbance footprint;
- Design the Project so as to not discharge to waters of the U.S.;

- Incorporate the best available technology in terms of standard operating procedures (SOPs) and best management practices (BMPs) into project design;
- Aggressively monitor surface water and ground water to confirm BMP effectiveness;
- Integrate wildlife habitat mitigation and enhancement proposals as part of an environmentally responsible reclamation and closure plan;
- Conduct concurrent reclamation during construction and operation;
- Provide adequate financial assurance necessary to implement an effective reclamation; and closure program at the site.

5 ACCESS, CLIMATE, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 TOPOGRAPHY, ELEVATION AND VEGETATION

The Grassy Mountain property is located in the semi-arid plateau region of eastern Oregon. The local landscape is typical of a high mountain desert environment and range land, with abundant sagebrush and desert grasses. Terrain is gentle to moderate throughout most of the project area, with elevations ranging from 3,330 to 4,300 ft above mean sea level. Seasonal mean temperatures are typical of the western United States, with mostly sunny winter and summer skies and little overcast. Local weather data indicate a mean annual temperature of 52° F, with daily temperatures ranging from an extreme low of -20°F in the winter to extreme highs of 100°F and higher in the summer. Annual precipitation is about 9.8 inches, roughly half of which falls as snow between November and March. Winter and wet weather occasionally limit access to the project site, but operations may generally be carried out year-round.

5.2 CLIMATE AND LENGTH OF OPERATING SEASON

The site is near highways and it is expected that seasonal road maintenance will be sufficient to provide access to the mine site for all personnel and any deliveries related to the mine site. It is expected that a two week supply of most required goods will be held as a minimum inventory level.

5.3 SUFFICIENCY OF SURFACE RIGHTS

It is expected that all facilities will be on land controlled by Calico.

5.4 ACCESSIBILITY AND TRANSPORTATION TO THE PROPERTY

Access to the Grassy Mountain property is provided by Twin Springs Road, a partially maintained gravel road which originates at US Highway 20 approximately 4 miles west of the city of Vale. Winter and wet weather conditions occasionally limit access to the property, though on-site travel is generally possible year-round.

5.5 INFRASTRUCTURE AVAILABILITY AND SOURCES

At present, no infrastructure is located on the Grassy Mountain property, except for several unimproved dirt access and drilling exploration roads. Ample fee land is available for the construction of the plant site, infrastructure and operations center.

5.5.1 POWER

There is no available electrical power at the project.

5.5.2 WATER

Water to support current exploration activity is available from on-site wells. A preliminary estimate of long term water needs for mining and processing is 150 to 300 gpm. Calico has already developed capacities above 200 gpm from multiple wells near the mill and mine sites. Section 18.3 describes water needs and sources in more detail.

5.5.3 MINING PERSONNEL

Logistical support is available in Vale, Nyssa, and Ontario, Oregon, all of which are located within 20 miles of the project site. Mining personnel and resources for operations at Grassy Mountain are expected to be available from Malheur County, Oregon, and the greater Boise area in neighboring southern Idaho.

5.5.4 TAILINGS STORAGE AREA

The tailings will be stored in two locations, a small facility near the processing facility expected to store between 500,000 tons and 1.5Mt. The second storage of wastes from the process plant will be placed back underground as cemented fill to stabilize underground activities and protect the personnel and equipment that will be underground. Any excess from the startup for the milling and underground operation will be stored on the Grassy Mountain claims until it is reclaimed or used underground for backfill.

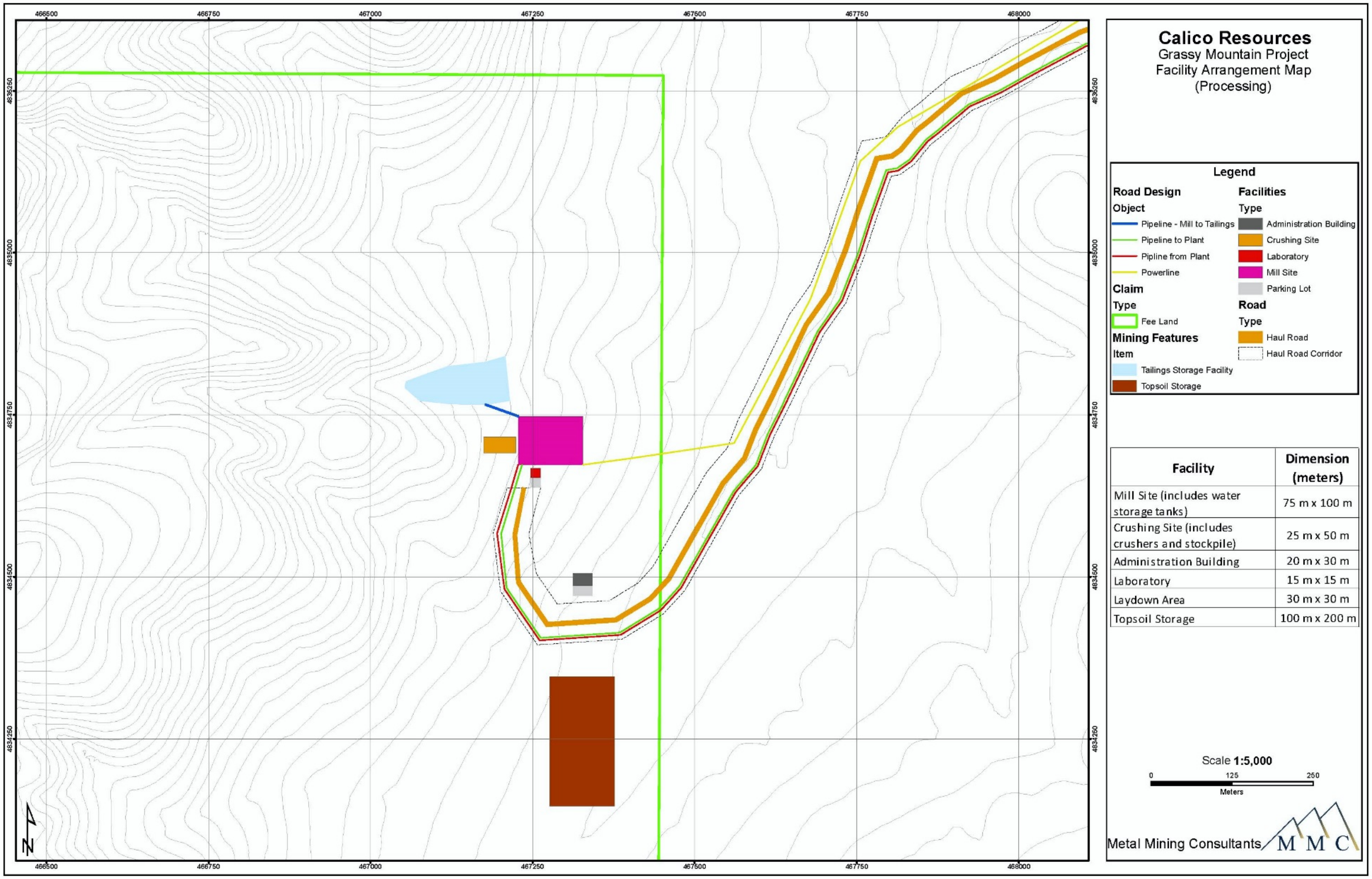
5.5.5 WASTE STORAGE FACILITIES

Waste rock storage facilities will be located near the mine site. Most mine waste will be used for underground backfill.

5.5.6 PROCESSING PLANT SITES

Figure 5.1 identifies the anticipated site layout for the Project.

Figure 5.1 Processing Site Layout



Facility	Dimension (meters)
Mill Site (includes water storage tanks)	75 m x 100 m
Crushing Site (includes crushers and stockpile)	25 m x 50 m
Administration Building	20 m x 30 m
Laboratory	15 m x 15 m
Laydown Area	30 m x 30 m
Topsoil Storage	100 m x 200 m

6 HISTORY

6.1 PRIOR OWNERSHIP AND EXPLORATION

Atlas Precious Metals (Atlas) acquired the Grassy Mountain property from two independent geologists, Dick Sherry and Skip Yates, in 1986. Between 1986 and 1991, Atlas conducted detailed mapping and sampling and completed 403 drill holes for a total of 221,500 ft. Atlas identified exploration targets at Grassy Mountain based on claim-corner (600- by 1500-ft grid) soil sampling anomalies, and conducted detailed soil and float sampling on several prospects. Atlas expanded the original claim block and collected a wealth of geologic, mine engineering, civil engineering, and environmental baseline data to support a feasibility study, which was completed in 1990. Declining gold prices and the perception of an unfavorable permitting environment discouraged Atlas from developing the project, and the property was optioned to Newmont Exploration Ltd (Newmont) in 1992.

Newmont leased the Grassy Mountain property from Atlas in September 1992 for US$30 million. In 1993, Newmont geologists mapped 40 square miles at a scale of 1:6000 and collected approximately 2,600 soil samples on a 400-ft by 200-ft grid. During 1993 and 1994, Newmont collected more than 400 rock chip samples and conducted several geophysical programs. A ground based gravity survey was carried out along roadways and airborne magnetic and radiometric surveys were flown over the entire property. Ground based gradient array and ground magnetic surveys were conducted over primary target areas. In late 1994, Newmont drilled 15 holes totaling 15,009.5 feet and completed a mineral resource estimate that became the basis for an economic and mining method evaluation that was completed in 1995. Newmont determined that the project did not meet corporate objectives and returned the property to Atlas in September 1996.

In January 1998, Atlas granted Tombstone Exploration Company Ltd (Tombstone) the option to purchase 100% of the property. Tombstone executed the option agreement and conducted an exploration program which included 8 reverse circulation and two core holes totaling roughly 8,072 ft. Lack of venture capital forced Tombstone to return the property to Atlas in May 1998.

In February 2000, Seabridge Gold entered an option agreement with Atlas to acquire a 100% interest in the Grassy Mountain property. Seabridge completed its acquisition of the Grassy Mountain Project in April 2003, and in April 2011, signed an option agreement granting Calico Resources the sole and exclusive right and option to earn a 100% interest in the project.

6.2 HISTORIC EXPLORATION

Historic exploration conducted by previous operators (not conducted by or on behalf of Calico) includes exploration programs carried out by Atlas, Newmont, and Tombstone.

6.2.1 ATLAS CORPORATION

Atlas recognized soil geochemistry as an important tool for locating buried hydrothermal cells at Grassy Mountain. Most Atlas exploration targets were identified by claim-corner (600’ X 1500’ grid) soil sampling anomalies. Atlas conducted detailed soil and float sampling on several anomalies and identified a genetic link between gold mineralization and silicification. Atlas completed a total of 403 drill holes on the Grassy Mountain property. Out of the total, 193 were vertically oriented RC holes on 75 to 100 ft centers within the Grassy Mountain resource area. The remaining drill holes were located on prospects away from the main Grassy Mountain resource area. Many of these represent areas where additional mineralized resources might be developed in the future.

Atlas' RC holes were drilled by Ekland Drilling Company from Elko, Nevada using Ingersoll Rand TH-60 and RD-10 truck-mounted drills with a nominal hole diameter of 5¼ inches. The RC cuttings were collected as five foot long samples. Twenty-two of the Atlas RC holes were drilled to at least 1,000 ft in depth. Groundwater was reportedly not encountered above 750 ft, with the exception of some local perched water tables that were intersected along the northern portions of the deposit. Because the deposit is strongly silicified, drilling penetration rate was slow and resulted in excessive bit wear. Drilling along the main northeast structures was completed with some difficulty due to tight hole conditions and caving of rubble zones.

Atlas drilled ten core holes at Grassy Mountain to confirm high-grade mineralization identified by RC drilling methods, obtain samples for metallurgical testwork, and to collect geotechnical data. Two confirmation holes were drilled as NC and NQ angle holes by Longyear, Incorporated. Five core holes drilled specifically to obtain sample material for metallurgical testing were drilled as vertical PQ diameter holes by Boyles Brothers. Three geotechnical holes were also drilled by Boyles Brothers. Collar locations were surveyed by Apex Surveying from Riverton, Wyoming using a total station, and the holes were surveyed down-the-hole using an Eastman down-hole camera. Assay records indicate that the confirmation holes were sampled on interval lengths ranging from 0.5 to 7.5 ft in length, with an average sample length of 4.5 ft. Whole core from the metallurgical holes was shipped to Hazen Research Inc. for metallurgical testwork, and the geotechnical holes were logged for various geotechnical parameters (e.g. RQD, fracture frequency, etc.).

In addition to the main Grassy Mountain resource, Atlas developed another prospect called Crabgrass, which is located approximately 1.5 miles west-southwest of the Grassy Mountain deposit. Atlas drilled 63 holes at Crabgrass and defined three separate near surface mineralized zones. Cumulatively these zones constitute a near surface non-NI 43-101 compliant "Historic Resource" that is summarized in Table 6.3.

6.2.2 NEWMONT EXPLORATION

Newmont began soil sampling on a 400-ft by 200-ft grid hoping to identify anomalies missed by the coarser Atlas grid. Approximately 2,600 soil samples, covering the central claim block, were collected by Newmont. Over 400 rock chip samples were collected, and three target areas were defined. Newmont also conducted a ground based gravity survey along existing roads, airborne magnetic and radiometric surveys over the entire property, and ground based gradient array (IP/resistivity) surveys over the main deposit and several of the satellite deposits. Ground magnetic surveys were conducted over the primary target areas.

Newmont initiated an eleven-hole (11,472 ft) inclined diamond core drilling program designed to intersect and define the geometry of potential high-grade gold zones. Additionally, Newmont drilled one wedge hole off of their initial core drill hole. Three additional holes (2,912 ft) were drilled as RC pilot holes with core tails. Drilling was completed by Longyear Incorporated of Spokane, Washington. All of the holes were drilled as HQ diameter, with the exception of four holes which had to be reduced to NQ size due to ground conditions. Down-hole surveys were conducted by Scientific Drilling from Elko Nevada, but the method used is unknown.

Newmont's angle core program intercepted several high-grade (> 0.10 opt) gold zones within an area measuring 600 ft long by 350 ft wide by 250 ft thick. Mineralization was constrained to the northeast by a single hole which failed to encounter intercepts in excess of 0.10 opt. Newmont considered the western extent of the main high-grade zone effectively closed off after encountering only low grade gold (0.012 - 0.019 opt) and local barren quartz-chalcedony veins.

6.2.3 TOMBSTONE EXPLORATION

Prior to finalizing their agreement with Atlas, Tombstone completed an extensive review of previous work at the property and commissioned an economic study of alternative development scenarios. Relying heavily on Newmont's gradient array surveys to define potential targets, Tombstone initiated a 10 hole drilling program that totaled 8,072 ft of reverse circulation and core drilling. Dateline Drilling Incorporated from Missoula, Montana performed all of Tombstone's RC drilling, and diamond core drilling was completed by Ray Hyne Drilling from Winnemucca, Nevada.

Down hole surveys were reportedly conducted by Silver State Surveys, Incorporated from Elko, Nevada using a gyroscopic survey tool, but no written records are present in Calico's archives. However, the survey measurements in the historic drill hole database indicate that the drill holes did not deviate to any significant degree.

6.3 HISTORICAL MINERAL RESOURCE AND RESERVE ESTIMATES

A variety of historical resource and reserve estimates were completed on behalf of previous owners and operators. These historical estimates are summarized in the June, 2011, technical report prepared by Resource Modeling Inc., and are described in detail in various associated internal reports. These resource and reserve estimates are not compliant with current NI 43-101 standards, have not been independently verified by MMC, are not relevant to the mineral resource estimate presented in this report, and are mentioned here for historical completeness only. The mineral resource categories applied to the historic resource estimates do not comply with currently recognized mineral resource categories as defined by CIM, and are not suitable for more than gross comparison with the resource estimate presented herein. The historic mineral resource estimates are presented here simply to provide historical perspective regarding the range of estimates produced using different data, methods, and assumptions, and no relationship with the current mineral resource estimate is meant to be implied.

Table 6.1 Historic Open Pit Type "Resources"

Open Pit Type 'Resources'						
Year	Source of Estimate	Au Cutoff (opt)	Tons Above Cutoff	Mean Au (opt)	Contained Au (oz)	Comments
1990	PAH	0.020	17,200,000	0.061	1,053,100	Geologic "Resource" - global block model tabulation, 1990 Kilborn Feasibility Study
1991	PAH	0.020	15,900,000	0.062	996,000	Open pit '"Reserve" - used in 1990 Kilborn Feasibility Study
1993	NEL	0.010	25,400,000	0.032	803,000	Manual polygonal "Resource"
1993	NEL	0.020	13,600,000	0.045	617,091	Global recovery "Resource"
1993	NEL	0.020	14,900,000	0.061	900,010	Global recovery "Resource"
1994	NGC	0.020	20,300,000	0.039	783,000	Geologic "Resource" - DDH only, conservative vein distribution, normal mean
1994	NGC	0.020	20,300,000	0.059	1,194,000	Geologic "Resource" - DDH only, optimistic vein distribution, lognormal mean
1994	NGC	0.020	18,000,000	0.04	721,000	Open pit "Resource" - DDH only, conservative vein distribution, normal mean
1994	NGC	0.020	18,000,000	0.063	1,126,000	Open pit "Resource" - DDH only, optimistic vein distribution, lognormal mean
1997	PAH	0.020	17,252,000	0.052	899,000	"Measured" and "Indicated" Mineral Resource

Table 6.2 Historic Underground Type "Resources"

Underground Type 'Resources'						
Year	Source of Estimate	Au Cutoff (opt)	Tons Above Cutoff	Mean Au (opt)	Contained Au (oz)	Comments
1990	Atlas	0.500	90,210	1.550	139,765	Manual polygonal underground estimate
1991	Dynatec	0.500	131,632	1.130	148,774	Diluted underground "Reserve"
1993	TWC	0.500	62,943	1.660	104,774	Undiluted underground "Reserve"
1993	PAH	0.100	1,562,000	0.256	414,600	Kilborn prefeasibility study for Newmont-diluted "Reserve "
1993	NGC	0.200	1,400,000	0.156	204,000	Underground "Resource" - DDH only, conservative vein distribution, normal mean
1994	NGC	0.200	1,400,000	0.350	458,000	Underground "Resource" - DDH only, conservative vein distribution, lognormal mean

Table 6.3 Historic Open Pit Type "Resources" at Crabgrass Prospect

Open Pit Type "Resources"						
Year	Source of Estimate	Au Cutoff (opt)	Tons Above Cutoff	Mean Au (opt)	Contained Au (oz)	Comments
1990	Atlas Interoffice Correspondence	0.010	1,694,832	0.023	38,385	Manual Polygonal "Resource"
1990	Atlas Interoffice Correspondence	0.020	621,583	0.039	24,473	Manual Polygonal "Resource"

6.4 HISTORIC PRODUCTION

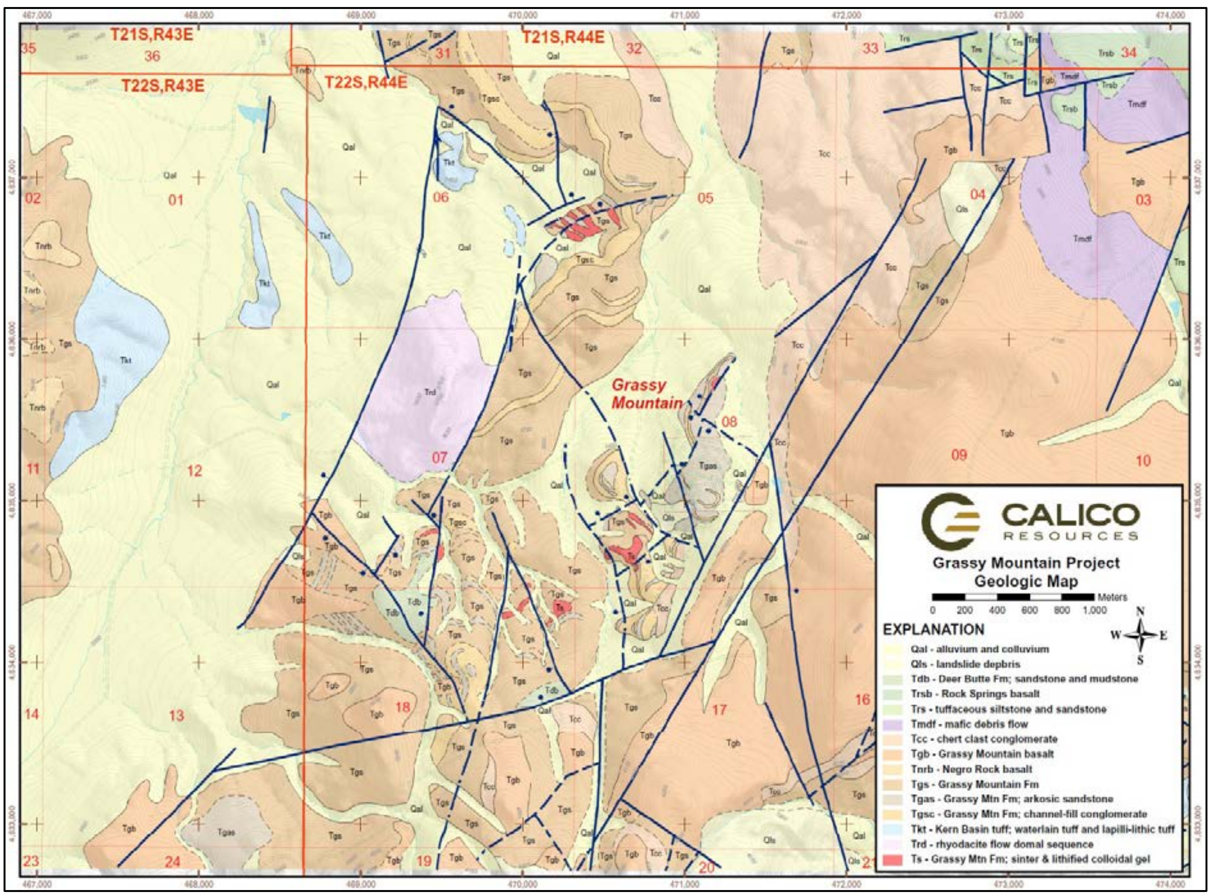
No production has occurred on the Grassy Mountain Project to date.

7 GEOLOGIC SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY SETTING

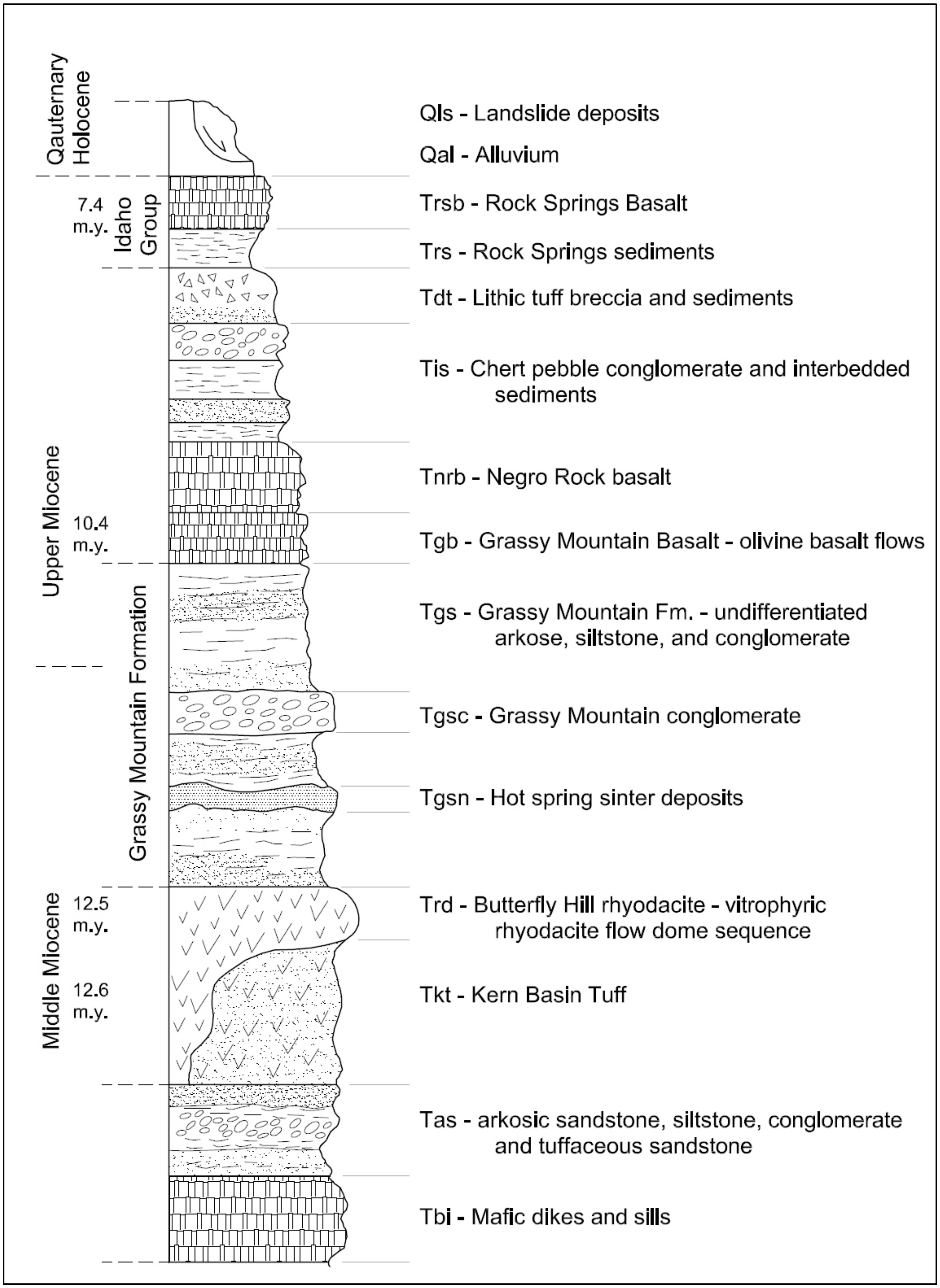
Grassy Mountain is the largest of twelve recognized epithermal hot spring precious metal deposits of the Lake Owyhee volcanic field. The Lake Owyhee volcanic field occurs at the intersection of three tectonic provinces: the buried cratonic margin, the northern Basin and Range, and the Snake River Plain. During the mid-Miocene, large volume, peralkaline, caldera volcanism occurred in response to large, silicic magma chambers emplaced in the shallow crust throughout the region (Rytuba and McKee, 1984). The volcanic field includes several caldera-sourced ash-flow sheets and rhyolite tuff cones that were deposited between 15.5 to 15 Ma (Rytuba and Vander Meulen, 1991). The regional geology is presented in Figure 7.1.

Figure 7.1 Regional Geology



At about 15 Ma, subsidence of the Lake Owyhee volcanic field triggered a change in volcanic eruption style, resulting in small volume, basalt-rhyolite deposits of limited extent. Volcanism during the mid to late Miocene is evidenced by small volume, metaluminous, high-silica rhyolite domes and flows, and small volume basalt flows and mafic vent complexes in north- and northwest-trending Basin and Range-type fracture zones and ring structures related to resurgent calderas. Regional subsidence facilitated the formation of through-going fluvial systems, and large volumes of fluvial sediments, sourced from the exhumed Idaho Batholith to the east, were deposited in conjunction with volcanism and hot spring activity during the waning stages of volcanic field development (Cummings, 1991). The resulting regional stratigraphic section is a thick sequence of mid-Miocene volcanic rocks and coeval-to-Pliocene age non-marine lacustrine, volcaniclastic, and fluvial sedimentary rocks. Figure 7.2 shows the regional stratigraphic column.

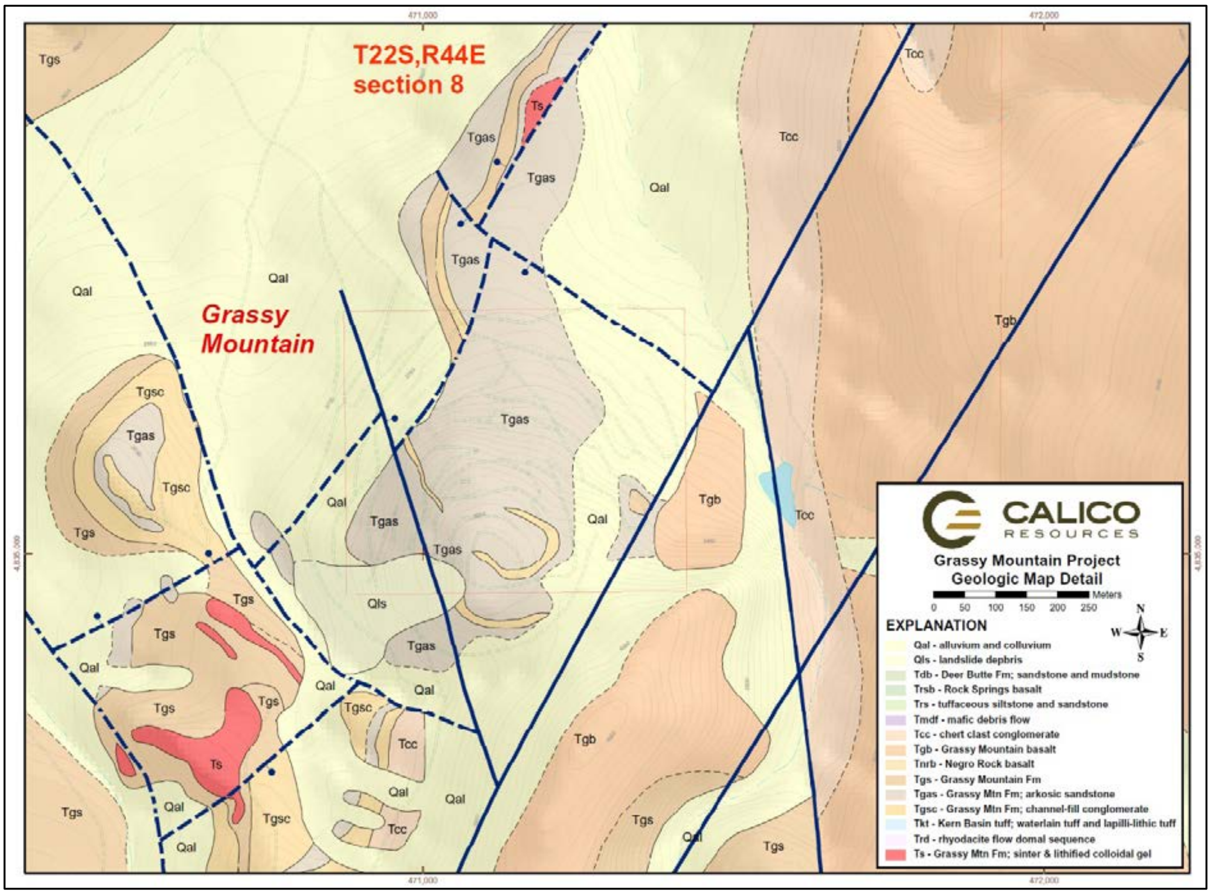
Figure 7.2 Regional Stratigraphy



7.2 LOCAL AND PROPERTY GEOLOGY

Bedrock outcrops in the vicinity of the Grassy Mountain property are typically composed of olivine-rich basalt and siltstones, sandstones, and conglomerates of the late Miocene Grassy Mountain Formation. These rocks are locally covered with relatively thin, unconsolidated alluvial and colluvial deposits. Erosion-resistant basalts cap local topographic highs. Arkosic sandstones have been encountered at the surface and at depth, but have not been correlated across the project area, in part due to lateral discontinuity associated with sedimentary facies changes and structural offset. The project area geology is shown in Figure 7.3.

Figure 7.3 Project Area Geology



Surface and drill-defined stratigraphy at the Grassy Mountain site reveals complex facies that were produced during the waning stages of deposition of the Lake Owyhee volcanic field (Lechner, 2011). The oldest units encountered are the flow-on-flow Blackjack and Owyhee Basalts (14.3 to 13.6 Ma). These basalts are overlain by arkosic sandstone, tuffaceous sandstone, and conglomerates of the Deer Butte Formation.

The basal unit to the overlying Grassy Mountain Formation is the Kern Basin Tuff, a non-welded, pumiceous, crystal tuff which displays cross beds and local surge structures. Clast size, thickness of individual ash units, and bedding structures suggest a source in the Grassy Mountain area (Cummings, 1991). The Kern Basin Tuff ranges in thickness from 300 ft on the south bluffs of Grassy Mountain, to 1,500 ft in a drill hole beneath the Grassy Mountain Project area.

The Kern Basin Tuff is overlain by a series of fluvial, lacustrine, and tuffaceous sediments. Most of the sedimentary units in the project area are silicified and strongly indurated. These sedimentary units include granitic clast conglomerate, arkosic sandstone, fine grained sandstone, siltstone, and tuffaceous siltstone/mudstone. The sedimentary facies of the Grassy Mountain Formation reportedly range from 300 to over 1,000 ft thick, and provide the host rocks of the Grassy Mountain mineral resource.

Several siliceous terraces are interbedded with the silicified sediments of the Grassy Mountain Formation. Terrace construction was apparently episodic and intermittently inundated by fluvial/lacustrine sediments and ash, resulting in an interbedded sequence of siltstone, tuffaceous siltstone, sandstone, conglomerate, and sinter terrace deposits. Load casts, flame textures, convolute lamination and other soft-sediment deformation textures are common in both the sinter beds and sedimentary facies (Siems, 1990). The amount and size of the sinter clasts in the sedimentary rocks reflect relative proximity to a terrace. Proximal deposits are angular, inhomogeneous, clast-supported breccias of sandstone, siltstone, and sinter with indistinct clast boundaries in a sulfidic mud-textured matrix.

Grassy Mountain is a prominent, 150 ft high, silicified and iron-stained knob. Bedding is horizontal at the hilltop, and dips at 10° to 25° to the north-northeast on the northern and eastern flanks of the hill. The bedding dip steepens to 30° to 40° on the west side of the hill due to drag folding in the footwall of the N20W striking Antelope Fault. The southwest slope of Grassy Mountain is covered by silicified arkose landslide debris.

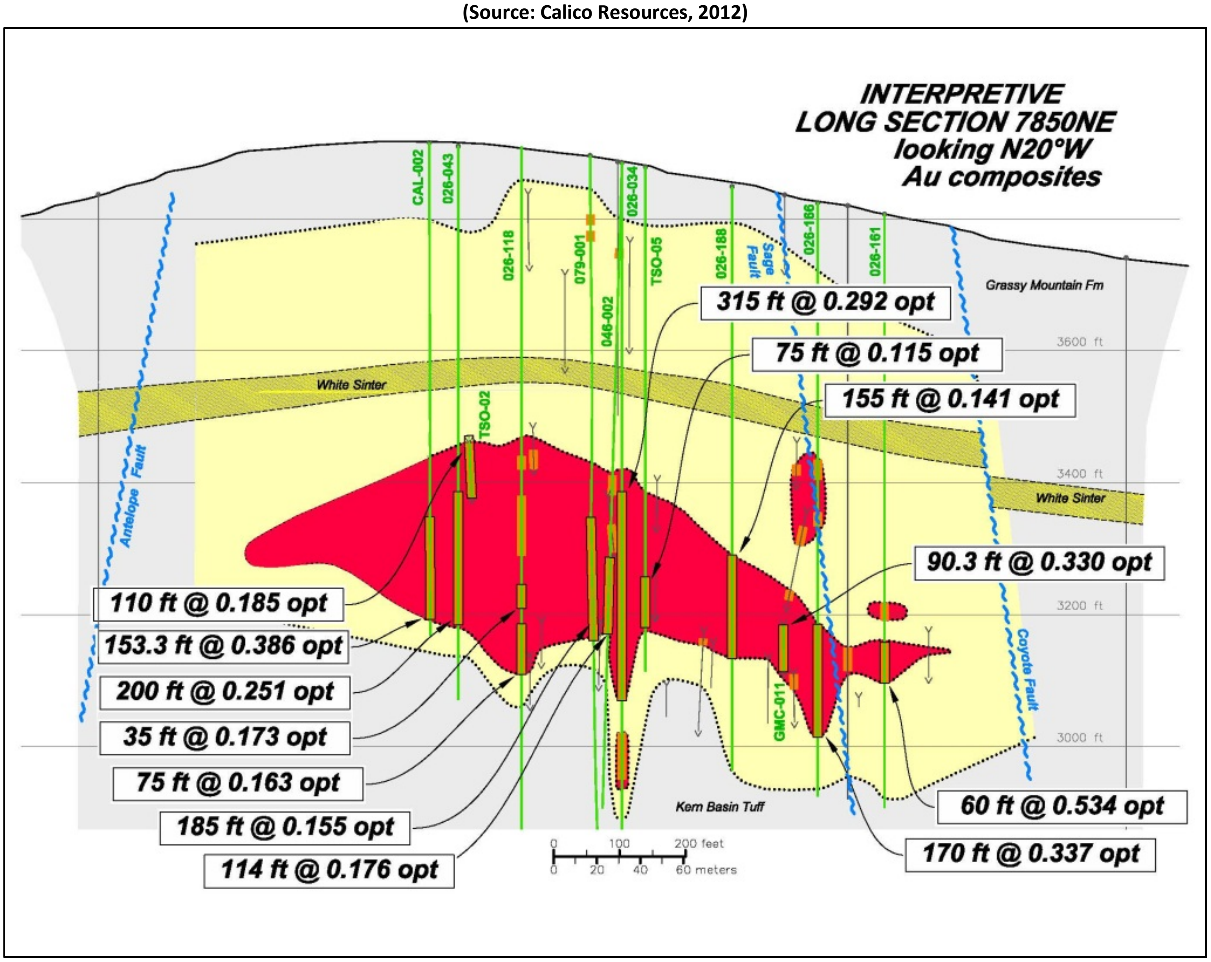
Grassy Mountain is a horst block which has been raised 50 to 200 ft in a region of complex block faulting and rotation. Faulting at Grassy Mountain is dominated by post-mineral N30W to N10E striking normal faults developed during Basin and Range extension. On the northeast side of the deposit, these faults progressively down-drop mineralization beneath post-mineral cover. These offsets are suggested by interpreted offsets of a prominent white sinter bed in drill holes as well as intersections with fault gouge. The N70E striking Grassy Mountain Fault shows minor vertical offset of only 10 to 40 ft.

7.3 SIGNIFICANT MINERALIZED ZONES

The surface expression of the Grassy Mountain system is indicated by weak to moderately strong silicification and iron staining with scattered 1/8-in to 1-in wide creamy to light gray chalcedonic veinlets. Approximate dimensions of the Grassy Mountain deposit are 1600 ft long by 1000 ft wide by 600 ft thick. The deposit has a general N70 E elongation and a 15° bedding plane dip to the north-northeast as a result of faulting and fault block rotation. There is an envelope of lower grade mineralization at depths of 200 to 800 ft which contains a higher-grade zone of mineralization between 500 and 750 ft below the surface. The well-defined base of higher grade mineralization from about 700 to 750 ft in depth suggests a strong pressure-temperature control on gold deposition. This pressure-temperature control likely indicates a boiling horizon in the hydrothermal system which acted as a controlling mechanism on gold deposition. Boiling horizons are common in hydrothermal systems and are identified by sinter and/or hydrothermal breccia. These sinters and breccias often parallel the paleosurface present at the time of mineralization. Breccias tend to be clast supported with minimal clast rotation. They occur where over-pressuring in the hydrothermal system caused hydrofracturing of the rocks. The fractures create a stockwork pattern generally found below the sinter, though some vein extensions may extend to the surface. The stockwork is surrounded by silicified sediments. Mineralized quartz-adularia stockwork and vein types include single, banded, colliform, brecciated, and calcite-pseudomorphed veins. Visible gold (0.5 mm) has been found within the stockwork portions of the boiling horizon. The gold mostly occurs as electrum along the fracture margins or within microscopic voids. A brassy color is imparted due to the high silver content. The average silver to gold ratio at Grassy Mountain is 2.5:1. Vein adularia was K-Ar dated at 13.1 million years (Siems, 1990).

Figure 7.4 Geologic Cross Section of the Grassy Mountain Deposit

(Source: Calico Resources, 2012)



Silicification in the form of sinters and disseminated quartz is the dominant alteration type at Grassy Mountain and is largely controlled by hot-spring vents. Silicification occurs both pervasively as silica flooding and as cross-cutting veins, veinlets and stockworks. The silicified envelope has plan dimensions of 3000 ft (N-S) by 2500 ft (E-W). Silicification is surrounded by barren, unaltered, clay-rich (20-40% montmorillonite), tuffaceous siltstone and arkose with minor disseminated diagenetic pyrite. Many of the sinters occur as sheets instead of mounds, which suggests that they are related to vents along faults rather than point sources.

Potassic alteration occurs as adularia flooding with destruction of biotite. Orthoclase is unaffected by potassic alteration, and plagioclase is replaced by adularia (Dobak, 1993). The adularia is extremely fine-grained and is identified microscopically or by cobaltinitrite staining. Sulfate phases identified by XRD include jarosite and alunite in several mineralized samples.

The youngest event genetically linked to the hydrothermal system includes the rubble zones of clay matrix breccia, believed to represent a period of late boiling along pre-existing conduits as H2S and CO2 were expelled from the system. Since these breccias were formed along mineralized faults they remobilized and rotated veined arkose and siltstone. These clast-supported breccias contain sub-rounded to sub-angular sand to boulder-sized clasts of silicified arkose and siltstone in a jarosite-sericite clay matrix.

The Grassy Mountain deposit has a trace element signature that includes low levels of As, Sb, and Hg.

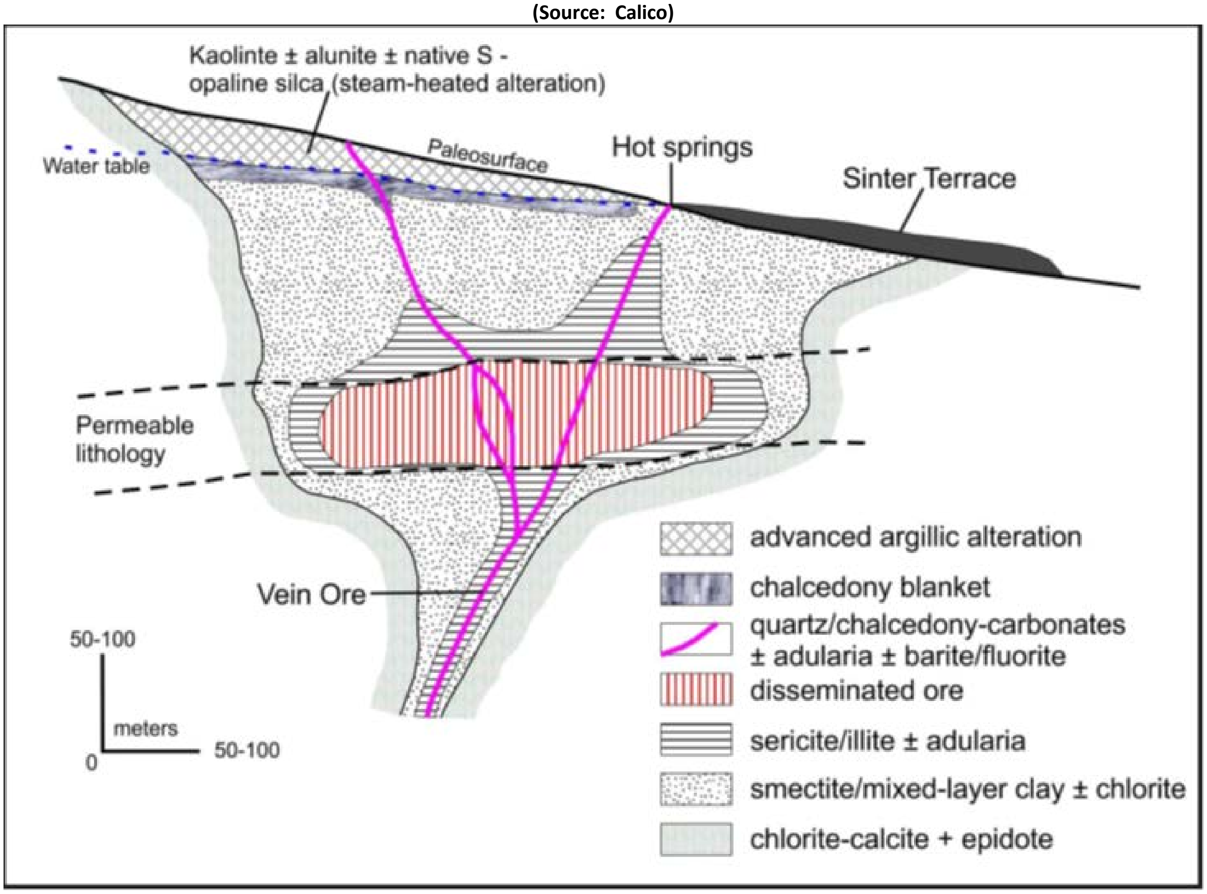
8 DEPOSIT TYPE

Mineralization of the Grassy Mountain deposit includes low grade gold associated with hot springs sinter deposition, and high grade gold associated with multi-stage quartz-adularia-gold-silver veining and stockworks, late remobilization within sub-vertical rubble zones defined by clay matrix breccias, and kaolinitic acid-leached zones beneath sinter caps. The deposit is characterized by stacked sinter terraces capping acid-leached sediments and multiple generations of veining which suggest repeated eruption, brecciation, breeching, and sealing of the hydrothermal system. At a depth of 300 ft, the main sinter at Grassy Mountain is underlain by a zone of intense silicification which formed a seal or cap over the hydrothermal system. Explosive brecciation (indicated by the clay matrix breccia lithology) beneath the silicified cap suggests that the overpressured hot-springs system discharged a violent and sudden release of energy. H_2S- and CO_2-rich gases evolved during boiling to produce an acid-sulfate solution which acid-leached the host rock through downward percolation. A conceptual model of the Grassy Mountain geologic and mineralization model is depicted in Figure 8.1.

The schematic section below shows the generalized patterns of alteration in a low-sulfidation system showing the variable form with increasing depth, and the typical alteration zonation, including the distribution of sinter, a blanket of advanced argillic (AA) steam-heated alteration and water table silicification (Buchanan, 1981; Sillitoe, 1993a). The geologic variation between deposits accounts for many deviations from this generalization.

Figure 8.1 Conceptual Hot Springs Gold Model

(Source: Calico)



9 EXPLORATION

9.1 EXPLORATION TARGETS

Property-wide exploration work was initiated by Atlas. Their work included geologic mapping, rock and soil sampling, trenching and drilling as described in Section 6.2.1 of this report. During Newmont's time at the project, they continued with the property focused exploration and also expanded their activities to evaluate exploration potential on a district scale. Details of Newmont's work are discussed in Section 6.2.2 in this report. The combined work of Atlas and Newmont has identified approximately sixteen targets that merit additional exploration work. These targets are shown in Figure 9.1, eleven of the best developed targets are described below.

The historic exploration information is presented here simply to provide historical perspective regarding the exploration activities that have been conducted on the property. This information is in no way meant to imply that any of these targets will be developed into a mineral resource or reserve. There is no guarantee that these target areas will add to the value of the project.

9.1.1 CRABGRASS

The Crabgrass prospect is discussed in Sections 6.2 and 9.1.1 of this report. The historic "resource estimate" for Crabgrass is shown in Table 6.3. The three mineralized areas that comprise the Crabgrass prospect are hosted in silicified and oxidized arkosic sandstones and siltstones of the Grassy Mountain Formation.

9.1.2 BLUEGRASS

This target is located 1.2 miles northeast of the Grassy Mountain deposit. Sixteen reverse circulation drill holes have been completed in the area. The best hole intersected 65 feet averaging 0.035 opt Au beginning at 140 ft down the hole.

9.1.3 SNAKE FLATS

This area is 2 ¼ miles to the northeast of the main deposit. The target was identified by mapping a train of silicified arkose and sinter boulders. Geochemical values in the altered boulders contain up to 1020 ppb Au (0.03 opt Au). The source area for these boulders appears to be somewhere beneath a post mineral basalt covered mesa in the area. Three reverse circulation drill holes were completed in the area. These holes drilled through about 100 ft of the post-mineral basalt and then went into unaltered Grassy Mountain Formation. Additional work is necessary to identify the source for the mineralized boulders.

9.1.4 WOOD

This target is 1.2 miles northwest of the main deposit area. Wood was identified by surface rock and soil sampling, followed by surface trenching. Rock chip samples that were taken from a small outcrop of weakly silicified volcanic rocks returned assays values of 250 to 300 ppb Au. Fifteen shallow reverse circulation drill holes were completed in the area. The best intercept was 30 feet averaging 0.073 opt Au beginning at 30 ft down the hole. A surface trench cutting across the mineralized zone revealed a 30 ft wide interval that averaged 0.035 opt Au.

9.1.5 WALLY

The Wally target is found 1.5 miles north-northwest of the Grassy Mountain deposit. The area is similar to the Wood target and is defined by elevated Au, As, Sb and Hg geochemical values. Au in soil values of up to 110 ppb Au and 648 ppb Hg occur over the target. The best drill hole intercept in this target was 90 feet @ 0.025 opt Au beginning at 100 ft down the hole.

9.1.6 RYEGRASS

The Ryegrass target is located 1.2 miles north of the Grassy Mountain deposit. This area was identified by mapping silicified zones in outcrops of Grassy Mountain Formation. Follow-up rock chip sampling of the outcrops returned values of 20 to 25 ppb Au and 900 to 1000 ppb Hg.

9.1.7 CLOVER

This target is one mile west of the main deposit and is identified as an area of weakly silicified arkosic rocks of the Grassy Mountain Formation. This silicified zone is adjacent to a northeast trending fault. Rock chip sampling identified an outcrop containing 25 ppb Au. Soil sampling in the area has outlined an area approximately 500 ft X 500 ft with >100 ppb Au in soils. The highest assay of soils samples was 225 ppb Au.

9.1.8 BUNCHGRASS

This is located ½ mile south of Crabgrass and represents the same target style as Crabgrass. Bunchgrass is an area of anomalous soil samples ranging from 15 ppb to 85 ppb Au associated with silicified arkosic sandstones. There are also elevated values of other pathfinder elements (Hg, As, Sb). The target area is approximately 750 ft wide.

9.1.9 SWEETGRASS

Sweetgrass is located approximately 2 miles south-southwest of the Grassy Mountain deposit. A large boulder of siliceous sinter float was found in an area of poorly exposed Grassy Mountain Formation. Assays of the boulder returned 1030 ppb Au. Additional sampling in the area did not return any significant values however more work is warranted to determine the source of this siliceous sinter boulder.

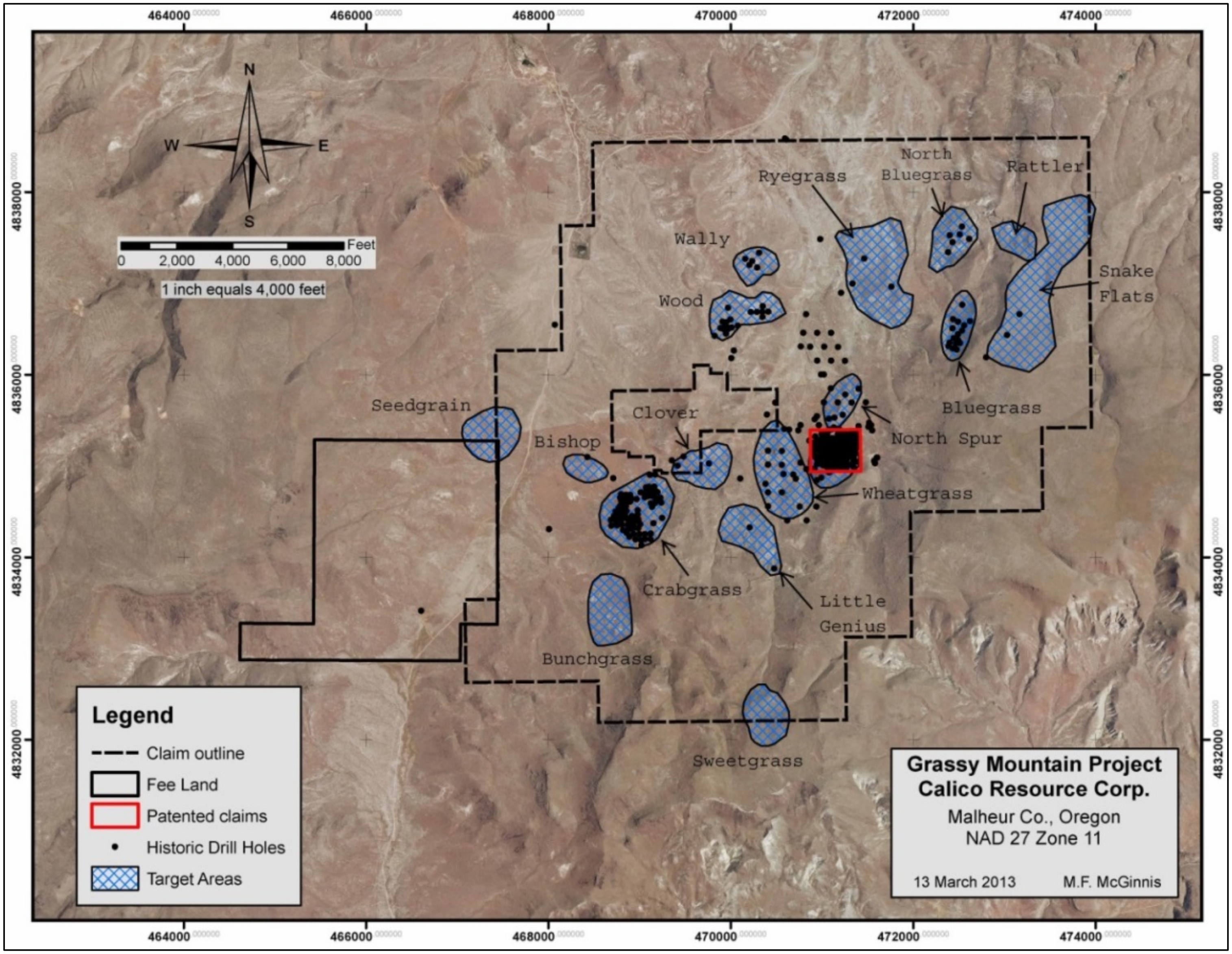
9.1.10 NORTH SPUR

North Spur is near the main Grassy Mountain deposit being just 2,000 ft to the north-northeast. North Spur is most likely a faulted off-set of the deposit area. It might also be a down-faulted block. North Spur has been tested with 9 or 10 shallow reverse circulation drill holes. All of these holes were drilled vertically and did not adequately test for mineralized structures.

9.1.11 WHEATGRASS

This target area is approximately 1500 ft west-southwest of the Grassy Mountain resource area. The area may represent a down-faulted off-set of the deposit area. A number of reverse circulation drill holes have tested this area with some narrow low grade intersections being encountered. This target requires additional drilling as most of the historic holes have been drilled too shallow to test the full vertical extent of the Grassy Mountain Formation in this area.

Table 9.1 Exploration Target Areas



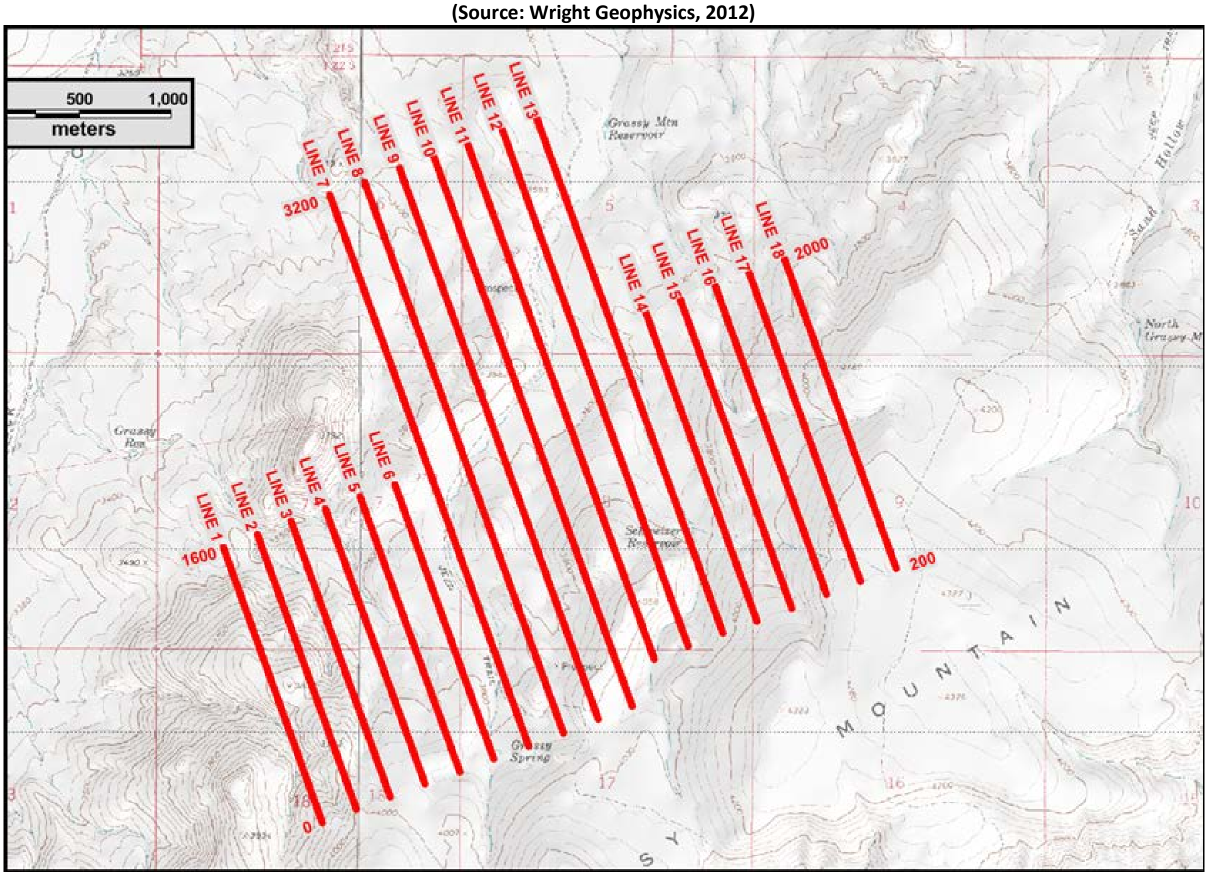
9.2 CALICO EXPLORATION

9.2.1 CALICO GEOPHYSICAL SURVEY

A controlled source audio magneto-telluric (CSAMT) geophysical survey was completed over a portion of the Grassy Mountain property during the period of February 6 - 17, 2012. The objective was to assist in the definition of structures, alteration and lithology's associated with gold mineralization at Grassy Mountain. When completed, the survey covered 40. 4 line kilometers and 7.5 square kilometers. Figure 9.1 shows the locations of the CSAMT survey lines plotted on topography.

Figure 9.1 CSAMT Survey Location

(Source: Wright Geophysics, 2012)



The CSAMT survey identified numerous areas of potential silica alteration assumed to be either sinter or silicification. These areas correlate directly with historic drilling and gold mineralization, as would be expected for hot springs type gold deposits. A bedded lithologic package composed of basalts and sediments cut by numerous high angle structures is also delineated by the CSAMT. Figures 9.2 and 9.3 show examples of the plan plot and sectional interpretations of the data, respectively.

Figure 9.2 Example CSAMT Geophysical Plan Plot

(Source: Wright Geophysics, 2012)

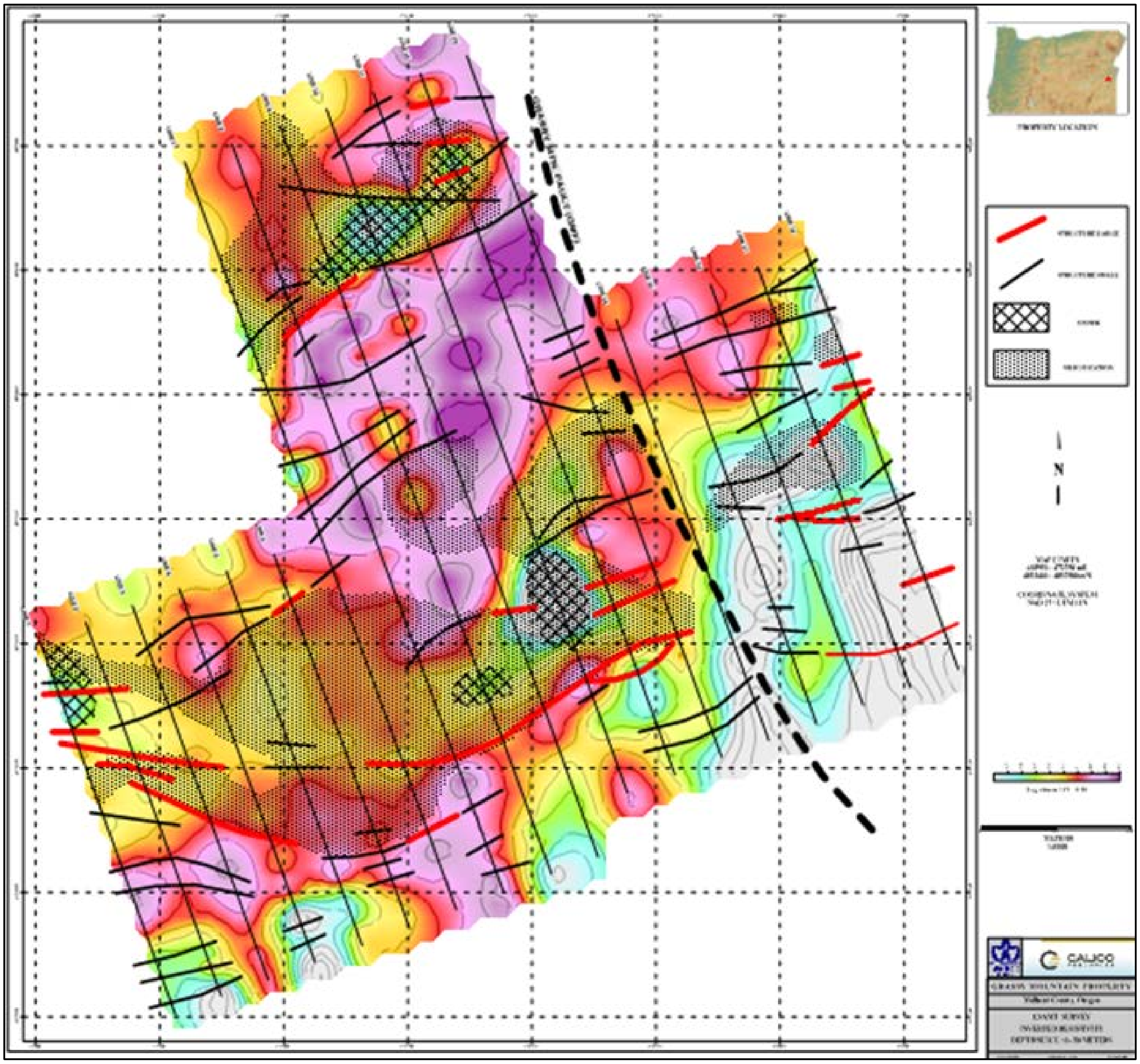
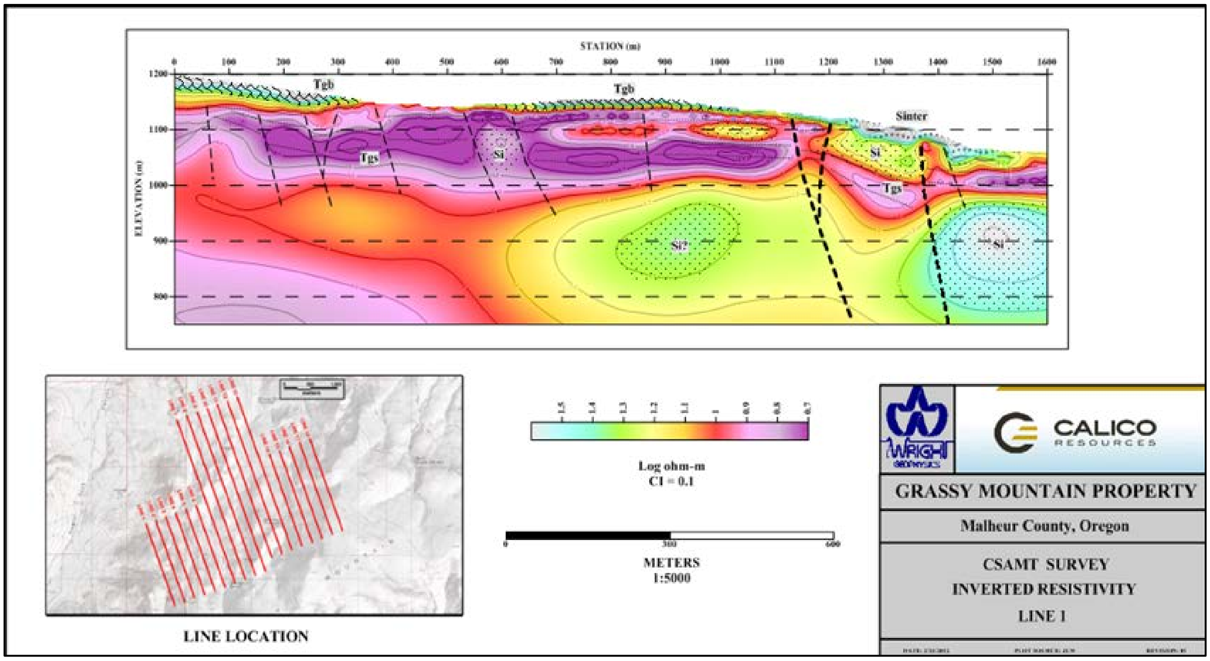


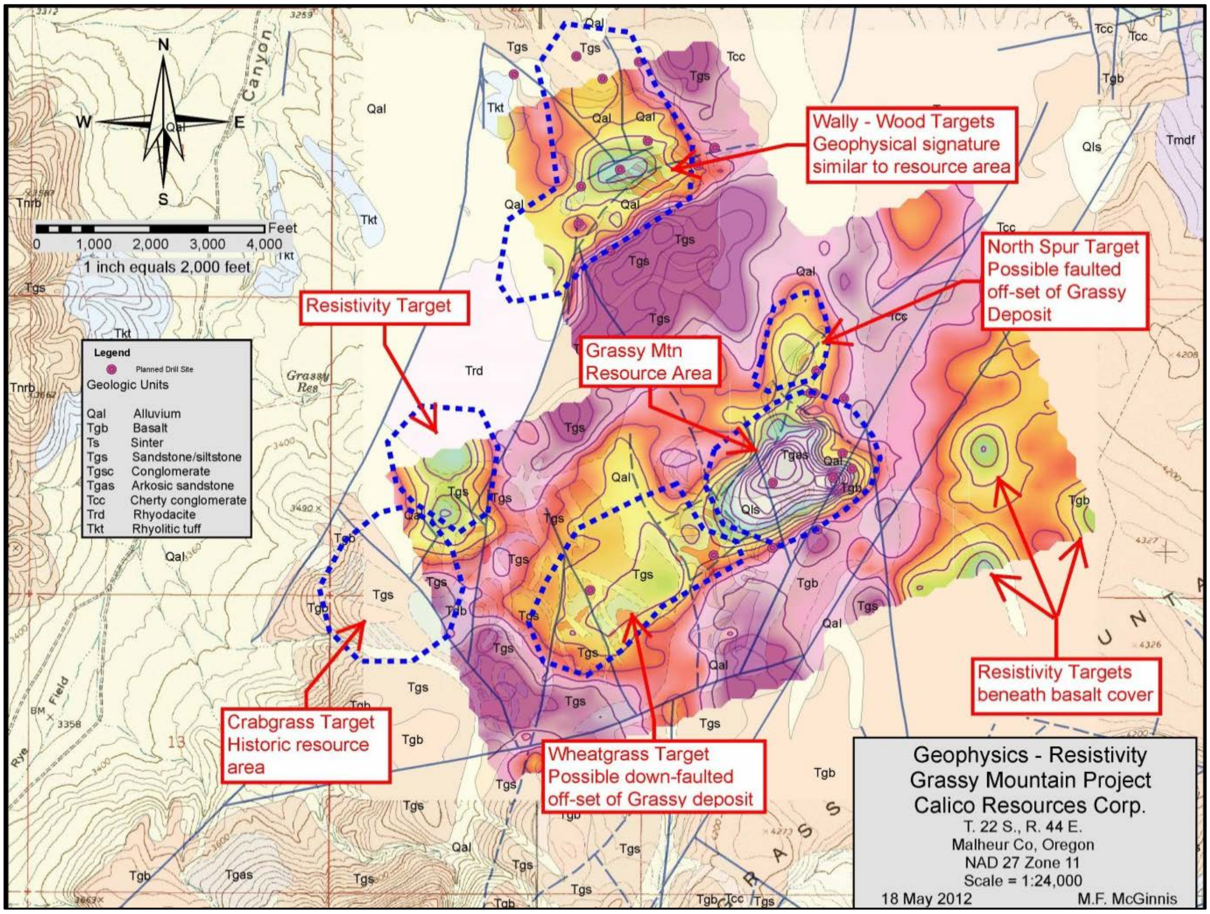
Figure 9.3 Example CSAMT Geophysical Survey Section

(Source: Wright Geophysics, 2012)



As a result of this survey and through the interpretation completed by J.L. Wright Geophysics, several attractive exploration targets have been identified that require follow-up. This work should consist of detailed geologic mapping, rock and soil sampling, and possibly drill testing. The most significant targets are shown in Figure 9.3 below. Since the CSAMT geophysics demonstrated a positive correlation with known mineralized areas at Grassy Mountain, additional geophysical work is proposed for covering the entire property position at the project.

Figure 9.4 Geophysical Exploration Targets



10 DRILLING

10.1 HISTORIC DRILLING

Drilling carried out at Grassy Mountain by previous operators accounts for 428 holes included in the project database. Detailed information regarding historical drilling campaigns is presented in Section 6.2 of this report. A summary to the historical drilling is presented in Tale 10.1.

Table 10.1 Historical Drilling Summary

Company	# Holes	Hole type	Length (ft)	Area	Year
Atlas	193	RVC	154963	GrassyMtn	1986 - 1991
Atlas	10	Core	7652	GrassyMtn	1989-1991
Atlas	187	RVC	62895	Other	1986-1991
Atlas	13	RVC	2413	Water wells	1986-1991
Newmont	15	Core	15009.5	GrassyMtn	1992-1996
Tombstone	4	Core	3167	GrassyMtn	1998
Tombstone	6	RVC	4905	GrassyMtn	1998
Total	428		251004.5	---	

Images of the overall project drill plan and resource area drill plan area are presented in Figures 10.1 and 10.2.

Figure 10.1Overall Project Drill Plan

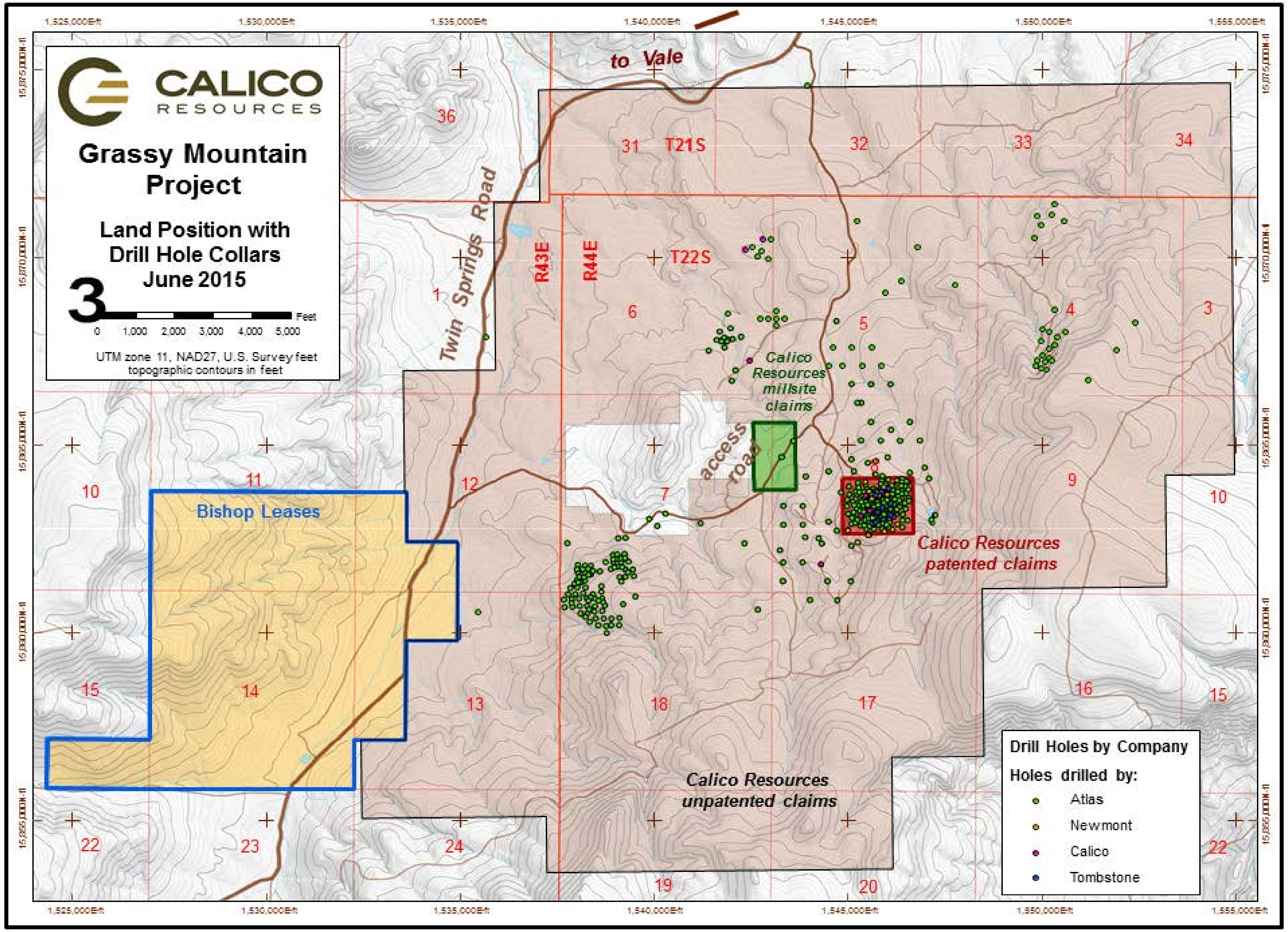
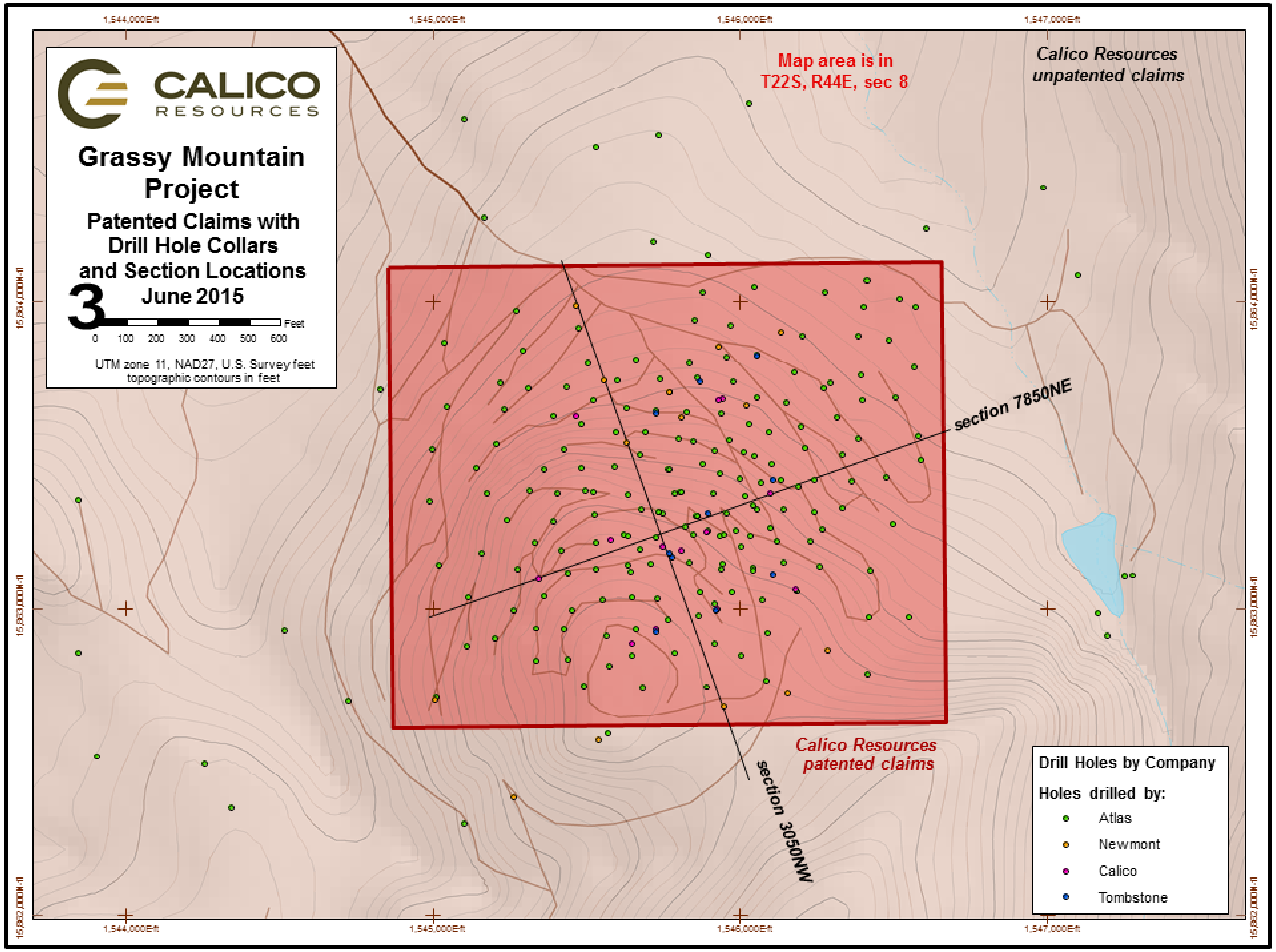


Figure 10.2 Resource Area Drill Plan



10.2 CALICO DRILLING

Calico's 2011 exploration drill program began on August 10, 2011. Three core holes were drilled using a modified, track mounted LF-90 diamond bit core drill operated by Marcus and Marcus Drilling Company out of Post Falls, Idaho. The drill employed a wireline system to drill HQ (2.5-inch) diameter core using a triple tube core recovery barrel. The drill operated 24 hours per day, and completed 3 holes totaling 2530.5 ft by October 13, 2011.

Table 10.2 Calico Resources 2011 Drill Holes by Hole Type and Purpose of Hole

Hole No.	Type	Purpose of Hole
CAL-001	Core	Test resource to the south of 026-043and TSO-02
CAL-002	Core	In -fill between 026 -037 and 026-056
CAL-003	Core	In-fill between 026-87 and 026-181
CAL-004	R/C	Test resource to the south of 026-121
CAL-005	R/C	In-fill between 026 -118 and 026-029 vertical holes; In-fill between GMC-05 and GMC-07 inclined holes
CAL-006	R/C	Test resource to the south of 026-100
CAL-007	R/C	In-fill between 026 -169 and 026-051
CAL-008	R/C	Test resource to the north of 026-034 and TSO-0 4
CAL-009	R/C	In-fill between 026 -184 and 026-103
CAL-010	R/C	In-fill between 026-023 and 026-187 and between sections 3350NW and 3400NW
CAL-011	R/C	Test resource to the north of 026-178 and TSO-08 and between sections 3300NW and 3350NW
CAL-012	R/C	Test resource to the north of 026-043and TSO-02

Core recovery was fairly good, averaging 89% even though average drill progress was just 39 ft per day (two 12 hour shifts). Marcus and Marcus used a REFLEX EZ-Track survey instrument to complete multi-shot core hole surveys of each drill hole. Core samples were split into halves and one half sent for assay, while the other half was retained for future reference.

A truck-mounted Ingersoll-Rand TH-75 reverse circulation (RC) drill operated by Boart Longyear out of South Jordan, UT began drilling at Grassy Mountain on October 4, 2011. The drill utilized a cyclone wet splitter for sample collection, with an approximate 40% split retained in the sample bag. The RC drill operated on a single 12 hour daily shift. A geologist was on-site during drilling operations to monitor the drilling and sample collection, log the drill hole, and collect and store a portion of the drill cuttings for future reference

.

Table 10.3 Calico Resources 2011 Drill Hole Locations and Descriptions

Hole No.	Type	Cross Section	Collar N. Mine Grid	Collar E. Mine Grid	Collar Elev. (ft)	Inclination Azimuth Depth (ft)		
CAL-001	Core	2950 N W	8083.8	23883 .7	3955 .6	-70	340	857
CAL-002	Core	2900 NW	8377 .7	23734 .3	3915.6	-90	0	747
CAL-003	Core	3400 NW	8218.5	24 338.5	3892.7	-67	340	926 .5
C AL-004	R /C	2850 NW	8036 .5	2 3803 .7	3964 .6	-70	350	920
C AL-005	R IC	3050 NW	8352 .3	23903 .9	39 14.7	-65	335	893
CAL-006	R /C	3150 NW	8151.2	24083.8	3919 .2	-75	340	920
CAL-007	R IC	31 00 NW	8340 .3	23966.7	3910.4	-70	34 0	900
CAL-008	R IC	3200 NW	8402.9	24049 .8	3887 .6	-71	338	910
CAL-009	R /C	34 50 NW	8528.9	24252 .7	3836.4	-71	340	860
CAL-010	R /C	3375 NW	8838 .6	24098 .6	3791 .8	-7 0	160	820
CAL-011	R /C	3325 NW	8834 .7	24 084 .8	3792 .2	-70	175	740
CAL-012	R /C	2950 NW	8757	23638	3797	-60	160	705

The RC drill rig completed 9 holes totaling 7668 ft (Table 10.3), and the final hole was completed on October, 30 2011. RC drill hole surveys were performed by International Directional Services (IDS) using a Goodrich/Humphrey surface recording gyroscopic system. RC samples were partially dried at the drill site prior to shipment for assay. Samples received at the assay lab averaged 20 pounds in weight.

10.2.1 CALICO 2012 DRILL PROGRAM

Beginning in early June 2012, Calico drilled 5 reverse circulation drill holes totaling 3,435 feet in length. Leach Drilling of Dayton, Nevada was contracted for the job using an Ingersoll-Rand DM25/RC track mounted rig. A cyclone wet splitter was used for sample collection with approximately 40% of the sample retained in the sample bag for analysis. The drill operated on a single 12 hour daily shift. A geologist was on-site during the drilling operations to monitor the drilling and sample collection, log the drill chips and collect a portion of the drill cuttings for future reference. The drill program was completed on June 28. Table 10.4 below summarizes the location information for each hole.

Table 10.4 Calico Resources 2012 Drill Hole Locations

Hole ID	Type	UTM East	UTM North	Collar Elev. (ft)	Inclination	Azimuth	Depth (ft)	Area
CAL12R13	R/C	470147	4836338	3468	-70	310	600	Wood
CAL12R14	R/C	470108	4837246	3491	-70	250	600	Big Wally
CAL12R15	R/C	470250	4837329	3459	-60	270	500	Big Wally
CAL12R16	R/C	470710	4834687	3797	-65	340	885	Wheatgrass
CAL12R17	R/C	471022	4835082	3909	-60	80	842	Grassy Mtn

Drill holes 12R13 through 12R16 were not surveyed down-the-hole. Drill hole CAL12R17 had a hole survey performed by International Directional Services (IDS) using a Goodrich/Humphrey surface recording gyroscopic system. RC samples were transported to the Calico Resources sample handling/core logging facility located in Vale, OR. There they were air-dried and held until shipped to the ALS Chemex facility in Winnemucca, NV.

Drill holes 12R13 & 12R14 were not significantly mineralized.

Drill hole 12R15 was collared in the Big Wally target where previous drilling has encountered significant near surface gold mineralization. The hole was drilled at an angle to the west to intersect a possible feeder structure to the mineralization. Gold mineralization, up to 0.33 grams per ton was cut between 160 and 315 feet down the hole. An examination of the cuttings from the interval and also of the previous mineralized holes in the area, discovered the gold to be associated with an unrecognized felsic tuff, composed primarily of quartz, sericite and pyrite, indicative of rock derived from a nearby hydrothermal vent.

Drill hole 12R16 intersected numerous "hot springs sinter beds" with anomalous gold values, similar to holes in the main deposit, however, the interstitial beds were not significantly mineralized, and the stockwork, bonanza veining is not present. The hole appears to be within the argillic alteration zone that occurs on the outer margin of the high grade deposit.

Drill hole 12R17 was drilled in the main Grassy Mountain resource area. This drill hole encountered significant intervals of gold mineralization. The details of this hole are summarized in Table 10.5.

10.2.2 2012 DRILLING PROGRAM RESULTS

Calico 2012 drill hole locations are shown on Figures 10.2 and 10.3. Drill results from the 2012 program are summarized with significant intercepts shown in Table 10.5

Table 10.5 Drillhole CAL-12R17

Hole ID	From (feet)	To (feet)	Length (feet)	Au oz/ton	Hole ID	From (feet)
CAL12R17	65	845	780	0.061	CAL12R17	65
Includes	525	740	215	0.166	Includes	525
Includes	525	620	95	0.216	Includes	525
Includes	620	680	60	0.051	Includes	620
Includes	680	725	45	0.235	Includes	680

Figure 10.3 Grassy Mountain 2012 Drill Hole Locations

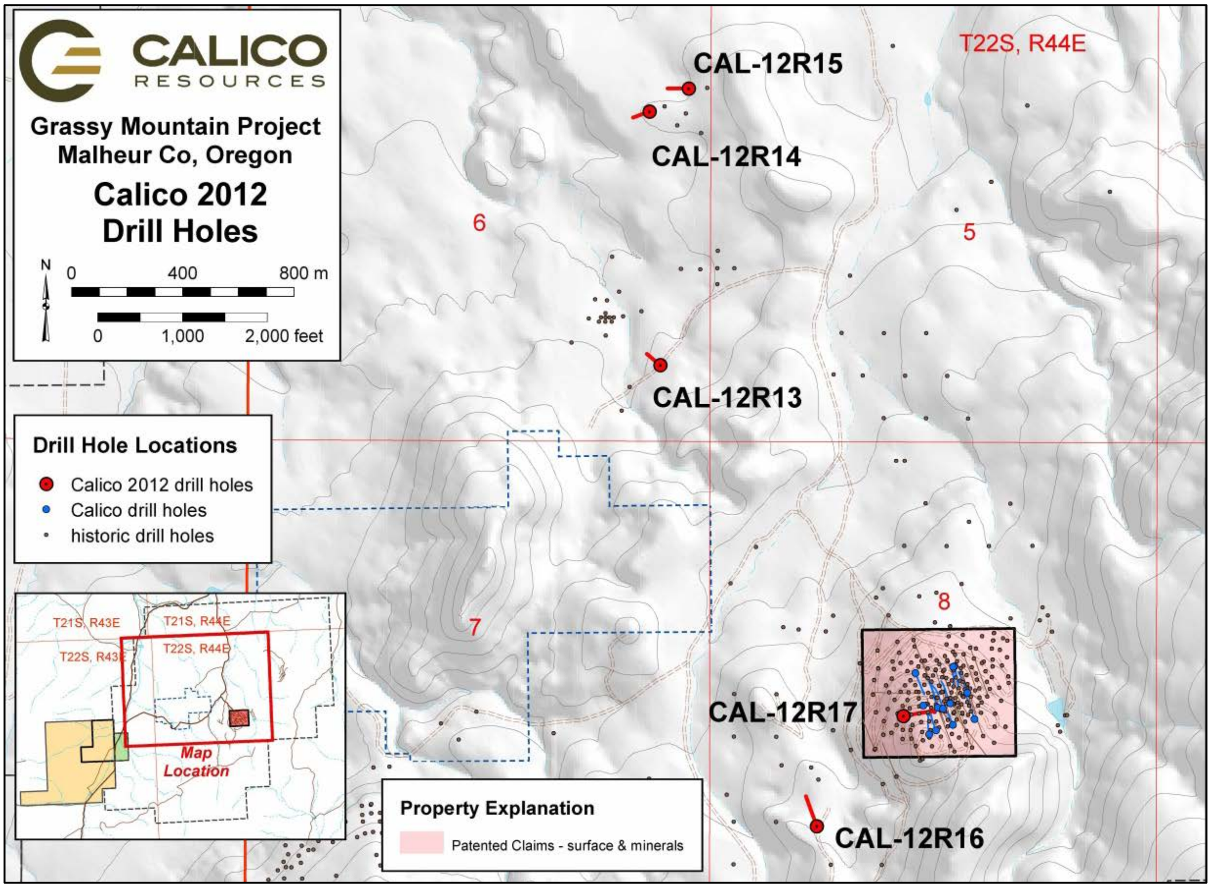
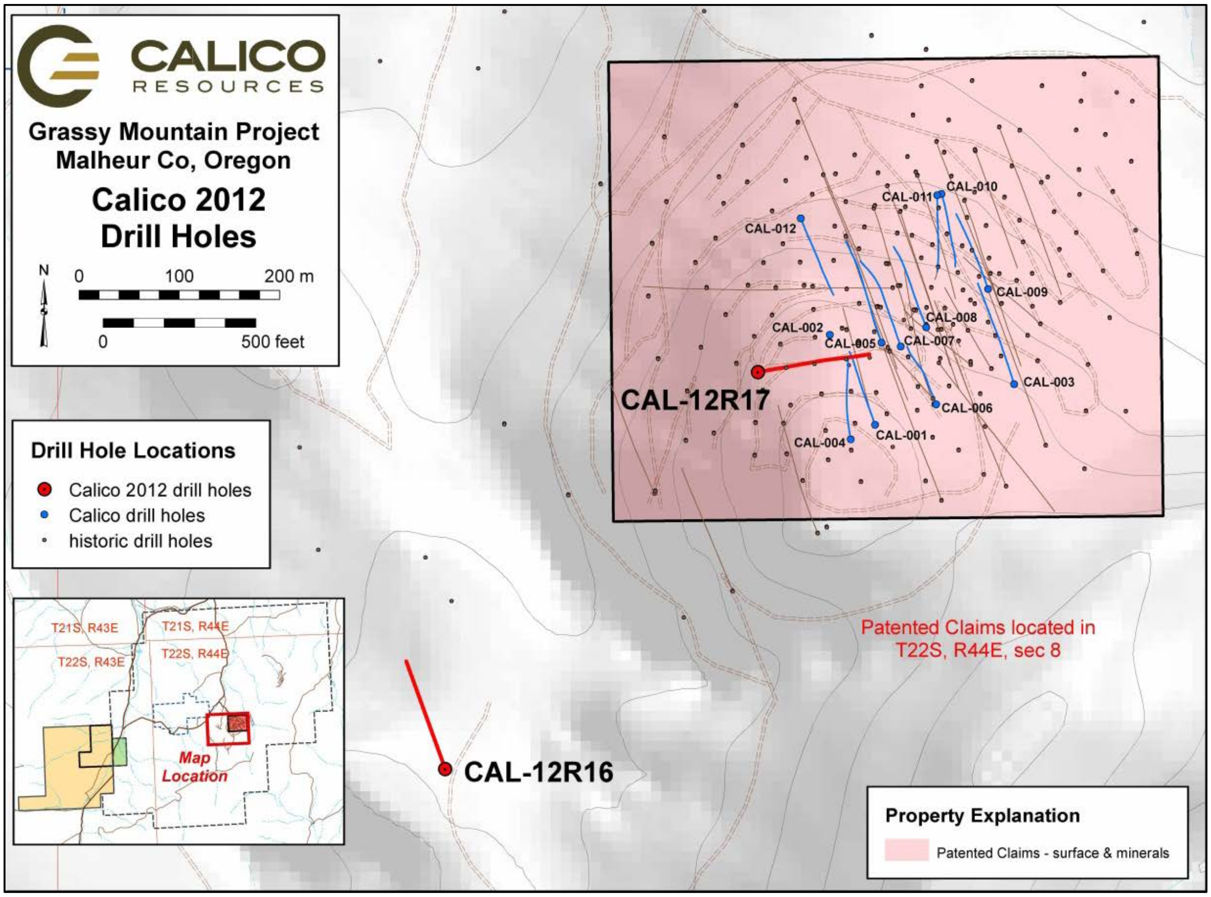


Figure 10.4 Detail of Grassy Mountain 2012 Drill Hole Locations



11 SAMPLE PREPARATION, ANALYSIS AND SECURITY

11.1 HISTORIC SAMPLE PREPARATION, ANALYSIS AND SECURITY

11.1.1 ATLAS

The primary Atlas RC samples that were split at the drill site weighed between 8 and 15 pounds and were collected in 10” by 17” olefin bags. Per company procedures, an Atlas geologist was stationed at the drill rig and with the samples at all times. The samples were delivered to a secure storage facility in Vale at the end of each shift by Atlas project geologists. The samples were routinely picked up from the Atlas storage facility by Chemex Analytical personnel and delivered to their prep facility located in Boise, Idaho. The samples were dried before crushing to minus 1/8 inch and then split down to 300 gram samples, which were then reduced to minus 100 mesh using a ring and puck pulverizer. The reject split was placed in storage at the Boise facility for possible future use. The 300 gram pulverized samples were then shipped by Chemex to their assay facility located in Vancouver, B.C. where they were split into 30 gram charges which were then analyzed by for gold and silver using 1-assay ton fire assay methods. Chemex Analytical

Atlas’s quality assurance-quality control (QA/QC) measures consisted of two primary procedures: 1) random re-sampling of coarse reject material for samples where the initial assay was in excess of 0.020 opt and 2) collecting a duplicate sample at the drill rig at every even 100-foot down-hole depth. Periodically, Atlas geologists would prepare a list of the initial Chemex assays greater than 0.020 opt. For every 10th sample from that list, coarse rejects that were stored in Vale were collected and split into two 1 pound samples. Those coarse rejects were sent to Cone Geochemical Laboratories in Denver, Colorado and Hunter Mining Labs in Reno, Nevada where they were prepped using the following procedures: The samples were dried, cone crushed to minus 1/8 inch, split into 125 gram samples and ring pulverized to minus 150 mesh, split into 30 gram samples and analyzed by fire assay methods. The duplicate samples that were collected at the even 100-foot down-hole depths were sent along with the initial samples to Chemex’s prep facility in Boise and then to their assay lab in Vancouver.

It is not known what type of certification Chemex, Cone, or Hunter labs may have had in 1987-1990, but all three were known to be reputable labs that were used by numerous junior and major exploration/mining companies of that era. Each of the laboratories utilized are independent of Atlas.

Check assay results from Atlas’ drilling program were available in an electronic format and were reviewed by the author. These data include 880 duplicate sample pairs and approximately 450 initial samples in excess of 0.020 opt that were re-sampled from coarse rejects material and assayed by several commercial labs.

The Relative Percent Difference (RPD) was calculated by subtracting the “check” assay from the “original” value and dividing that quantity by the average of the two samples. Typically if 90% of the data are within ± 30% of one another for duplicate samples (two independently collected samples) the sample prep and assaying procedures are thought to be reproducible. The tolerances are increased to 90% of the data falling within ± 10% of one another for same pulp samples. The reproducibility of the 880 sample pairs (original and duplicate) that were assayed by Chemex is considered to be poor as only 50% of the sample grades were within ± 30% of one another. The majority of the deviant samples tend to be generated from low-grade material, however, this points out potential sample prep or assaying errors. When the distribution of the 880 Chemex sample pairs are compared with one another with a quantile-quantile (QQ) plot it can be demonstrated that there is little bias between the two samples, providing more confidence in the overall data. The relative difference between individual sample pairs is considered to too high, but there is no distinct bias in the errors.

The differences between the original Chemex assays versus the check assays that were completed by Cone and Hunter are a result of the "check" assays being obtained from coarse rejects that may not have been thoroughly homogenized prior to obtaining the first splits. Furthermore, both Cone and Hunter pulverized the "check" samples to -150 mesh whereas the original samples that were prepped by Chemex were pulverized to -100 mesh. The mean grade of the Chemex assays (423 samples) was about 5.9% higher than the Hunter check assays. Similarly the mean grade of 456 original Chemex samples was about 1.7% higher than check assays performed by Cone Geochemical. It seems that Hunter was consistently low as 427 samples assayed by Hunter and Cone showed that Cone was 6.4% higher than Hunter.

While the reproducibility of low-grade assays is not ideal, it is not uncommon to see these types of results from precious metals assaying programs. Fortunately, there does not appear to be any clear cut bias associated with the Atlas drill hole assays. Based on a favorable verification of the electronic database and a review of the available QA/QC data, it is author's opinion that the Atlas assays are suitable for use in estimating mineral resources, with the caveat that there are some indications that some of the RC samples may have been contaminated.

11.1.2 NEWMONT

There is limited documentation regarding the methods Newmont employed in regard to sample preparation, analysis, and security with respect to their assay samples. Several internal Newmont memorandum (Jory, 1993) discuss that the core samples were picked up by Rocky Mountain Geochemical Corporation (RMGC) from the Atlas storage facility in Vale, Oregon, delivered to the RMGC facility that is located in Salt Lake City, Utah, prepped and then assayed (1-assay ton gravimetric and AA finish). In addition to traditional fire assays, Newmont performed screen fire assays on approximately 74 samples where the initial assay was in excess of 0.20 opt, although it is unclear where the screen fires were analyzed. Newmont's Metallurgical Services facility in Salt Lake City was used to check RMGC assay results and again, there is no documentation regarding what procedures were used.

It is not known what type of certification RMGC or Newmont may have had in 1993- 1994. RMGC was known to be a reputable lab that was used by numerous junior and major exploration/mining companies of that era and was independent of Newmont. However, Newmont does operate their own laboratories and no guarantees can be made that all samples from the Newmont project have been analyzed by an independent laboratory.

The limited information regarding Newmont's QA/QC program indicates that they routinely sent samples to their own metallurgical assay facility in Salt Lake City, Utah. The original samples were assayed by Rocky Mountain Geochemical Corporation (RMGC) in Salt Lake City, Utah. 163 high-grade sample pairs assayed at Newmont's metallurgical facility and RMGC's commercial lab showed a close comparison in mean grades (Newmont Memorandum, 1993). The average fire-assay grades for these 163 samples were 0.970 and 0.942 opt for results obtained from the Newmont and RMGC labs, respectively.

In the author's opinion, the Newmont assays are good quality and are suitable for use in estimating mineral resources.

11.1.3 TOMBSTONE

There is no documentation regarding what methods Tombstone employed with regards to sample preparation, analysis, and security with respect to their assay samples. The samples were analyzed by American Assay Laboratory in Sparks, Nevada, an independent laboratory.

It is not known what type of certification American Assay Laboratory may have had in 1998. American was known to be a reputable lab that was used by numerous junior and major exploration/mining companies of that era.

No historical QA/QC reports were available for Tombstone's 1997-1998 drilling campaign. However, electronic check assay results (same pulp) were available from American Assay Laboratories (Tombstone's primary lab).

In the author's opinion, the Tombstone assays are of reasonable quality and are suitable for use in estimating mineral resources.

11.1.4 HISTORICAL DATA OPINION

Calico verified exploration and drilling data collected prior to 2011, and found the logs, surveys, and assays in the Grassy Mountain database accurately represent the source documentation. MMC finds the quality of data collected to date, including the historic and recent (Calico) exploration and drill hole data, adequate for use in estimating the mineral resources of the Grassy Mountain deposit.

11.2 CALICO SAMPLE COLLECTION AND HANDLING

11.2.1 CORE SAMPLES

Drill core is handled and collected at the drill site by a contracted and bonded drilling company. The core is removed from the core barrel by the driller/helper after each run, and is placed into boxes that are sequentially numbered and labeled with beginning and ending footages. Following each run, the driller or drill helper places a block in the core box at the end of the run and records the current depth of the hole, the length of the run, and the length of core recovered. The driller also notes if the recovered core contains any material that has caved from somewhere higher in the drill hole. When a box is full it is closed with a lid and securely stored on site until it is retrieved by a Calico representative. The drill rig operates on a 24/7 basis and the core is transported daily or on a per shift basis.

The Calico representative drives to the drill site and retrieves the filled core boxes. For wax-impregnated cardboard boxes, large rubber bands are secured around the box and lid for transport. If wooden core boxes are used, then the lids are fixed using screws. The core is transported to the Calico core facility and unloaded. The name of the Calico representative, the date, the box number, the number of boxes transported, and the beginning and ending footages of the transported core are recorded on a core handling form.

Upon arrival at the core facility, the core boxes are arranged by increasing depths on the core table. Core recovery is again measured and RQD data collected. The core is then logged by a geologist who records lithological, alteration, mineralization, and structural information including the angle of intersection of faults with the core, fault lineation's, fractures, veins, and bedding. The entire length of core is then prepared for sampling. Sample intervals are based on the geological logs in an effort to separate different lithologies and styles of mineralization and alteration. Sample length generally does not exceed 5 ft and where possible correlates to the 5 ft runs. If any significant veins, veinlets, or healed breccias are present, the geologist will mark a line down the length of the core where the core should be sawed or split to ensure a representative sample is taken by the sampler. After logging is complete, sample intervals are marked and assigned a unique sample identification (sample tag), with the sample tag stapled inside of the box at the end of each sample interval. If contamination is present due to downhole caving, that interval is flagged and is not sampled.

Once the logging is complete and all of the sample intervals are marked, the core is sprayed with water and photographed. The core boxes are then moved to the sampling station where a technician either splits the core with a hydraulic splitter or cuts the core in half with a diamond blade core saw. One half of the core is placed into a cloth sample bag that is labeled with the sample number and the other half is placed back into the core box for future reference. Core that is intensely broken or very soft is split in half using a small scoop or putty knife blade and the material is removed from the box. The responsible technician fills out a core cutting/splitting form for each sample, recording the sample number, the starting and ending footage of the sample interval, the date, and their initials. When a sample interval has been completely sampled, the bag is tied off and stored in the secure core facility until the sample batch is ready to be shipped.

HRC and MMC consider the sample preparation, security, and analytical procedures employed by Calico to be acceptable according to industry standards and adequate for use in this mineral resource estimate.

11.2.2 RC SAMPLES

RC drilling is conducted by a bonded and contracted drilling company. Drill cuttings are divided into three streams through a cyclone splitter: one for sampling, one for logging and retention for reference, and one for excess discarded to the sump. A portion of the sample collected for logging is placed into a plastic chip tray labeled with the hole number and the depth from which the sample was taken. Samples are collected at 5 ft intervals and are bagged at the drill site in bags pre-labeled with the sample number. Each 5 ft sample is sealed at the drill site and remains unopened until it reaches the analytical lab. After each 20 ft length of drill rod is added to the drill string, the hole is cleaned of material which may have fallen into the hole while the new section of rod was installed.

The drill helper collects one sample for each 5 ft interval under close supervision by the site geologist. The site geologist also creates a log during drilling, describing the lithology, alteration, oxidation, mineralization, and any other pertinent information associated with each 5 ft interval. Samples are typically left at the drill site for 2-3 days to dry. A Calico representative transports the RC samples to the secure core facility. The representative's name, the date, and the number of samples collected are recorded on a sample handling form. The samples are arranged in a manner to ensure that all samples, blanks, and standards are accounted for, and are photographed prior to shipment for analysis.

11.3 SAMPLE SECURITY

Sample bags are pre-labeled using unique, sequential sample numbers taken from a sample tag book. The sample tag books contain 2 tear-off tags labeled with the sample number. For core samples the sample interval is recorded in the sample tag book and on the core logging sheets by the logging geologist. For RC samples each 5 ft interval is recorded in the sample tag book. Control samples are inserted every tenth sample in sequence and placed inside of a pre-labeled bag in the same manner as the core and RC chips. Control samples include commercial standards, commercial blank pulps, and basalt rock barren of any gold. All three types of control samples are used for drill core samples and only the commercial standards and blanks are used for the RC samples. The basalt rock is used to assess the presence of any contamination introduced at the preparation lab during the coarse crushing process used for drill core; RC samples are not subject to coarse crushing and therefore the basalt rock is not used as a control sample. The blank pulps are another check to assess the presence of any contamination introduced at the lab. Commercial standards are used to assess the accuracy of the analyses. Additionally, duplicate samples are created at the lab approximately 1 for every 20 samples to assess the homogeneity of the sample material and the overall sample variance. The duplicate samples are specified by Calico and are independent of any duplicate analyses done internally at the lab. During the 2011 drilling program, 59 samples, representing about five percent of the samples from the higher-grade portion of the deposit, were selected for independent analysis by a second laboratory (American Assay). The original pulp was pulled by the initial laboratory (ALS) and shipped to the independent laboratory.

11.3.1 SAMPLE SHIPING PROCEDURES

When all of the samples are prepared for shipment, they are laid out in order (including control samples) and photographed to verify that all samples are accounted for and that bags are not damaged prior to shipment. Drill core samples are placed into rice bags, and each rice bag is sealed with a numbered security seal. RC samples are placed into super sacks and each super sack is sealed with a numbered security seal. Only samples from a single drill hole are included in a shipment. A sample submittal form is prepared with the shipment number, security seal numbers, the sample numbers, the type of analyses requested, and a list of samples to be duplicated. A hard copy of the submittal form is included with the sample shipment and an electronic copy is emailed to the lab. A chain of custody form is filled out by the person who prepares the shipment. This form includes the sample shipment number, the location the samples are shipped from, the total number of containers in the shipment, the security seal numbers, name of the person who prepared the shipment, name of the person who transported the shipment, and the name of the person who received the shipment at the lab. When the form is completed at the lab by the receiving individual, any damage or discrepancies are noted on the form and the form is sent back to Calico. The samples are shipped to the lab by FedEx freight, and the driver of each truck is required to sign off on the chain of custody form.

11.4 SAMPLE ANALYSIS

Samples from Calico's 17-hole drilling program were shipped by United Parcel Service ("UPS") to ALS Minerals in Reno, Nevada ("ALS"), which is independent from Calico. ALS maintains an ISO 9001:2008 accreditation for quality management and ISO/IEC17025:2005 accreditation for gold assay methods.

Upon receipt of the samples ALS crushed the entire sample to 75% passing a -6mm mesh and then split off 250 g for pulverization to 85% passing a -75 micron (200 mesh). Cleaner sand was run through the crusher every 5 samples or at any color change in the sample noticed by ALS's lab technicians. Sand was run between every sample in the pulverizing step. Pulps were split again to separate a 30 g sample for FA/AA for gold and a 5 g sample for multi-acid digestion and ICP-OES for silver and multi-element analysis. Further splits were taken from the same pulp if FA/GRAV was required for over-limit analyses of silver.

All Calico samples were analyzed using a 30 g FA with an AAS finish for gold (ALS coupon de AU-AA23). This technique has a lower detection limit of 0.005 ppm and an upper detection limit of 10.00 ppm. Samples with greater than 10.00 ppm Au were re-analyzed using a 30 g FA with a gravimetric finish (ALS code Au-GRA21). All CSGM samples were also analyzed using a 5 g sample with a four acid digestion for silver and multi-element analysis using an ICP-OES instrument (ALS code ME-ICP61). This technique has a lower detection limit of 0.5 ppm for silver and an upper detection limit of 100 ppm for silver. Samples with greater than 100 ppm Ag were re-analyzed using a 10 g sample with a four acid digestion for silver and an AA finish (ALS code AG-OG62). This technique has a lower detection limit of 1 ppm for silver and an upper detection limit of 1500 ppm for silver. Samples with greater than 1,500 ppm Ag were re-analyzed using a 30 g FA with a gravimetric finish (ALS code GRA-21). This technique has a lower detection limit of 5 ppm for silver and an upper detection limit of 10,000 ppm for silver.

11.5 INTERNAL QA/QC

Drill hole collars were surveyed using hand held Garmin GPS units with a horizontal accuracy on the order of ± 10 ft, and later surveyed with a Trimble, survey-grade GPS to 0.1 ft. Holes are marked in the field with a lathe and/or stake. Down-hole surveys were completed on the three core holes (CAL-001 to 003) and all but one of the RC holes using a Reflex Ezshot. Core hole surveys were performed by Marcus and Marcus using a REFLEX EZ-Track survey instrument to obtain a multi-shot survey at the completion of each drill hole. RC hole surveys were performed by International Directional Services (IDS) using a Goodrich/Humphrey surface recording gyroscopic system. Deviation from spotted orientations was generally on the order of 3° for both core and RC holes, though some of the RC holes deviated by up to 6° in azimuth and 8° in dip. The 2011 Quality Assurance/Quality Control (QA/QC) program followed formally-established company-wide protocols. The QA/QC program consisted of grouping samples in batches of 36. Each sample batch contained a field duplicate, a commercially prepared certified reference material (standard), and a blank. A total of 2,285 samples were submitted, of which 247 samples were submitted to the ALS Chemex laboratory in Reno for QA/QC purposes. The QA/QC samples included 112 standards, 85 blanks, and 50 field duplicates. Fifty-nine samples were sent to American Assay in Reno, Nevada as check assays to verify the accuracy and reproducibility of the ALS Chemex analytical results. Calico personnel reviewed all analytical data to verify that it met internal standards.

HRC and MMC find the quality of data collected to date adequate for use in estimating the mineral resource of the Grassy Mountain Project.

11.5.1 DATABASE MANAGEMENT

Calico Resources has compiled a master database containing all historic drilling information. This database is maintained using SQL software and is housed by an off-site remote server controlled by a third-party database expert. All database inquiries and data requests are routed through this third-party expert. All data is controlled by the company's designated data manager and this third-party expert in order to prevent any unauthorized changes to the database.

The company has established QA/QC protocols for data management, verification, validation and data screening. These protocols consist of primary and secondary checks on electronic entry of field data, drill hole data, sample information, assays, and geochemistry. All information is verified and cross checked by Calico and the third-party database expert to ensure accuracy.

11.5.2 CERTIFIED REFERENCE MATERIAL

Three commercially prepared standards (0.3, 3, and 8 gram/metric ton Au) were supplied by CDN Resource Laboratories Ltd. ranging from low-end grades to typical gold grades on the property (Table 11.1). To meet internal QA/QC protocols, the standards needed to assay within three standard deviations of the recommended gold value furnished from the vendor. If any samples assayed outside the three standard deviation limit, the sample previous to and after the failed sample were examined for accuracy and for cohesiveness with the geology and mineralization. Any failures and surrounding samples that were thought out of the ordinary after this examination were sent for re-assaying. Figures 11.1 through 11.3 show the commercial standard assay results.

Table 11.1 Grassy Mountain 2011 Certified Reference Material

Supplier	Certified Reference	Recommended Value ppm Au	2 Standard Deviations	Submitted
CDN	CDN-GS-p3A	0.338	0.022	55
CDN	CDN-GS-3J	2.71	0.26	36
CDN	CDN-GS-8A	8.25	0.60	21

Figure 11.1 CDN-GS-p3A

(Source: Gustavson Associates, 2012)

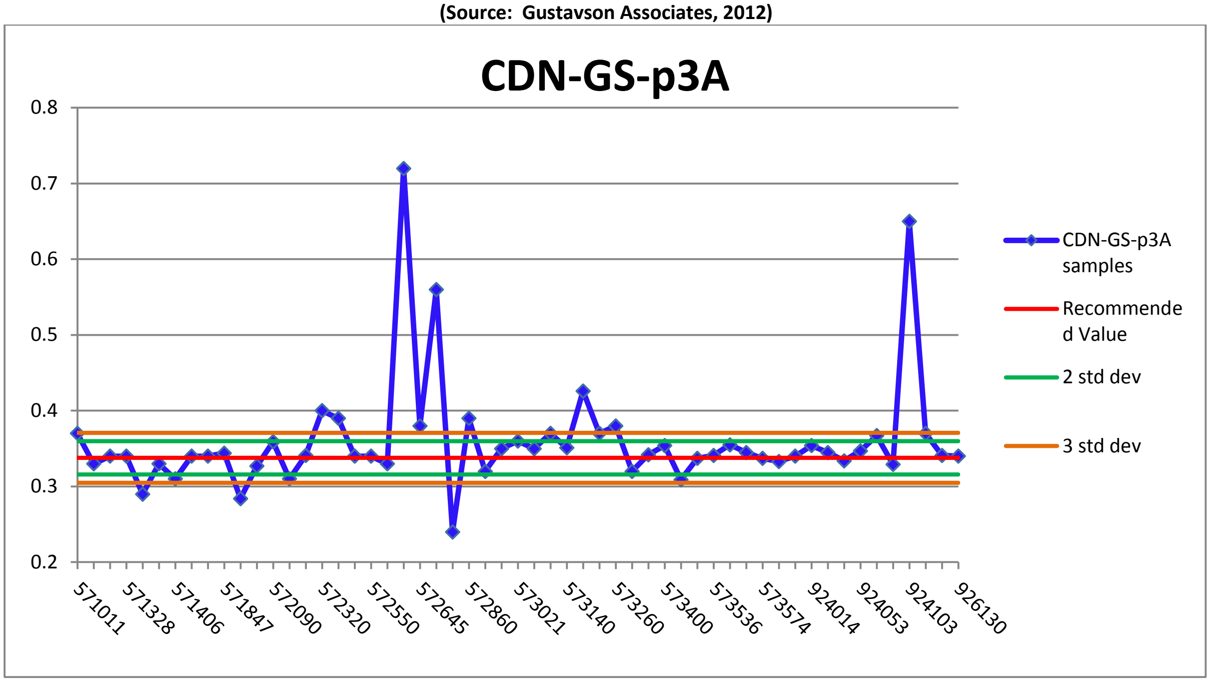


Figure 11.2 CDN-GS-3J

(Source: Gustavson Associates, 2012)

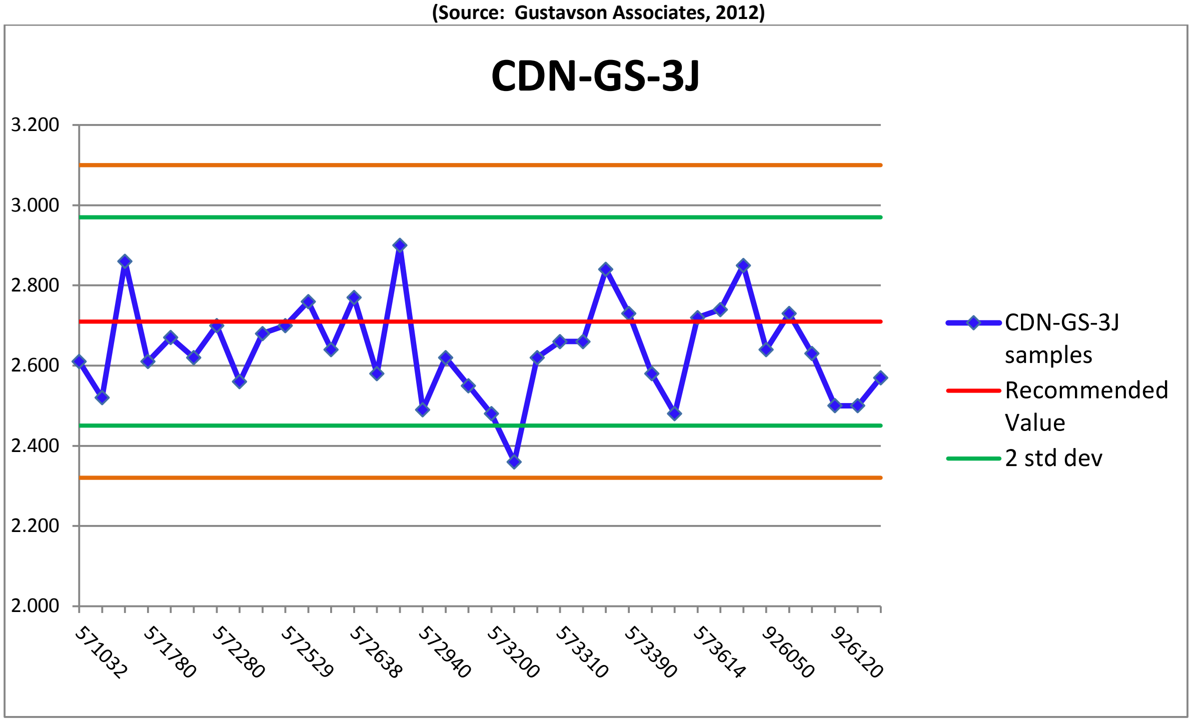
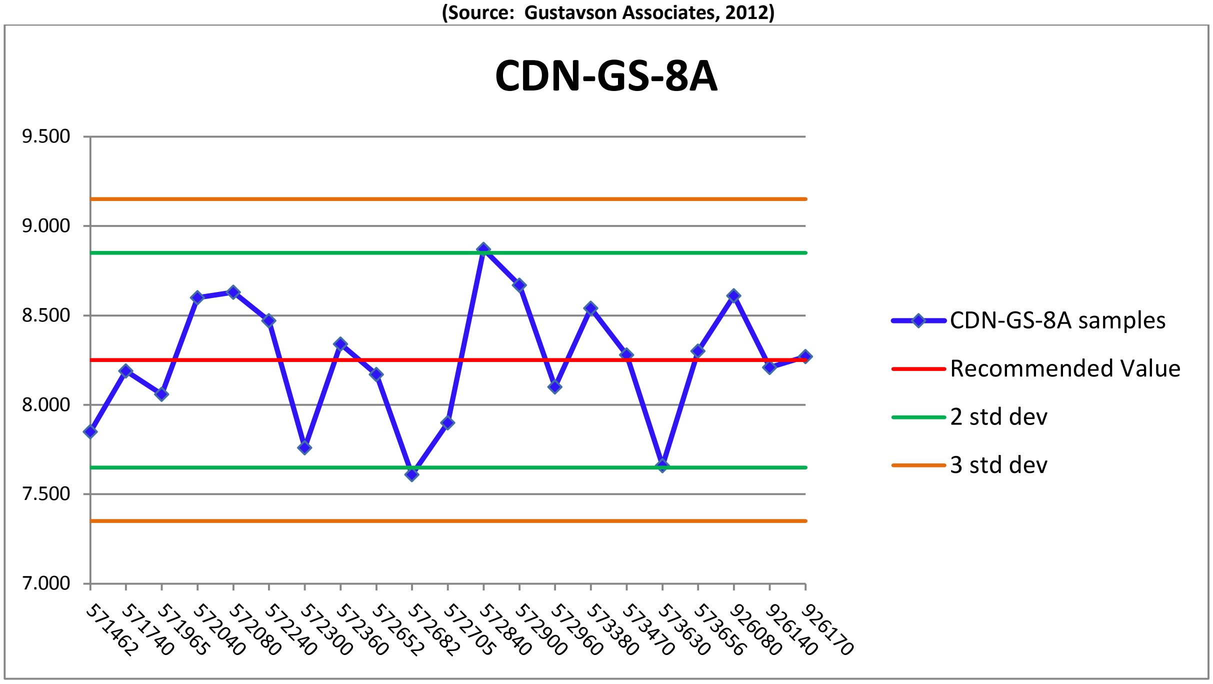


Figure 11.3 CDN-GS-8A
(Source: Gustavson Associates, 2012)

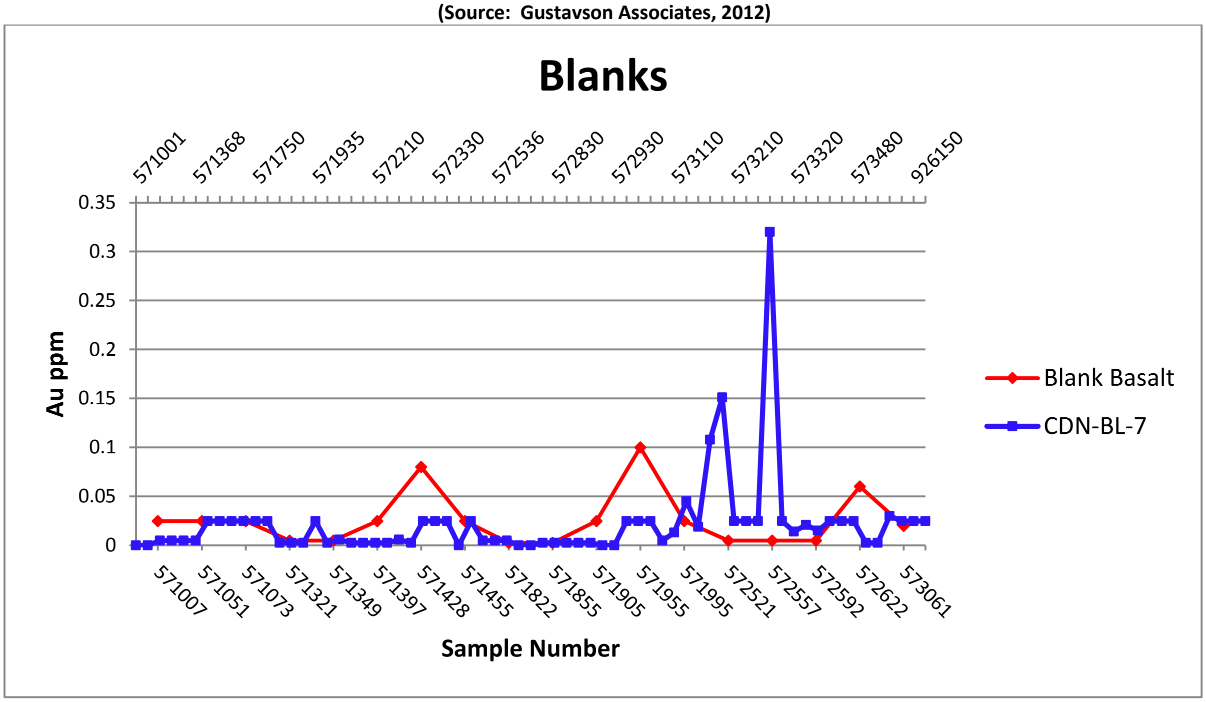


11.5.3 BLANKS

Two types of blanks were variously used: a commercial blank pulp and basalt chip blank for core samples, and a commercial blank pulp only for RC samples. The blank commercial pulp was supplied by CDN laboratories (CDN-BL-7). If any samples assayed above the 0.10 g/t Au (0.00292 opt) limit, the sample previous to and after the failed sample were examined for possible contamination sources. Any failures and surrounding samples that were thought out of the ordinary after this examination were sent for reanalysis. Figure 11.4 show the commercial standard assay results. The blank material was quarry stone, and it is not unusual for a small percentage of the individual blanks to contain trace amounts of gold, so no further investigation was warranted.

Figure 11.4 Blanks

(Source: Gustavson Associates, 2012)



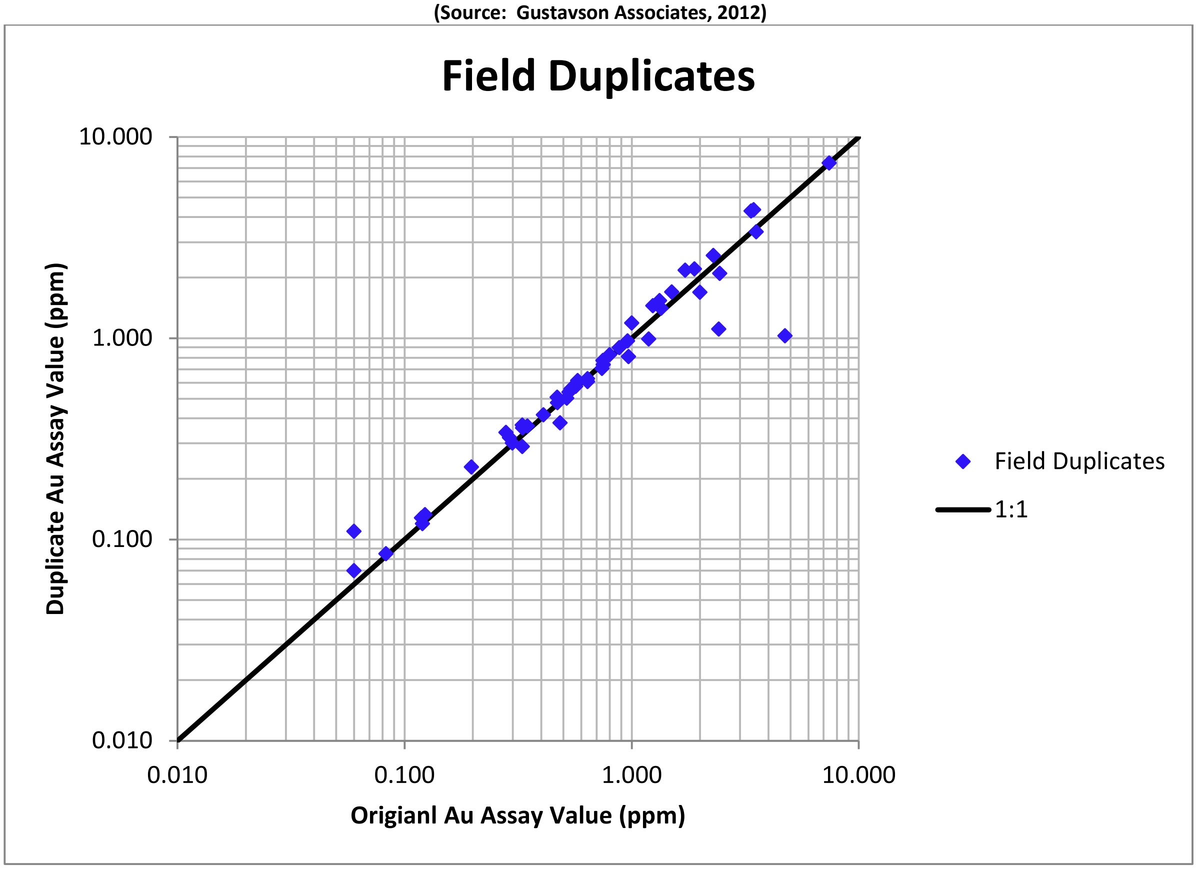
11.5.4 FIELD DUPLICATES

A total of 50 field duplicates were collected (Figure 11.5): 10 from the core program and 40 from the RC program. In order to comply with internal company standards, duplicates are required to be within 20% relative difference in gold concentration between the original and the duplicate value. Duplicate pairs with an averaged concentration ≥0.05 were accepted.

Relative Difference = (Original – Duplicate)/Average

Deviations from the trend at the higher grades are assumed to be a result of free gold found in the system. It is normal to have larger deviations in systems with free gold, and the overall agreement of the duplicates indicates that sample sizes are adequately accommodating the free gold particle size.

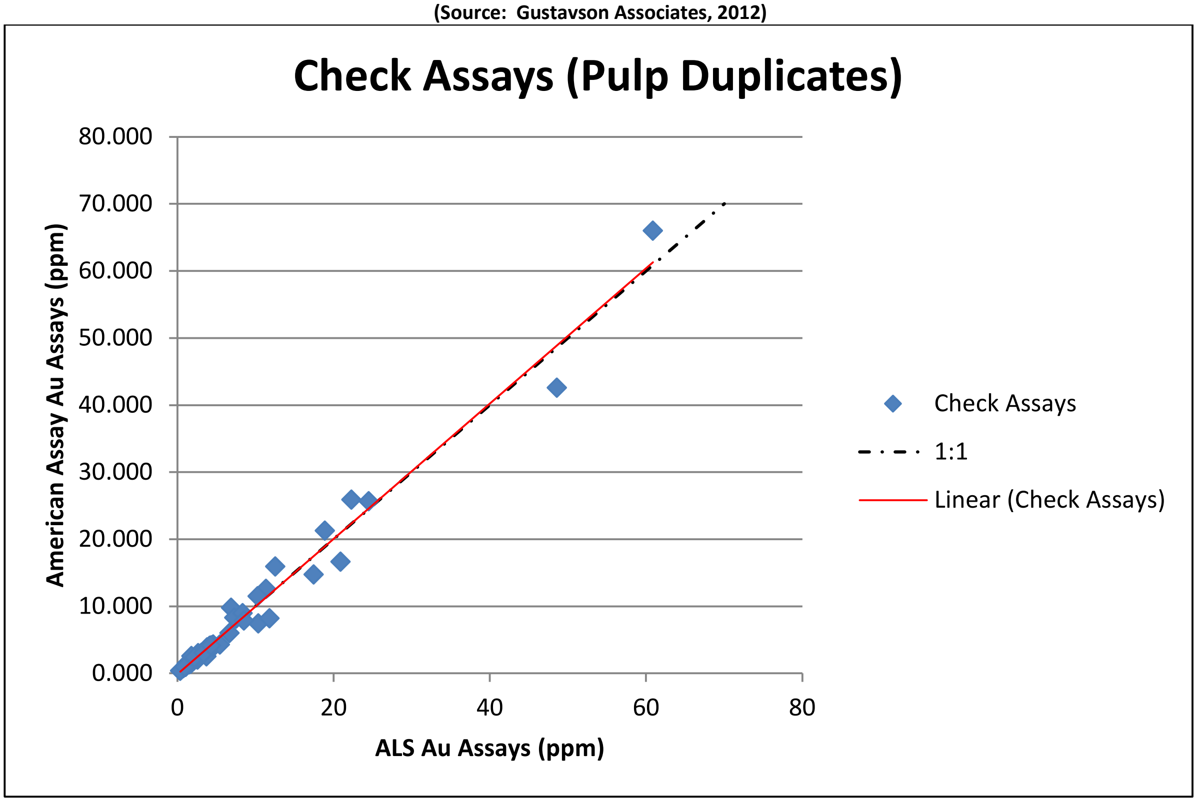
Figure 11.5 Field Duplicates
(Source: Gustavson Associates, 2012)



11.5.5 PULP DUPLICATES ALS AND AMERICAN ASSAY

A total of 58 pulps were sent to American Assay for gold analysis. The American Assay samples were plotted against the original ALS assays, as shown in Figure 11.6. The correlation between the two laboratories was well within normal industry standards.

Figure 11.6 Check Assays
(Source: Gustavson Associates, 2012)



12 DATA VERIFICATION

HRC representatives Zachary Black and J.J. Brown visited the Grassy Mountain Project site and Calico's Vale, Oregon field office on January 18 and 19, 2012. While at the project site, HRC conducted general geologic field reconnaissance and visually inspected the condition of several historic collar markers. No drilling operations were occurring at the time of the site visit, so HRC was unable to review drilling procedures, sample collection, handling, and chain of custody procedures. However, HRC deems Calico's stated drilling and sampling QA/QC program to be in-line with industry best practices. The state of drill core/cuttings and storage/security conditions were inspected by HRC and found to be appropriate. HRC examined a core hole as compared to the interpreted geology and alteration from the drill hole log and the associated assay results. Geologic logging and assay sample interval selection procedures were found to be in accordance with industry best practices.

HRC examined the electronic drill hole database for completeness and accuracy. Collar survey records for each historic drill hole in the paper archives were compared to the electronic database with minimal errors found. Historic drill hole collar coordinates were given in an arbitrary mine grid that was established prior to Calico's involvement in the project. Conversion of the mine grid coordinates to an established coordinate system was achieved by means of locating historical drill holes and surveying them in Oregon State Plane coordinates. These holes were then used as reference points to create a projection file that corrects the mine grid coordinates to Oregon State Plane or another standardized system. Collars were then checked for corresponding surveys, assays, and lithology logs. Holes without corresponding assays or surveys were not included in the database used for estimation. The assay data was examined for accuracy by comparing a random selection of samples to the original assay certificates provided to HRC by Calico in PDF format. All checked samples matched the original assay certificates.

Calico verified exploration and drilling data collected prior to 2011, and found the logs, surveys, and assays in the Grassy Mountain database accurately represent the source documentation. HRC conducted an independent audit of the project database, including the 2011 exploration and drill hole data, and finds the quality of data collected to date adequate for use in estimating the mineral resources of the Grassy Mountain deposit.

13 MINERAL PROCCESSING AND METALURGICAL TESTING

Resource Development Inc. (RDi) was contracted by Calico to conduct a technical review of historical metallurgical reports and studies associated with the Grassy Mountain Project. The following reports were reviewed:

- Grassy Mountain Metallurgical Studies, Hazen Research Inc. March 14, 1990;
- Gravity Concentration Studies on the Grassy Mountain Gold Ore, Hazen Research Inc. July 1991;
- Grassy Mountain Metallurgical Studies, Golden Sunlight Mines, May 3, 1991; and
- Grassy Mountain Metallurgical Test Results, Newmont Exploration Inc. December 21, 1993.

13.1 HAZEN RESEARCH INC. REPORT DATED MARCH 14, 1990

The primary objective of the study initiated in June, 1989, by Atlas Precious Metals was to develop data for a project feasibility study.

13.1.1 SAMPLES

Hazen Research was provided ten tons of core from six drill holes for the test work. Four bulk samples, identifies as Zone 1, Zone 2, Zone 3 and composite of Zones 2 and 3 were initially prepared for test work. These represented low-grade, medium-grade, and high-grade mineralized material types, respectively. During later phases of testing, quarter sections of Zone 3 were separated by grade and used to prepare composites 1 to 4. A fifth composite was prepared by combining portions of composites 2 and 3. Additionally, a 400-pound composite was prepared to provide feed for operation of a continuous leach pilot plant. The composite was made using 141 pounds of Zone 3 and 95 and 164 pounds, respectively, from composites 3 and 4. Also, a low grade composite was prepared for column leach testing using low grade core intervals. A list of the composites and their head analyses are given in Table 13.1. The list of the tests performed on the various samples and composites is given in Table 13.2.

Table 13.1 Composite Head Analyses

Identification	Gold opt
Zone 1, low-grade, HRI 42683-10	0.023
Zone 2, medium-grade, HRI 42683-20	0.033
Zone 3, high-grade, HRI 42683-30	0.103
Zones 2+3, composite	0.057
Composite 1, HRI 43345-1	0.740
Composite 2, HRI 43345-2	0.039
Composite 3, HRI 43345-3	0.249
Composite 4, HRI 43345-4	0.156
Composite 2+3, HRl 43345-2 and -3	0.153
Continuous leach feed, HRl 43414	0.156
Low-grade column leach feed, HRI 43519	0.0185

Table 13.2 Sample and Composite Test Summary

Name	HRI No.	Composition	Tests

Zone 1	42683-1	Zone 1	Agitation leaches, column leachs, gravity, bottle leachs thickening.
Zone 2	42683-2	Zone 2	Grinding, notation, agitation leaches, thickening, viscosity.
Zone 3	42683-3	Zone 3	Grinding, notation, agitation leaches, thickening, viscosity
Zones 2+3 Composite	42683-4	62% Zone 3 38% Zone 2	Grinding, notallon, gravity, bottle leaches, column leaches, agitation leaches, carbon loading, viscosity, cyanide destruction
Composite 1	43345-1	Zone 3'	Gravity
Composite 2	43345-2	Zone 3'	-
Composite 3	43345-3	Zone 3'	Agitation leaches
Composite 2+3	43345-2+3		Agitation leaches
Composite 4	43345-4	Zone 3'	-
Pilot plant feed	43414	Zones 3+4 composite	Flotation, agitation leaches, continuous leach barren solution analysis.
Low-grade	43519		Column leaching
Note: [1]Selected footage from Zone 3 core rejects			

13.1.2 MINERALOGY

Mineralogical examinations of mineralization from Zones 1 to 3 indicated that the samples were similar and composed mostly of quartz and orthoclase feldspar. Minor amounts of pyrite were noted, mostly less than 5 microns, but ranging up to 20 microns, along with native gold ranging from 50 to 250 microns in Zones 1 and 3 and up to 600 microns in Zone 2.

13.1.3 CRUSHING AND GRINDING

Samples of rock from various zones were subjected to a series of crushing and grinding tests. Summary of the test results on five mineralized samples is given in Table 13.3. The data show that the mineral zones are similar; hard, brittle and abrasive. For example, the Bond's rod and ball mill work indices were 17.6 and 20.2, respectively, and the abrasion index was 0.714.

Table 13.3 Crushing and Grind Test Result Summary

Criteria Sample Description	Results (by sample number) Zone 1	Zone 2	Zone 3	Composite	High Grade
MacPherson, Grindability Test No		1	2	3	
Gross Output, lb/hr		12.23	14.06	13.21	
Gross Power, kw-hr/st		14.59	11.65	13.10	
Feed Size, 80% passing, micron		21,529	21,522	21,506	
Product Size, 80% passing, micron		551	483	541	
Gross Autogenous Work Index, AWi		40.79	30.13	36.21	
Bond Rod Mill Work Index, RWi		18.0	17.2	17.6	18.2
Bond Ball Mill Work Index, BWi		21.3	17.7	20.2	
Bond Abrasion Index, Ai	0.711	0.783	0.529	0.714	
Bond Impact Work Index, Wi	4.85	3.60	3.64	3.62[1]	
L.A. Abrasion, % loss at 500 turns	18.6	19.5	20.8	19.6	
% loss at 1,000 turns	35.3	-	-	-	
Compressibility, psi	15,370	14,050	5,700	10.877[1]	

Note: [1]This is a calculated number using the weighted percentages of Zones 2 and 3 ore that make up the composite sample.

13.1.4 FLOTATION TESTS

The flotation test results, summarized in Table 13.4, indicated that gold recoveries increased with fineness of grind, but did not achieve high gold recovery with either composite sample. Hence, the study concluded that flotation was probably not a viable process option and would not produce a throw away tailings.

Table 13.4 Flotation Test Results

Test No.	Grlnd-270 m	Concentrate Gold, opt	% Recovered	Wt, %
Zone 2. 0.033 opt Au				
1928-279	50	0.555	45.4	3.2
1928-280	70	0.542	50.9	3.5
1928-281	87	0.296	60.8	6.8
Zones 2+3, 0.057 opt Au				
1928-277	54	0.969	68.1	3.6
1928-178	74	0.724	71 .7	5.3
Continuous Feed, 0.156 opt Au				
1954-12	50	1 87	53.8	7.2

13.1.5 GRAVITY TESTS

Gravity concentration tests were performed on a relatively low-grade mineralization composite (combined Zone 2 and 3), and on a high-grade sample (Composite 1). The ground material was first processed on a Wilfley table and the concentrate cleaned on a Gemeni table. The test data, summarized in Table 13.5, indicated poor gold recovery (15.4% to 20.9%) in the rougher gravity concentrate for the low-grade sample and was dependent on the fineness of the grind. The finer the grind, the higher the recovery. The response to gravity concentration was dramatically better for the high-grade composite 1 sample (0.74 opt Au). The rougher gravity concentrate recovered 84.7% of the gold at a grade of over 10 opt Au. The direct-sale/smelt-free gold concentrate contained 53.2% of the gold.

Table 13.5 Gold Recovery Test Data Summary

Test No.	Feed Sample Description			Rougher Concentrate			Free Au Concentrate % Dist[1]
	Material	Grind Size mesh	Au opt	Wt,%	Au opt	Dist,% Au	
1.	Zones 2+3 composite	20	0.057	2.6	2.9	15 4	4.2
2.	Zones 2+3 composite	48	0.057	1.1	1.5	16.8	3 6
3.	Zones 2+3 composite	100	0.057	2.6	1.2	20.9	18
4.	composite 1	48	0.740	6.6	10.5	84.7	53.2

Note: [1]Gold reporting to Gemenlconcentrate as free gold concentrate tor direct sales/smelt product

13.1.6 CYANIDATION LEACH TESTS

Batch agitated leach tests were performed on several composite samples to investigate the effect of pre-aeration, leach time, grind size, pulp density, cyanide level and carbon addition on gold extraction and reagent consumption.

"Initial cyanide consumptions were high and ranged from 5 to 6 pound NaCN/ton. The addition of lime to the grind and pre-aeration reduced these levels to less than one pound NaCN/ton. The optimum process conditions in these tests were as follows:

- Grind: P80150 mesh with lime added to the mill
- Pre-aeration: 3 hours
- Leach and CIP: 24 hours
- Pulp density: 45% solids
- NaCN: 0.5 g/L initially with degradation to 0.25 g.

The test results for the various composites under the optimum conditions are summarized in Table 13.6.

Table 13.6 Optimum Condition Composit Test Results

Test No.	Ore	Assayed Grade, Au opt	Gold		Reagents, lb/t	
			Tailings opt	% Extraction	Consumed NaCN	Added Ca(OH)
1943-48	Zone 1	0.023	0.0079	64.5	0.9	0.7
-49	Zone 1		0.0081	65.6	0.7	0.7
-50	Zone 2	0.033	0.0084	74.6	0.9	1.5
-51	Zone 2		0.0074	77.4	0.9	3.1
-21	Zone 3	0 103	0 005	95.3	0.5	3.0
-23	Zone 3		0.004	96.0	0.5	4.0
-20	Zones 2+3	0 057	0.004	94.2	0.5	2.3

Test No.	Ore	Assayed Grade, Au opt	Gold		Reagents, lb/t	
			Tailings opt	% Extraction	Consumed NaCN	Added Ca(OH)
-14	Composite 3	0.249	0.0102	95.3	0.7	3.5
-15	Composite 3		0.0061	97.4	0.6	3.3
-150	Composite 2+3	0.153	0 005	96.6	3.1	3.1
-22	Plant Feed	0.156	0.004	97.1	0.5	2.4

There is definitely a correlation between the feed grade and gold extraction. The gold extraction was over 95% for feed grades of over 0.1 opt Au. A continuous cyanide leach circuit was run on a feed sample assaying 0.156 opt Au. The circuit had three hours of pre-aeration followed by 17 hours of leaching and 7 hours of CIP. The sample was ground to 90% passing 150 mesh with the addition of 1.5 pounds of lime per ton of ore. The test data, summarized in Table 13.7, confirmed that the overall gold extraction of ±96% was obtained in the test. The cyanide consumption was 0.84 to 1.05 pounds per ton. The gold and silver loadings in the pilot test were 426 and 139.4 opt, respectively, which are higher than would be targeted in the commercial operation. However, these high loading indicate that there should be no problems with carbon loadings. Analyses of barren CIP tailings showed low concentrations of mercury and selenium.

Table 13.7 Gold Extraction Test Data

Run No.	NaCN				Gold		
	lb/ton		NaCN/gL		%	Au opt	
	Added	Consumed	Stage	Barren	Extraction	Tailings	Feed
1.	1.5	1.05	0.47	0.16	96.1	0.0066	0.162
2.	1.2	0.84	0.38	0.15	95.7	0.0066	0.148

13.1.7 COLUMN AND BOTTLE ROLL TESTS

Bottle roll and column leach tests were performed at minus 3/8- and minus 5/8-inch on zone 2 and zones 2+3 ores. These represent low-grade and average-grade material. The test results, summarized in Tables 13.8 and 13.9, indicate the following:

- Bottle roll tests extracted 31.8% to 34.8% for the low-grade sample and 47.3% to 54.7% from the average grade sample;
- The gold extraction in the column tests after 55 days were 44% to 47% for low-grade material and greater than 60% for the average grade material; and
- The gold extraction for both composites increased by ±3% when the crush size was decreased from minus 5/8 to 3/8 inch.

Table 13.8 Bottle Roll Test Summary

Test No.	Crush Size, inches	Gold		NaCN Consumed lb/t
		Extraction %	Residue, oz/t	
Zone 1, HRI 42683-1, 0.023 oz/t Gold				
1928-235	78% -3/8	34.8	0.015	1.06
1928-236	87% -5/8	31.8	0.015	1.08
Zones 2+3 Composite, HRI 42683-4, 0.057 oz/t Gold				
1928-237	90% -3/8	47.3	0.033	1.14
1928-238	90% -5/8	54.7	0.027	1.29

Table 13.9 Gold Extraction Test Results

Test No.	Ore	Feed Grade oz Au/ton	Crush Size			Leach Time, days	% Gold Extraction	Comments
			% Passing	Inches	Reference			
1928-253	Zone 1	0.023	79	3/8	3/8	55	46.8	
-255	Zone 1	0.023	87	5/8	5/8	55	43.8	
-288	Zone 1	0.023	98	2	2	154	42.3	Interim
1928-254	Zones 2+3	0.057	90	3/8	3/8	55	65.6	
-256	Zones 2+3	0.057	90	5/8	5/8	55	62.6	
1954-9	Zone 2	0.033		6 mesh	6 mesh	98	61.2	Interim
-7	Zone 2	0.033	86	½	3/8	98	51.8	Interim
-8	Zone 2	0.033	86	½	3/8[1]	98	55.8	Interim
-25	Zone 2	0.033	86	½	3/8[2]	88	51.5	Interim
-24	Zone 2	0.033	94	5/8	5/8	88	50.6	Interim
1954-26	Zone 3	0.103	88	½	3/8	88	67.2	Interim
1954-78	Low Grade	0.0185	93	½	3/8	61	30.3	Interim

Note: [1]1g NaCN/liter
[2]Leach solution applied at 0.01 gpm/ft ^{2}
[3]The tests designated as interim are still in progress and results do not represent completed metallurgical balances.
[4]Values are given for the size which was the nearest either 80 or 90% passing.
[5]The "reference" size is the nomenclature used in discussions within the report.

13.1.8 THICKENING TESTS

Thickening tests were performed on the ball mill discharge slurry containing lime and cyanide and cyanide leach tailings. Results showed terminal slurries containing approximately 60% solids with measured unit area of approximately 2ft^2/ton/day.

13.1.9 CYANIDE DESTRUCTION TESTS

Destruction tests were run on cyanide leach pulps using air/SO2, chlorine and hydrogen peroxide. The objective was to treat barren CIP leach slurries containing 100 to 200 ppm WAD cyanide and achieve residual values of less than 1 ppm WAD cyanide. Only the chlorine process reached the targeted level with final slurries containing less than 0.15 ppm WAD cyanide.

13.2 GRAVITY CONCENTRATIONS STUDIES, HAZEN RESEARCH INC, JULY 1991

Hazen Research undertook gravity concentration tests with the primary objective of determining the relationship between gold recovery and feed gold grade.

Three composite samples were prepared from 35 core samples of one to ten pounds each for the study. The feed assays for the three composites are reported in Table 13.10. Scoping gravity rougher/cleaner tests using Diester and Gemeni tables were run at nominal 20, 48, and 100 mesh grinds. The test results, summarized in Table 13.11, indicated 48 to 100 mesh grind provided reasonable recovery of gold. Larger scale tests were performed at a grind of 48 mesh for all three composite samples.

Table 13.10 Feed Assay Test Analyses

Composite Number	Predicted Au opt	Analyzed[1]	
1	0.449	0.384	0.62
2	1.02	1.02	1.05
3	5 41	5.51	5.65
Note: [1]Average of triplicate fire assay analyses			

Table 13.11 Mesh Grind Test Summary

Characterization Test No.	Feed Material			Rougher Concentrate % Dist. Au	Cleaner Concentrate % Dist. Au	Rougher Tailing	
	Composite No.	Grind Size[1]	Au oz/t[2]			Au oz/t	% Dist. Au
1	1	20	0.419	53.0	20.2	0.241	47.0
4	1	48	0.695	61.6	46.3	0.277	38.4
7	1	100	0.419	58.5	36.6	0.177	41.5
2	2	20	0.879	53.7	16.8	0.479	46.3
5	2	48	0.947	62.5	44.9	0.364	37.5
8	2	100	0.842	67.7	47.5	0.275	32.3
3	3	20	5.00	65.2	14.9	2.39	34.8
6	3	48	4.45	72.6	48.1	1.27	27.4
9	3	100	4.73	80.2	65.7	0.979	19.8

Note: [1]Nominal 100% passing mesh of grind size.
[2]Computed from test products.

The test results, summarized in Table 13.12, indicate the following:

- Higher grade feed material resulted in higher gold recovery, especially in rougher separation;
- Cleaner concentrate produced from all three composite samples were suitable for direct sale/smelt. The concentrates assayed 1450 opt Au for the low-grade composite and 16,322 opt Au for the higher grade composite; and
- The overall recovery of gold was low (20% to 42%) in the direct sale/smelt product.

Table 13.12 Composite Sample Summary

Characterization Test Number	Composite Number	Cleaner Concentrate				Rougher Concentrate % Distribution	
		Au oz/t	Ag oz/t	% Distribution			
				Au	Ag	Au	Ag
10	1, low	1,450	865	32.4	12.4	42.8	20.2
11	2, medium	9,549	5,660	31. 2	19.6	55.6	37.2
12	3, high	16,322	10,218	40.5	23.2	62.5	41.8

13.3 METALLURGICAL STUDIES, GOLDEN SUNLIGHT MINES, MAY 3, 1991 REPORT

The primary objective of the test work at Golden Sunlight was to determine leach conditions at which maximum gold extraction can be achieved. The test work focused on the following:

- Bond Work Index;
- Recovery vs. Grind;
- Recovery vs. Cyanide Level; and
- Recovery vs. Head Grade.

A total of six composites were prepared from the rotary drilled samples for the study. The head analyses are given in Table 13.13. The gold assayed varied from 0.023 opt to 0.140 opt Au.

Table 13.13 Composite Head Analyses

Composite	Au (opt)	Ag (opt)	Cu (ppm)	Fe (ppm)
Stage 1	0.052	0.12	50	10,000
Stage 2	0.066	0:0.10	50	10,000
#1	0.023	0..04	50	10,000
#2	0.031	0..06	50	10,000
#3	0.082	0.30	50	10,000
#4	0.140	0.21	50	10,000

Bond's ball mill work indices for the two composites (stage 1 and stage 2) were determined to be 31.64 and 27.37 kwh/ton, respectively. Bottle roll cyanidation leach tests were performed at 25% solids and pH 11 for 48 hours. The test results, presented in Tables 13.14 to 13.16, indicate the following:

- For Stage 1 composite, material can be ground as coarse as 65% plus 200 mesh in order to obtain 80% or better gold recovery. However, for stage 2 composite, the rock must be finer than 71% plus 200 mesh for the gold recovery to be maintained at 80% or higher;
- Both composites required 0.5 lb/ton cyanide level in order to achieve maximum gold recovery while maintaining low cyanide consumption. The cyanide consumption averaged 0.25 lb/ton while the lime consumption averaged 6.92 lb/ton for both composites; and
- The gold recovery increased with increasing head grade.

Table 13.14 Mesh Grind Test Results

Mesh-of-Grind % +200 Mesh	NaCN Consumption (lb/ton)	Lime Consumption (lb/ton)	Solid Assay (oz/ton)	Calculated Head (oz/ton)	% Gold Recovery
Stage 1					
18.5	0.34	6.64	0.0078	0.0981	90.4
24.0	0.31	6.76	0.0093	0.0583	84.1
32.8	0.29	6.77	0.0105	0.0685	83.8
49.3	0.61	6.19	0.0070	0.0612	88.2
65.2	0.40	5.92	0.0105	0.0701	84.3
Stage 2					
15.0	0.46	6.51	0.0077	0.0738	89.6
22.0	0.37	5.90	0.0090	0.0851	89.4
34.5	0.46	5.97	0.0074	0.0844	91.0
59.0	0.67	5.81	0.0092	0.0746	87.8
70.8	0.42	5.10	0.0140	0.0726	80.7

Table 13.15 Cyanide Consumption vs Lime Consumption

NaCN Level (lb/ton)	Mesh-of-Grind % +200 Mesh	NaCN Consump. (lb/ton)	Lime Consump. (lb/ton)	Solid Assay (oz/ton)	Calculated Head (oz/ton)	% Gold Recovery
Stage1						
0.25	20.7	0.17	7.15	0.0070	0.0579	87.8
0.50	19.9	0.23	6.80	0.0075	0.0648	88.1
1.00	24.1	0.47	6.95	0.0068	0.0542	87.6
Stage 2						
0.25	23.7	0.16	7.00	0.0085	0.0964	90.9
0.50	26.4	0.26	7.04	0.0050	0.0836	94.1
1.00	24.1	0.45	6.83	0.0050	0.0739	93.1

Table 13.16 Gold Recovery by Increased Head Grade

Head Assay (oz/ton)	Mesh-of-Grind % +200 Mesh	NaCN Consump. (lb/ton)	Lime Consump. (oz/ton)	Solid Assay (oz/ton)	Calculated Head (oz/ton)	% Gold Recovery
0.023	25.5	0.56	6.10	0.0073	0.0290	75.0
0.031	20.5	0.53	5.79	0.0090	0.0364	75.3
0.052	24.1	0.39	6.85	0.0080	0.0563	85.8
0.066	23.0	0.41	6.36	0.0070	0.0795	91.3
0.082	26.5	0.49	6.13	0.0053	0.0974	94.3
0.140	22.9	0.59	5.59	0.0048	0.1268	96.2

These results indicated that the most important leach parameter is mesh of grind. The material can be ground as coarse as 50% plus 100 mesh while attaining an 80% plus gold recovery. A 0.50 lb/ton cyanide level was recommended to achieve good gold recovery at reasonable reagent consumption.

13.4 GRASSY MOUNTAIN METALLURGICAL TEST RESULTS, NEWMONT EXPLORATION INC. REPORT

Newmont prepared five metallurgical composites from core available from three drill holes (46-1, 46-2 and 55-2). These composites were based on gold grade and rock type according to geological logs. The composites were high grade siltstone (GM-1), arkose (GM-2 and GM-4), low grade siltstone (GM-3), and sinter (GM-5).

The gold assays of the composites ranged from 1.05 g/t to 6.64 g/t Au. The composites also contained from 5.82 g/t to 15.97 g/t Ag and 0.04% to 0.21% S sulfide. Semi-quantitative XRD/XRF analyses indicated that the siltstone rock type samples ((GM-1 and GM-3) contained minor amounts of sericite (2%) and montmorillonite (3%). The sinter or silicified rock type sample (GM-5) contained significantly more quartz (92%) and less total feldspar (7%).

Column leach tests were performed on each composite sample at top particle size of minus ¾ inch and/or minus ¼ inch for 111 days. The column leach test data are summarized in Table 13.17. The gold extraction ranged from 31.1% to 81.9% with most of the sample having gold extraction of ±55%. The NaCN consumption ranged from 0.40 kg/tonne to 0.95 kg/tonne and the lime consumption ranged from 1.67 kg/tonne to 3.68 kg/tonne.

Table 13.17 Column Leach Test Data Summary

		Residue Assay ppm		Carbon Assay ppm		Head Assay, ppm				Extraction, %				NaCN Added	$Ca(OH)_2$ Added
						Calculated		Measured		Calculated Head		Measured Head			
		Au	Ag	Au	Ag	Au	Ag	Au	Ag	Au	Ag	Au	Ag	kg/tonne	kg/tonne
GM-1	-1/4"	1.18	7.67	1069	53	6.54	7.94	6.64	15.97	81.9	3.3	82.3	52.0	0.44	2.34
GM-2	-3/4"	1.53	5.08	323	20	3.13	5.18	3.22	8.42	51.0	1.9	52.5	39.7	0.40	1.74
	-1/4"	0.96	4.95	489	39	3.40	5.14	3.22	8.42	71.7	3.8	70.2	41.2	0.42	2.22
GM-3	-3/4"	0.56	4.76	128	83	1.19	5.17	1.18	7.05	53.1	7.9	52.5	32.5	0.42	2.16
	-1/4"	0.63	4.25	137	18	1.31	4.34	1.18	7.05	52.0	2.1	46.6	39.7	0.46	2.59
GM-4	-1/4"	0.61	4.16	161	51	1.40	4.41	1.24	7.20	56.5	5.7	50.8	42.2	0.95	3.68
GM-5	-3/4"	0.91	5.86	84	16	1.32	5.94	1.05	5.82	31.1	1.3	13.3	0.0	0.43	2.04
	-1/4"	0.50	3.85	106	26	1.02	3.98	1.05	5.82	51.1	3.2	52.4	33.8	0.47	1.67

Note: Newmont's work was reported in metric units and the units in this section are direct quotes from the Newmont work.

[1]Calculated using residue and carbon assays

13.5 HIGHLIGHT OF METALLURGICAL STUDIES REGARDING PROCESSING HIGH GRADE UNDERGROUND ORE

The following remarks which would be pertinent to the processing of high-grade material can be made based on the review of the historical data:

- The material is generally hard and abrasive. Hence, it may be more relevant to design a three stage crushing circuit followed by ball milling to produce the desired grind size. This is based on the fact that it is cheaper to crush than to grind;
- Significant portion of gold present in the rock is free milling and gravity recoverable. The higher the feed grade, higher the proportion of gold which can be recovered in the gravity process. Therefore, gravity concentration process can be incorporated into the grinding circuit;
- Preliminary flotation process did not recover significant amount of gold in the concentrate. Several new reagents have been developed over the last two decades that can float fine free gold (i.e. AP 404, MAX gold etc.); and
- Cyanidation process can extract gold at a relatively coarse grind with reasonable reagent consumptions. This was also proven in pilot plant test work at Hazen.

13.6 CONCEPTUAL PROCESS FLOW SHEET(S)

Based on the review of historical metallurgical studies, one could develop three conceptual process flow sheets for treating Grassy Mountain high-grade material. These conceptual process flow sheets are discussed in this section. Examples of existing operations for these flow sheets are given in Table 13.18.

Table 13.18 Operation Flowsheet Examples

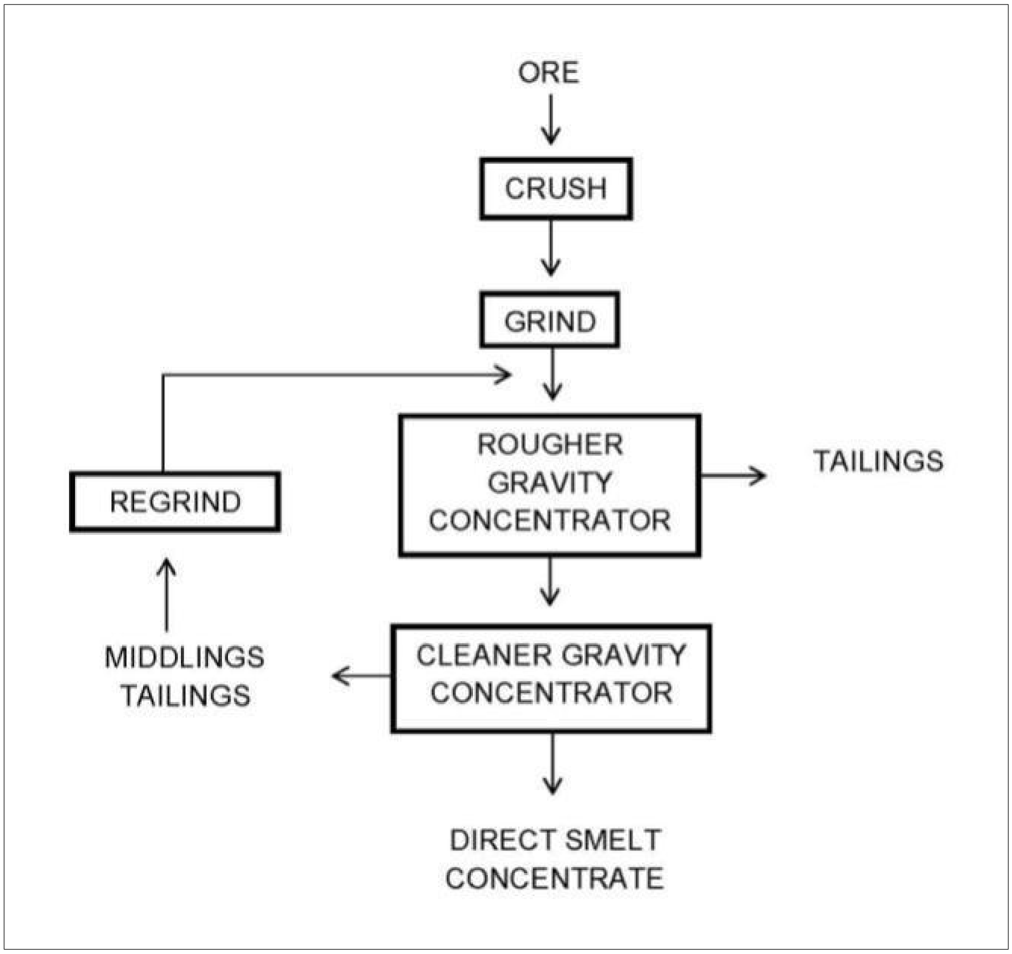
Option	Flow sheet	Operating Plants
1	Gravity Process	China, Russia, Brazil, etc.
2	Gravity/ Flotation Process	Bjorkdal. Eskay Creek
3	Gravity/Leach Process	Fort Knox, Muruntau

13.6.1 GRAVITY CONCENTRATION PROCESS

A simplified process flow sheet incorporating gravity concentration process is given in Figure 13.1. This flow sheet will not use any chemical reagents but the Au/Ag recoveries will be lower than the other two processing options.

Figure 13.1 Conceptual Gravity Concentration Process

(Source: Gustavson Associates, 2012)

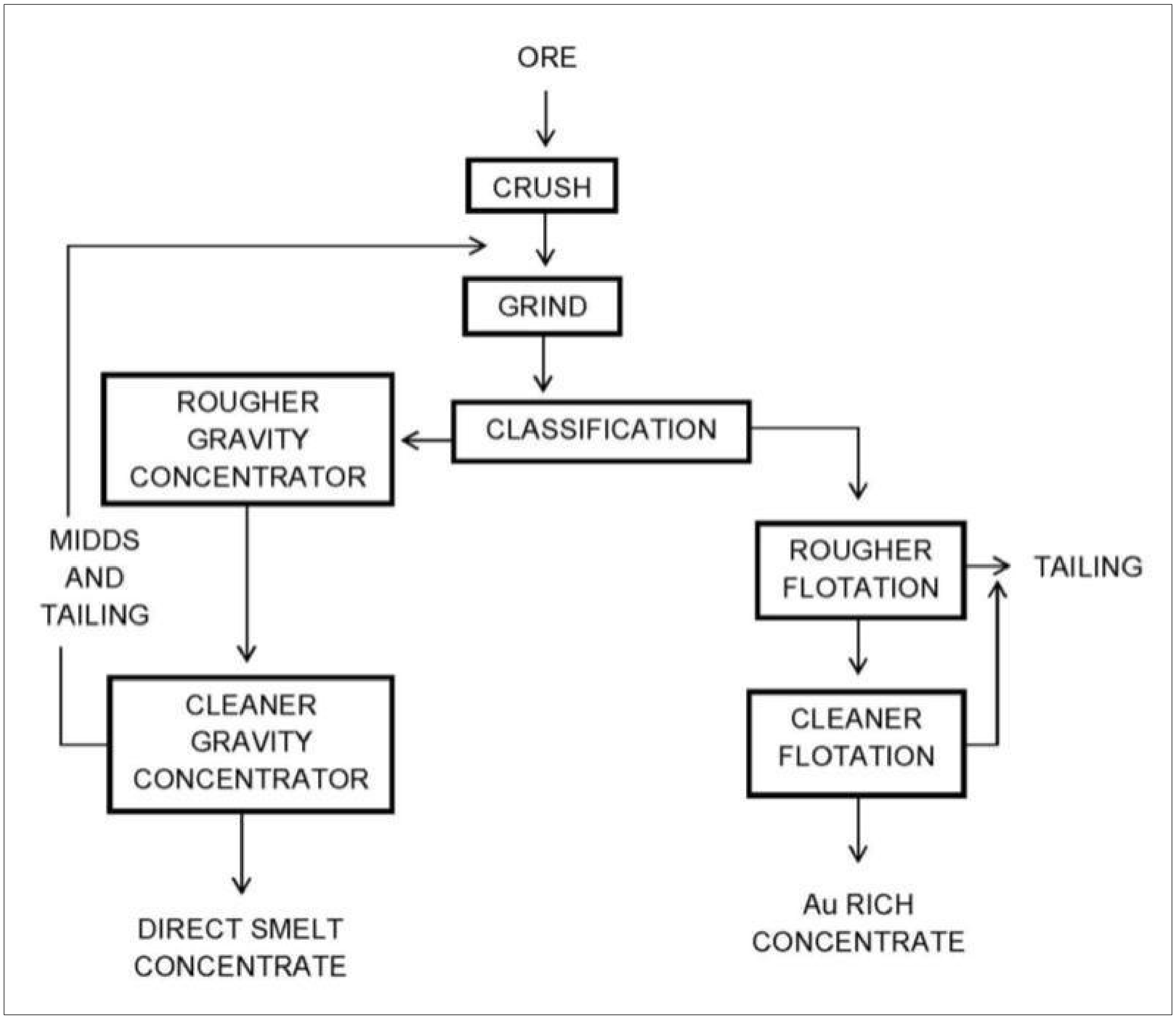


13.6.2 GRAVITY/FLOTATION CONCENTRATION PROCESS

The simplified process flow sheet is given in Figure 13.2. Gravity concentration process will be incorporated in the grinding circuit. The cyclone overflow will be processed in the flotation circuit where sulfides and precious metals will be recovered using recently developed collectors for gold and silver (i.e. AP404, 3477, 3418 A and MAX Gold). The rougher flotation concentrate can be upgraded to produce lower weight but higher grade concentrate. This process flow sheet will recover gold in two products, namely, direct smelt concentrate and cleaner flotation concentrate. The gold recovery in this process will be higher than the gravity concentration process. However, the capital cost and operating costs will also be higher.

Figure 13.2 Conceptual Gravity/Flotation Concentration Process

(Source: Gustavson Associates, 2012)

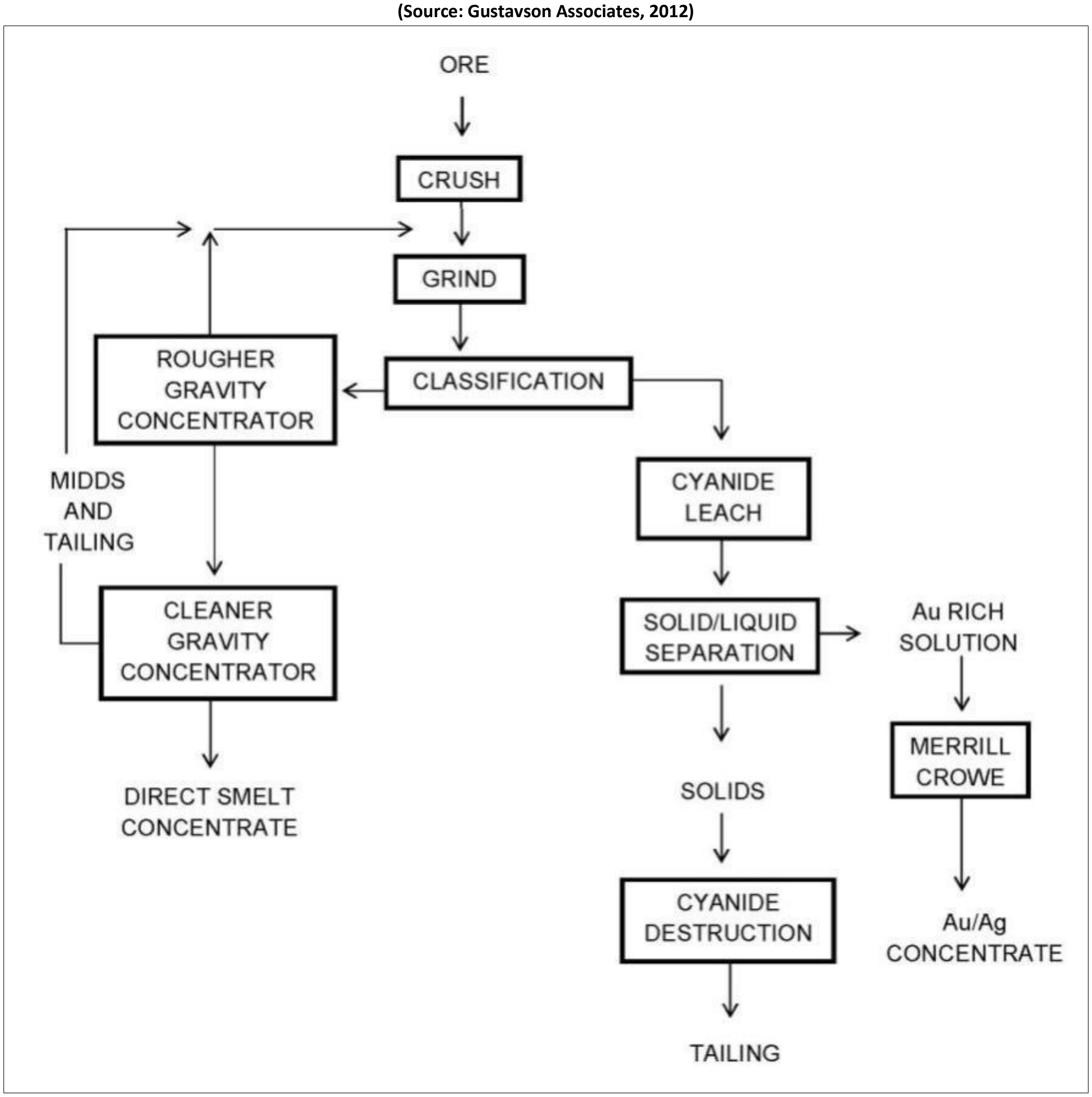


13.6.3 GRAVITY/LEACHING OF GRAVITY TAILS

The simplified process flow sheet is given in Figure 13.3. Again, the gravity concentration will be incorporated into the grinding circuit. The cyclone overflow will be sent to the cyanide leach circuit. The gold and silver recovery process will be Merrill Crowe process which is more efficient when silver also is a byproduct. This process will recover over 90% of the gold as demonstrated in a pilot plant at Hazen Research. However, one would have to permit the use of cyanide at site and tailings will require a lined pond. The amount of material requiring cyanide destruction can be reduced by leaching flotation concentrate instead of all the material. However, the capital and operating cost would be highest for this option.

Figure 13.3 Conceptual Gravity/Leach Process

(Source: Gustavson Associates, 2012)



13.7 RDI TESTWORK

Resource Development Inc. (RDi) conducted metallurgical testwork on rock samples from the Grassy Mountain project to evaluate the three proposed flowsheets described in Figures 13.1, 13.2, and 13.3. This test work was carried out from October 2014 to February 2015.

13.7.1 ORE CHARACTERIZATION

A composite sample was prepared and submitted for analytical analysis and comminution testing. The results are summarized in Tables 13.19 and 13.20.

The rock is moderately hard and abrasive. The rock is considered very hard based on the Bond's Ball Mill work index of 20.77. The composite sample assayed 8.5 g/mt Au and 19.1 g/mt Ag on average. The sample was also submitted for mineralogy. The mineralogy results indicate that the gold is fine grained, between 1-13 microns, and is associated with microcrystalline quartz.

Table 13.19 Head Analyses of Composite Sample

Test	Index
Bond Ball Mill Work Index	20.77 KWhr/ton
Crusher Work Index	7.68 KWhr/ton
Abrasion Index	0.469

Table 13.20 Head Analyses of Composite Sample

Sample	Assay					
	Au g/mt	Ag g/mt	Organic Carbon %	Total Carbon %	Se mg/kg	Te mg/kg
Head A	9.88	13.6	0.09	0.10	<2	<2
Head B	8.09	16.4				
Head C	7.54	27.3				
Average	**8.50**	**19.1**				

13.7.2 GRAVITY CONCENTRATION PROCESS

The gravity only flow sheet described in Figure 13.1 was tested at a primary grind of P_{80} 100 mesh. The rougher gravity stage was completed with a 20 kg sample utilizing a Deister Table. After the rougher gravity separation stage, the concentrate was cleaned by further gravity separation on a Gemeni Table. The gravity results are summarized in Table 13.21. The gold and silver concentrated to a grade of 1785 g/mt Au and 1598 g/mt Ag, but only recovered 21.1% and 11.5% respectively.

Table 13.21 Summary of Rougher Gravity Results

Primary Grind P_{80}	Product	Recovery %			Grade	
		Wt.	Au	Ag	Au g/mt	Ag g/mt
100 mesh	Gravity Cleaner Conc.	0.08	21.1	11.5	1785	1598
	Gravity Cleaner Tail	5.3	21.1	18.2	28.5	40.4
	Gravity Rougher Tail	94.6	57.8	70.4	4.38	8.78

The cleaner tails that were generated were reground and then reprocessed on the Gemeni Table. The results are summarized in Table 13.22. The reground cleaner tail process increased the overall gold recovery by a maximum of 6.2%. The overall recovery of 27.3% Au and 13.7% Ag indicates that a gravity only process does not provide sufficient recovery of precious metals.

Table 13.22 Summary of Re-Ground Cleaner Tail Gravity Results

Re-Grind	Product	Recovery %						Grade			
		Reground Tails			Combined with Cleaner Conc.			Reground Tails		Combined with Cleaner Conc.	
		Wt.	Au	Ag	Wt.	Au	Ag	Au g/mt	Ag g/mt	Au g/mt	Ag g/mt
5 min	Gravity Cleaner Conc	1.29	25.6	11.2	0.15	26.5	13.5	438	449	1181	1083
10 min	Gravity Cleaner Conc	0.70	29.5	12.6	0.12	27.3	13.7	1100	895	1576	1384
20 min	Gravity Cleaner Conc	0.15	15.5	8.5	0.09	24.3	13.0	2257	2593	1825	1683

13.7.3 GRAVITY/FLOTATION CONCENTRATION PROCESS

The rougher tailings from the 100 mesh gravity test (Table 13.21) were blended and split into charges. The material was then floated with a variety of reagents without regrinding to evaluate the gravity/flotation concentration process in Figure 13.2. The test results are summarized in Table 13.23.

The precious metal recovery was similar regardless of reagent scheme. The flotation recovery was 59.2% to 63.0% gold and 39.6% to 46.7% silver. The overall recovery increases to 76.4% to 78.6% gold and 57.5% to 62.5% silver when the flotation concentrate is combined with the rougher gravity concentrate. The results indicate that a gravity/flotation concentration process is better than a gravity only process, but significant amount of precious metals are lost to the flotation tailings.

Table 13.23 Summary of Gravity Tail Flotation Results

Reagents	Recovery %						Grade			
	Flotation Conc.			Combined with Rougher Gravity Conc.			Flotation Conc.		Combined with Rougher Gravity Conc.	
	Wt.	Au	Ag	Wt.	Au	Ag	Au g/mt	Ag g/mt	Au g/mt	Ag g/mt
PAX/AP404	3.0	59.2	39.6	8.2	76.4	57.5	87.8	128.7	67.0	89.3
PAX/3477	11.6	63.0	43.5	16.4	78.6	60.2	25.0	37.6	35.2	48.0
PAX/Max Gold	6.9	60.2	46.7	11.9	77.0	62.5	40.4	65.8	47.5	67.4
PAX/AP404 and sulfidization	2.6	62.5	41.3	7.9	78.3	58.7	110.6	162.5	73.2	98.3

13.7.4 GRAVITY/LEACHING OF GRAVITY TAILS

The rougher tailings from the 100 mesh gravity test (Table 13.21) were blended and split into charges. The material was then leached without regrinding to evaluate the gravity/leach of gravity tails process in Figure 13.3. The results are summarized in Table 13.24. Leach results indicate that the material is readily leachable. The gold recovery was 95.2% and the silver recovery was 85.3% after 48 hours of leach time.

Table 13.24 Summary of Gravity Tail Leach Results

Primary Grind P_{80}	Recovery %		Reagent Consumptions	
	Au	Ag	NaCN kg/mt	Lime kg/mt
100 mesh	95.2	85.3	0.180	2.251

A second set of cyanidation tests were conducted at various grind sizes with CIL. The rougher gravity concentrate was processed with one cleaner stage and the cleaner and rougher tails were combined for leaching. The test results are summarized in Table 13.25.

All grind sizes exhibited good leach recoveries with finer grinds showing slightly better results. The gravity/leach process achieved a gold recovery of 97.0% and silver recovery of 84.6%.

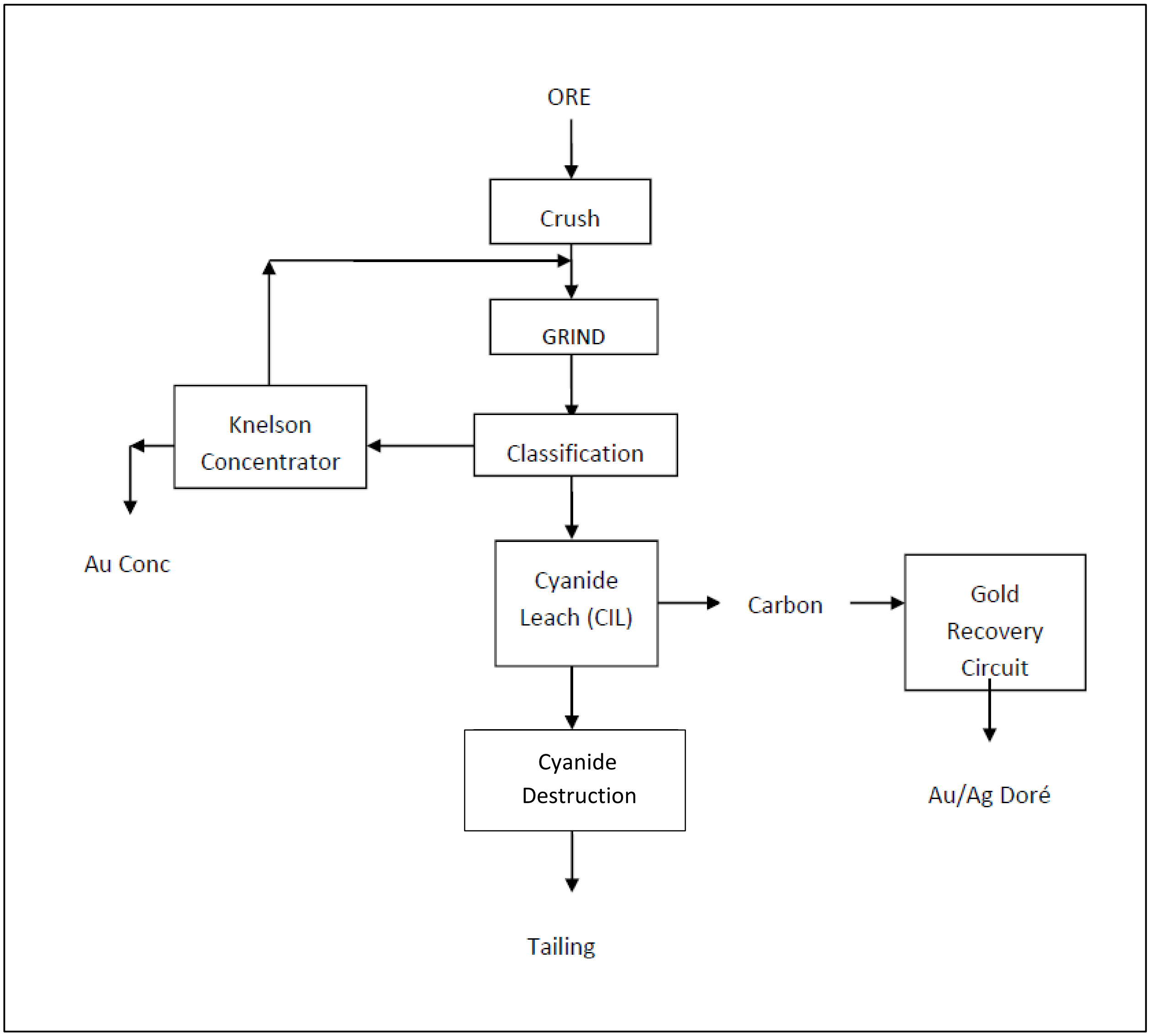
Table 13.25 Summary of Combined Gravity and Tail Leach Results

Primary Grind P_{80}	Cleaner Gravity					Leaching					
	Recovery %			Grade		Leach Test Recovery %		Recovery % Combined with Cleaner Gravity Conc.		Reagent Consumptions	
	Wt.	Au	Ag	Au g/mt	Ag g/mt	Au	Ag	Au	Ag	NaCN kg/mt	Lime kg/mt
48 mesh	0.5	22.6	16.6	336.1	598.4	90.6	79.2	92.7	82.7	0.719	0.887
65 mesh	0.6	25.1	18.9	286.1	443.4	91.1	76.8	93.3	81.2	1.083	0.756
100 mesh	0.2	26.9	6.4	961.7	975.8	95.9	83.6	97.0	84.6	1.798	0.748

13.7.5 CONCEPTUAL FLOW SHEET

The test results indicate that the best process flowsheet would include an initial gravity circuit followed by a gravity tails leach. The overall gold recovery for a 100 mesh primary grind is estimated at 97.0% and the silver recovery is estimated at 84.6%. The process Flowsheet is described in Figure 13.4

Figure 13.4Conceptual Process Flow sheet of Gravity/Leach of Gravity Tails



14 MINERAL RESOURCE ESTIMATES

This chapter identifies and defines the mineral resource statement for the project. MMC recognizes that this is a preliminary economic assessment with a base case underground production scenario. There are mineral resources for the project that may meet the prospects of eventual economic extraction by open pit methods. Therefore MMC recommended that the volume of material estimated for the underground PEA be removed from consideration of economic extraction by open pit methods. Those volumes were replaced with material of the density of concrete backfill. Subsequently the block model was analyzed for resources constrained within an economic pit.

The mineral resources estimated in that report were estimated from drillhole data using a Median Indicator Kriging ("MIK") algorithm.

The mineral resources presented in this technical report are classified under the categories Measured, Indicated, and Inferred in accordance to with standards defined by the Canada Institute of Mining, Metallurgy, and Petroleum ("CIM"). "CIM Definition Standards – For Mineral Resources and Mineral Reserves", prepared by the CIM Standing Committee on Reserves Definitions and adopted by CIM Counsel on May 10, 2014. These resource classifications reflect the relative confidence of the grade estimates. HRC knows of no environmental, permitting, legal, socio-economic, marketing, political, or other factors that may materially affect the mineral resource estimate.

14.1 DATA VALIDATION

The Grassy Mountain mineral resource estimate is based on the exploration drillhole database available as of September 26, 2012. Drillhole data including collar coordinates, down hole surveys, sample assay intervals, and geologic logs were provided by Calico in Microsoft Excel spreadsheets. The database was reviewed and validated prior to estimating mineral resources.

The Grassy Mountain database includes 428 historic drill holes and 12 Calico drill holes. Of the 428 historic drill holes, 235 fall within the block model boundary and are used in the mineral resource estimate. The database was validated using Leapfrog 3D® software. Validation checks performed prior to loading the database into Datamine Studio 3 Mining software included:

- No overlapping intervals;
- Downhole surveys at drill hole collar;
- Consistent drill hole depths for all data tables ; and
- Gaps in the from – to data tables

The historic assays used for the resource estimate include 34,515 samples with analytical results for gold by fire assay, fire assay with atomic absorption, and fire assay with gravimetric finish. There are 26,144 samples that also contain analytical results for silver by aqua regia digestion. The 2011 Calico drill holes contribute 2,211 gold assay results by fire assay and AAS with gravimetric finish, and 2,211 silver assay results by aqua regia ICP-AES with gravimetric finish. All assay values below detection limits were assigned a value of one half of the detection limit, and missing or non-sampled intervals were assigned a value of -9.

14.1.1 ADDITIONAL DATA

Geologic surface maps, cross sections, and geophysical data were also provided by Calico in electronic format. A controlled source audio magneto-telluric (CSAMT) survey was completed for Calico by Wright Geophysics (Wright Geophysics, 2012), who provided 18 inverted resistivity sections and interpretive overlays in PDF format.

14.1.2 TOPOGRAPHY

A 1:100-scale, 10-ft contour interval topographic map, produced by Olympus Aerial Survey under contract with Atlas in 1989 of the patented claims area, was provided to HRC in digital format. Additionally, a DEM covering the remaining claims was provided and added to the aerial survey for a complete topographic surface. Minor discrepancies were noted between surveyed drill hole collar locations and the topographic data. Drillhole collar elevations were not adjusted to match the topography as the original collar survey elevations are assumed to represent the original topography prior to the construction and/or reclamation of drilling roads.

14.2 GEOLOGIC MODEL

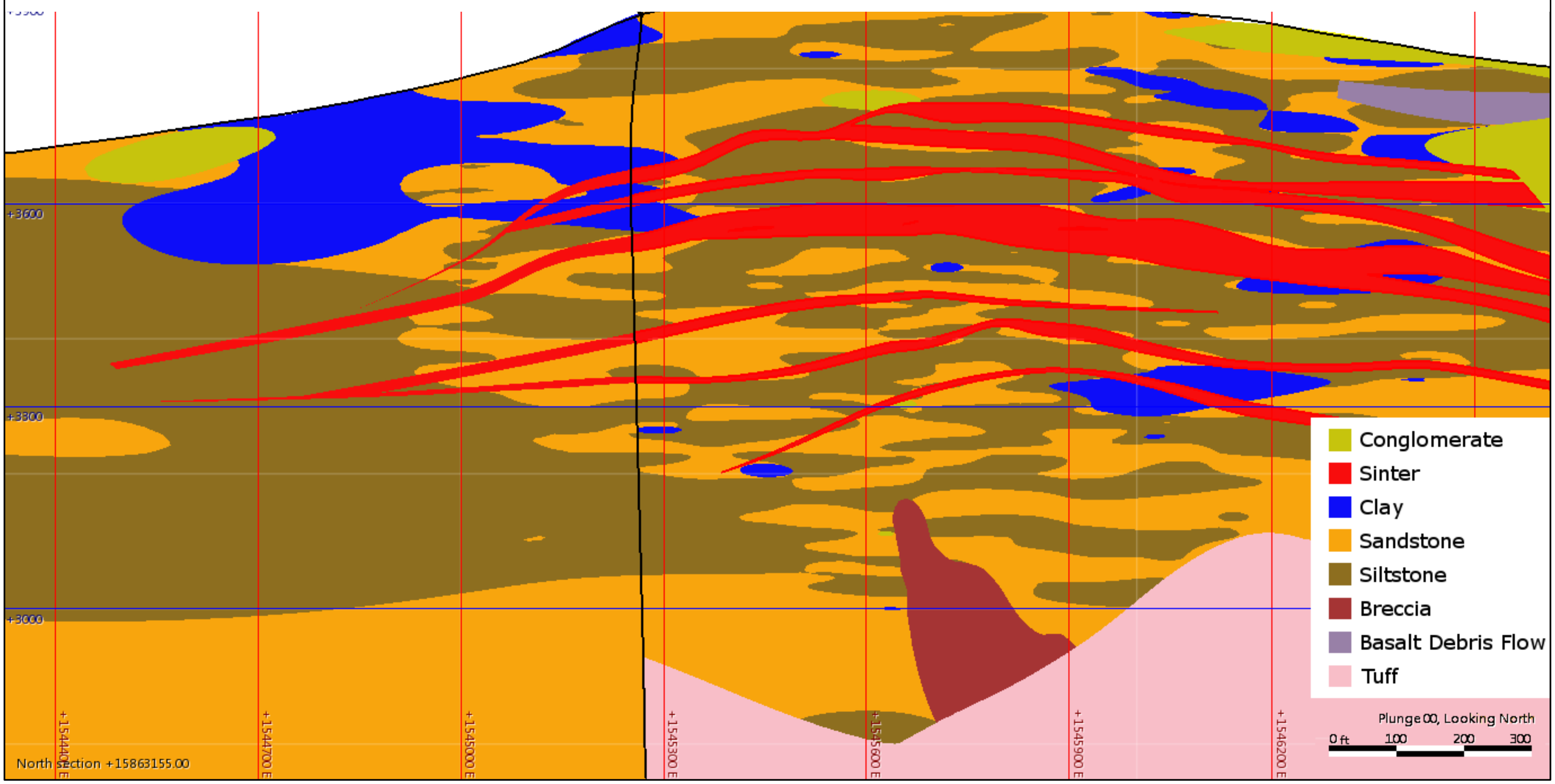
Examination of the drillhole sections indicates that for the estimation of gold and silver grades the most significant and strongest boundaries correspond to depth and lithology as follows:

- Intermittent non-mineralized basalt flows;
- Sinter cap marking the upper elevation of the lower grade gold and silver mineralization;
- Gradational increase in gold and silver grade within the Grassy Mountain sediments to an elevation of 3100 feet; and
- Termination of mineralization along the contact between the Kern Basin Tuff and the Grassy Mountain Formation.

HRC visually evaluated relevant assay data in cross-section, and found that mineralization occurs across several lithologies in a gradational manner and as smaller, discrete, higher-grade occurrences. The sedimentary facies of the Grassy Mountain Formation provide the host rocks for the Grassy Mountain mineral resource. These rocks include granitic-clast conglomerate, arkosic sandstone, fine grained sandstone, siltstone, and tuffaceous siltstone/mudstone. The Kern Basin Tuff and local basalt flows are generally not mineralized.

The boundaries of mineralization were interpreted by HRC using the drill hole lithology logs and supporting geophysical data to construct a 3D geologic model of the Grassy Mountain project in Leapfrog 3D® software. Basalt, Kern Basin tuff, Grassy Mountain sediments (conglomerate, breccia, clay, sandstone, and siltstone), and sinter lithologies were modeled (Figure 14.1). Lithologies and significant structures were delineated by evaluating the drillhole intervals in cross section as compared to the geophysical data. The model was then visually evaluated in 3D and rectified to the surface geologic map. The lithologic interpretations were converted to 3D volume meshes and used to constrain statistical and geostatistical analyses and resource estimation.

Figure 14.1 Geologic Cross Section



14.3 STATISTICAL ANALYSIS

The 3D geologic solids and associated drill hole data were imported into Datamine Studio 3 mining software. Basic descriptive statistics for the drill hole intervals were evaluated against the recorded lithology, and compared to the cross sectional geologic interpretations. The sinters and Grassy Mountain Formation sediments were grouped together for estimation as the mineralization is similar throughout these lithologies. The basalts and the Kern Basin Tuffs are considered non-mineralized with limited areas of mineralization associated with the high angle structures cutting through the main Grassy Mountain resource area. The descriptive statistics used in the mineral resource estimate are presented in Table 14.1.

Table 14.1 Basic Descriptive Statistics for Gold and Silver Assays

Gold Assay Statistics						
Lithology	Sample Count	Maximum	Mean	Median	Std. Dev.	Coef. Of Var.
	n	opt	opt	opt	opt	
Tertiary Basalts						
Basalt	6	0.001	0.001	0.001	0.0004	0.50
Debris Flow	269	0.029	0.001	0.0005	0.002	3.04
Basalt Total	275	0.029	0.001	0.000	0.002	2.99
Grassy Mountain Formation						
Breccia	354	5.889	0.088	0.015	0.380	4.30
Clay	2127	9.885	0.020	0.004	0.268	13.72
Conglomerate	420	0.458	0.006	0.002	0.033	5.18
Sandstone	11015	14.658	0.029	0.009	0.213	7.36
Siltstone	16652	21.698	0.031	0.010	0.308	9.87
Sinter	5889	7.520	0.022	0.013	0.130	6.04
Grassy Total	36457	21.698	0.028	0.009	0.2558	8.98
Kern Basin Tuff						
Tuff	1063	0.084	0.002	0.001	0.005	2.25
All Lithology						
Total	37795	21.698	0.027	0.009	0.251	9.16
	Silver Assay Statistics					
	Sample Count	Maximum	Mean	Median	Std. Dev.	Coef. Of Var.
	n	opt	opt	opt	opt	
Tertiary Basalts						
Basalt	5	0.006	0.005	0.006	0.001	0.31
Debris Flow	248	0.015	0.004	0.003	0.002	0.40
Basalt Total	253	0.015	0.004	0.003	0.002	0.44
Grassy Mountain Formation						
Breccia	176	0.846	0.124	0.074	0.128	1.03
Clay	1801	18.600	0.043	0.005	0.494	11.60
Conglomerate	359	0.408	0.010	0.003	0.036	3.76
Sandstone	8210	4.317	0.067	0.030	0.156	2.33
Siltstone	12968	12.221	0.065	0.032	0.162	2.49
Sinter	4593	1.750	0.080	0.053	0.098	1.22
Grassy Total	28107	18.600	0.066	0.032	0.192	2.88
Kern Basin tuff						
Tuff	836	0.225	0.013	0.006	0.020	1.63
All Lithology						
Total	29196	18.600	0.064	0.030	0.188	2.92

Figures 14.2 and 14.3 present log histograms and probability plots of the gold and silver grades. The gold and silver grade populations are close to log normal and show strong positive skewness for the defined mineralized area as is typical of many precious metal deposits. The coefficients of variation (COV) are moderately high indicating that a mixed data population is present.

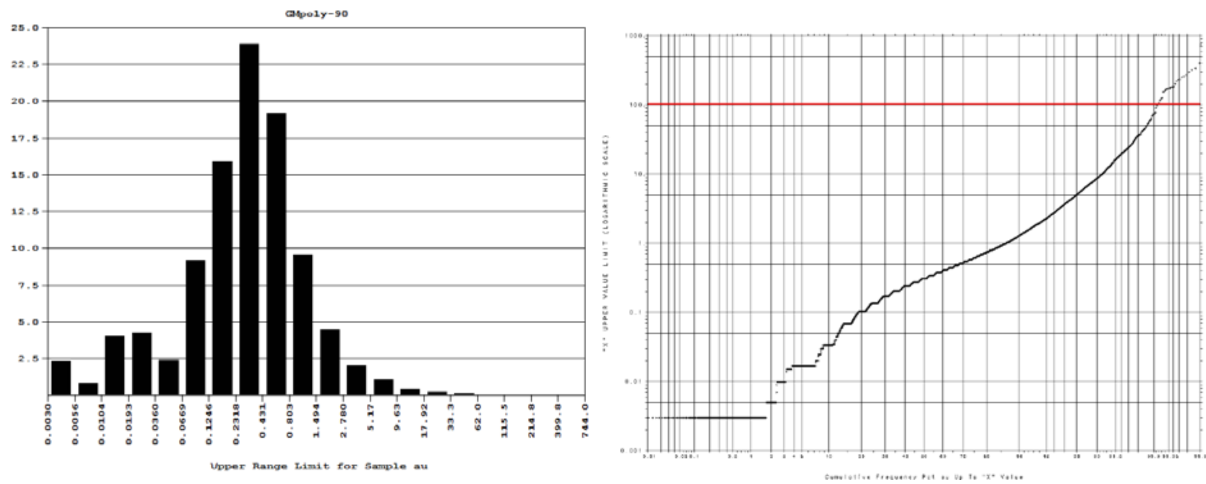


Figure 14.2 Histogram and Probability Plot of All Gold Assays

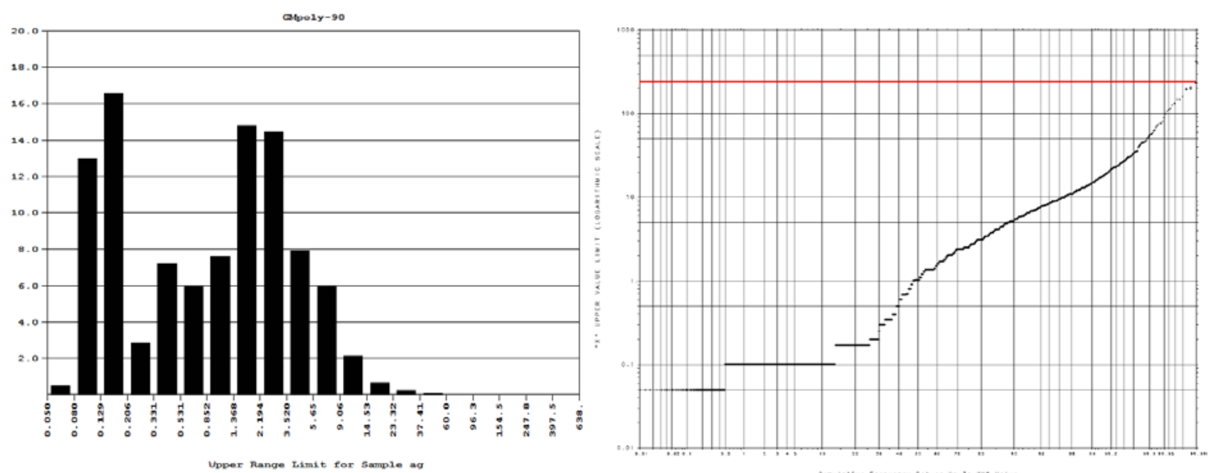


Figure 14.3 Histogram and Probability Plot of All Silver Assays

At Grassy Mountain the geology and mineralogy of the mineralization precludes any further domaining. A Median IK estimation method was selected because it is best suited for handling non-parametric data distributions, as there is no need to fit or assume a particular analytically-derived distribution model for the data. Instead, the overall sample distribution data are partitioned into a number of thresholds (indicators).

HRC tabulated the deciles for the gold and silver data populations. The metal content of both sample populations were evaluated for the upper 10% of the data on 1% increments to identify the amount of metal associated with the higher grades. Indicators for gold and silver were selected based on a combination of the deciles and important breaks in the total metal content. Table 14-2 below summarizes the individual indicator statistics. Cumulative Frequency Plots of the gold and silver assay data were plotted to validate the indicator selection. If indicator grades are carefully selected with adequate regard to the input grade distribution, then the distribution of grades within many classes will be nearly linear. The assay data was divided into the 10 indicator classes (bins) (9 cut-offs) and the CFPs were plotted to evaluate the linearity of each bin prior to estimation. The CFPs of the binned gold and silver data are shown in Figures 14.4 and 14.5.

Table 14.2 Indicator Statistics

Gold Indicator Cutoffs			Silver Indicator Cutoffs		
Cutoff	Probability	Avg. Grade	Cutoff	Probability	Avg. Grade
opt	%	opt	opt	%	opt
0	100	0.0012	0	100	0.0064
0.0032	81.5	0.007	0.0058	74.4	0.030
0.0128	37.0	0.014	0.030	52.5	0.056
0.016	29.0	0.020	0.080	24.25	0.075
0.024	18.0	0.026	0.125	13.8	0.107
0.028	13.6	0.031	0.146	11.1	0.131
0.034	11.3	0.039	0.170	8.8	0.151
0.045	9.0	0.057	0.204	6.0	0.191
0.079	5.0	0.25	0.268	3.0	0.334
2.98	0.1	4.11	7.00	0.1	2.813

14.4 CAPPING

The distribution of sample grades in the uppermost and lowermost grade classes of the distribution are typically non-linear and therefore require special treatment. In the case of a positively-skewed grade distribution, such as is found at the Grassy Mountain project, the greatest estimation sensitivities relate to the grade assigned to the uppermost class. Distribution skew and grade outliers both influence the grade distribution in this class, which requires a more sophisticated method of mean grade selection in order to avoid grade over-estimation or underestimation. To appropriately handle the higher grade samples, an upper grade cutoff (2.98) was applied where the sample grades in the cumulative frequency plot for all samples begins to deviate from a linear trend. The median value for the uppermost bin was used for calculating the grade, rather than the mean, to ensure the higher grade portion was appropriately restricted.

Figure 14.4 Gold Grade Cumulative Frequency Diagrams by Bin

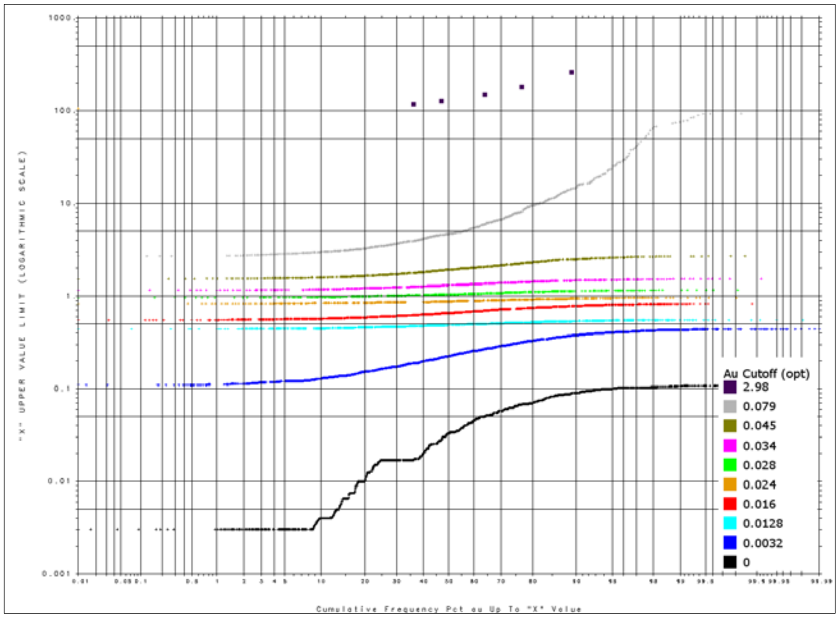
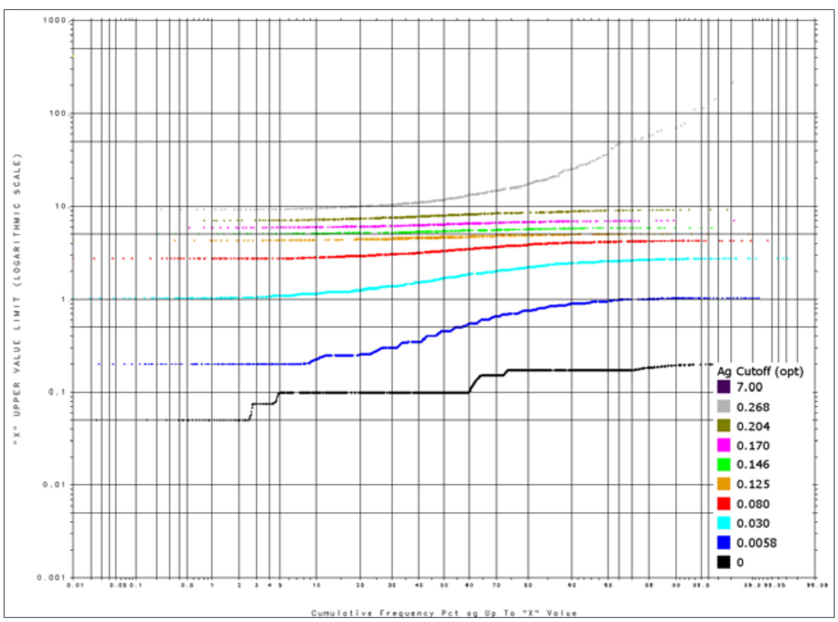


Figure 14.5 Silver Grade Cumulative Frequency Diagrams by Bin



14.5 COMPOSITING

Sample lengths were statistically assessed prior to selecting a composite length for the statistical analysis, variography, and grade estimation. Summary statistics of the sample lengths show that 90.9% of the collected samples were in 5-foot increments, 7.0% were collected at irregular intervals less than 5 feet, and the remaining 2.1% were irregularly sampled at intervals less than 10 feet.

A composite length of 10-foot down-hole was selected for estimation as it is larger in length than the longest sample intervals; long enough to provide a variance reduction relative to using raw assay data, and still short enough to allow the estimate to show local variability of grade consistent with the sample distribution of the deposit. The 10 ft composites normalizes the data prior to statistical analysis as the estimation technique applied requires equal sample support for proper estimation. Additionally, compositing incorporates a certain amount of dilution into the raw data prior to estimation. This is done to represent the level of selectivity of the chosen mining method, which is larger than the scale of the raw assays. In the case of underground mines, selectivity is a function of the stoping method and the 10-foot composite length was selected to better represent the minimum distance in the vertical direction. The statistical analyses were carried out on composites of approximately 10 foot increments. Summary statistics for the gold and silver composite assay values are presented in Table 14.3.

Table 14.3 Basic Descriptive Statistics for Gold and Silver Assay Composites

Gold Composite Assay Statistics						
Lithology	Sample Count	Maximum	Mean	Median	Std. Dev.	Coef. Of Var.
	n	opt	opt	opt	opt	
Tertiary Basalts						
Basalt	4	0.001	0.001	0.001	0.0004	0.54
Debris Flow	141	0.008	0.001	0.0005	0.001	1.79
Basalt Total	145	0.008	0.001	0.000	0.001	1.70
Grassy Mountain Formation						
Breccia	151	1.107	0.079	0.017	0.155	1.97
Clay	1053	7.455	0.019	0.004	0.249	12.87
Conglomerate	198	0.397	0.005	0.001	0.028	5.96
Sandstone	5372	3.425	0.026	0.009	0.108	4.19
Siltstone	8018	5.188	0.026	0.010	0.129	5.00
Sinter	2896	2.703	0.020	0.013	0.073	3.59
Grassy Total	17688	7.455	0.025	0.010	0.1258	5.10
Kern Basin Tuff						
Tuff	541	0.039	0.002	0.001	0.004	1.77
All Lithologies						
Total	18374	7.455	0.024	0.009	0.123	5.19
	Silver Composite Assay Statistics					
	Sample Count	Maximum	Mean	Median	Std. Dev.	Coef. Of Var.
	n	opt	opt	opt	opt	
Tertiary Basalts						
Basalt	3	0.006	0.005	0.004	0.001	0.28
Debris Flow	125	0.012	0.004	0.005	0.002	0.40
Basalt Total	128	0.012	0.004	0.005	0.002	0.40
Grassy Mountain Formation						
Breccia	82	0.662	0.122	0.079	0.106	0.87
Clay	894	12.135	0.044	0.005	0.443	10.00
Conglomerate	171	0.332	0.007	0.004	0.025	3.68
Sandstone	4150	2.262	0.067	0.033	0.126	1.89
Siltstone	6476	6.255	0.065	0.035	0.128	1.97
Sinter	2319	1.032	0.080	0.055	0.088	1.09
Grassy Total	14092	12.135	0.066	0.035	0.162	2.44
Kern Basin Tuff						
Tuff	432	0.195	0.013	0.006	0.019	1.51
All Lithologies						
Total	14652	12.135	0.064	0.033	0.159	2.48

14.6 VARIOGRAMS

A variography analysis was completed to establish spatial variability of gold and silver values in the deposit. Variography establishes the appropriate contribution that any specific composite should have when estimating a block volume value within a model. The variability of samples of similar relative direction and distance is established by fitting a variogram model to the spatial variability of the samples as it varies over distance.

Variograms were created for horizontal and vertical orientations in increments of 30° horizontally and 15° vertically. Search ellipsoid axis orientations were based on the results of the analysis. The sill and nugget values were taken from the omnidirectional and down-hole variograms, respectively. Table's 14.4 and 14.5 summarize the variogram parameters used for the analysis for gold and silver, respectively. An example directional spherical gold variogram is shown in Figure 14.6.

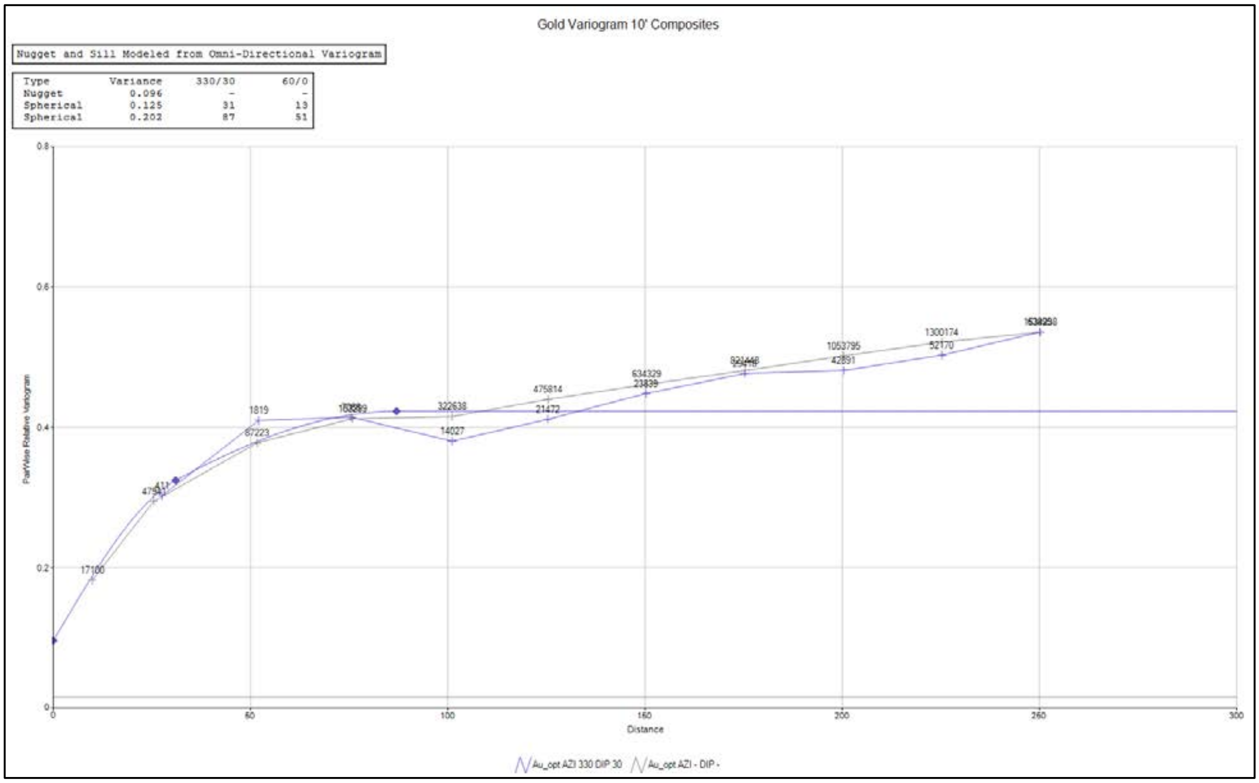
Table 14.4 Gold Variogram Parameters

Gold Variogram Parameters		
C_0	C_1	C_2
0.227	0.296	0.478
	R_1	R_2
Primary	31	87
Secondary	13	51
Tertiary	24	34

Table 14.5 Silver Variogram Parameters

Silver Variogram Parameters		
C_0	C_1	C_2
0.160	0.340	0.500
	R_1	R_2
Primary	48	119
Secondary	55	189
Tertiary	53	71

Figure 14.6 Directional Gold Spherical Variogram Model



14.7 BLOCK MODEL PARAMETERS

A 3-dimensional block model was constructed for the Grassy Mountain project, covering the interpreted geology and including suitable additional material to incorporate the drilling which defines the extents of the mineralization.

14.7.1 BLOCK MODEL PARAMETERS

Block coding was completed on the basis of the block centroid, wherein a centroid residing within a wireframe was coded with the wireframe geologic attribute. The block model was created for the Grassy Mountain deposit using blocks that are 20-ft E, 20-ft N, and 10-ft RL high in a 6000-ft x 6500-ft x 2500-ft model (see Table 14.6). The blocks were assigned attributes of gold grade, silver grade, resource classification, tonnage factor, and predominant geology.

Table 14.6 Block Model Parameters

	Origin (feet)	Extent (feet)	Block Size (feet)
Easting	1,544,340	6,000	20
Northing	15,682,280	6,500	20
Elevation	2,300	2,500	10

14.7.2 TONNAGE FACTOR

Bulk density testing was performed by Atlas and Hazen Research in 1990. Approximately 376 core samples were tested; 62 by the Atlas exploration group and 314 by Hazen. Hazen tested three different gold grade ranges to determine if any relationship between grade and density could be established. Hazen's test results are summarized in Table 14.7, which shows no strong correlation between gold grade and bulk density.

Table 14.7 Core Sample Density Test Results

Gold Grade Range (opt)	# of Determinations	Tonnage Factor ft^3/ton
<0.005	63	12.8
0.005 – 0.05	166	12.8
0.05 – 0.75	85	13.1
Total	314	12.9

The density test results from the 62 Atlas samples are generally consistent at an average bulk density of 12.83 ft^3/ton; samples were not divided by gold grade. HRC applied the total average bulk density of 12.83 ft^3/ton to each block within the block model.

14.8 ESTIMATION METHODOLOGY

Resource estimation for the Grassy Mountain mineralization was completed using median IK. Ordinary kriging, inverse distance squared, and nearest neighbor estimates were also completed for comparison with the post processed E-type mean. Grade estimation was carried out using the Datamine Studio 3 implementation of the GSLIB Median Indicator Kriging algorithm.

A median IK algorithm was selected as the estimation algorithm to best accommodate the mineralization style. The median IK algorithm is well suited for estimating mineral resources that are difficult to domain geologically and that are highly skewed with high coefficient of variations. A median IK algorithm works on a probabilistic basis to define the distribution of the sample grades within the defined search ellipse, providing an approximation of the sample Cumulative Frequency Distribution (CFD) on a block by block basis. As the CFD is based on the samples found within the search ellipse for each block centroid, it changes from block to block to reflect local grade variability.

14.9 ESTIMATION PARAMETERS

The gold and silver grade of each block within the model was estimated in 3 passes, and each block was assigned a classification of measured, indicated, or inferred based on the parameters presented in Table 14.8. The resource classification of each block requires a minimum of three drill holes to reside within the anisotropic directional search ellipse as established by the variogram (Tables 14.4 and 14.5). The first pass (measured) was set at a full variogram search distance, the second pass (indicated) at two times the variogram distance, and the third pass (inferred) was set at three times the variogram distance. Estimation parameters are given Table 14.8.

Table 14.8 Grassy Mountain Estimation Parameters

	Gold			Silver		
	Measured	Indicated	Inferred	Measured	Indicated	Inferred
	1st Pass	2nd Pass	3rd Pass	1st Pass	2nd Pass	3rd Pass
Min # Samples	5	5	5	5	5	5
Max # Samples	15	15	15	15	15	15
Max # per Hole	2	2	2	2	2	2
Min # of Holes	3	3	3	3	3	3
Search Ellipsoid Distance						
Primary	135	270	405	135	270	405
Secondary	115	230	345	115	230	345
Tertiary	100	200	300	100	200	300

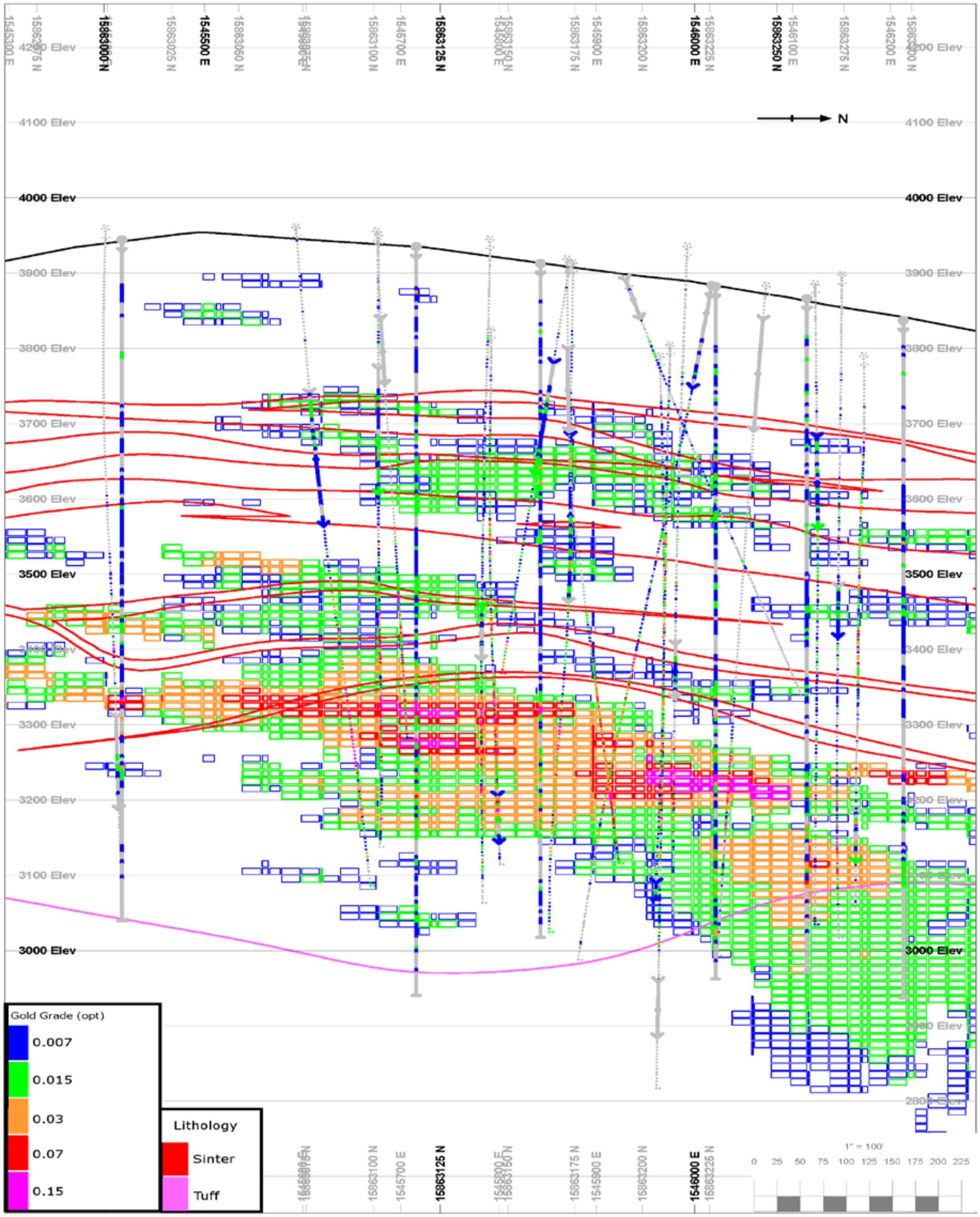
14.10 ESTIMATION VALIDATION

The model was validated by comparing the block model statistics by lithology to those from the sample assay and composite assay values. The block model statistics are presented in Table 14-8. Also, the model was validated by evaluating the blocks against actual drill hole assay data to determine if the estimated blocks fit the grade and geologic parameters of the various domains of the deposit. Both assay and geological constraints were visually examined. A cross section looking N20W displaying the block model gold content greater than 0.012 opt with the composite gold data is presented in Figure 14.7.

Table 14.9 Basic Descriptive Statistics for Gold and Silver Assay Composites

Gold Block Model Assay Statistics						
Lithology	Sample Count	Maximum	Mean	Median	Std. Dev.	Coef. Of Var.
	n	opt	opt	opt	opt	
Tertiary Basalts						
Basalt	484	0.002	0.001	0.001	0.00004	0.03
Debris Flow	12414	0.010	0.002	0.001	0.001	0.54
Basalt Total	12898	0.010	0.002	0.001	0.001	0.55
Grassy Mountain Formation						
Breccia	2330	0.244	0.031	0.008	0.049	1.57
Clay	58163	1.054	0.006	0.005	0.012	2.08
Conglomerate	9807	0.230	0.003	0.002	0.003	1.06
Sandstone	282263	1.936	0.011	0.007	0.029	2.53
Siltstone	444236	1.812	0.010	0.007	0.021	2.05
Sinter	92767	0.255	0.013	0.009	0.016	1.21
Grassy Total	889566	1.936	0.011	0.007	0.023	2.17
Kern Basin Tuff						
Tuff	107914	0.076	0.008	0.006	0.005	0.71
All Lithologies						
Total	1015092	1.936	0.010	0.007	0.022	2.14
	Silver Block Model Assay Statistics					
	Sample Count	Maximum	Mean	Median	Std. Dev.	Coef. Of Var.
	n	opt	opt	opt	opt	
Tertiary Basalts						
Basalt	380	0.007	0.006	0.006	0.0004	0.07
Debris Flow	12414	0.014	0.005	0.004	0.001	0.28
Basalt Total	12794	0.014	0.005	0.004	0.001	0.28
Grassy Mountain Formation						
Breccia	2330	0.392	0.073	0.054	0.062	0.85
Clay	57100	3.179	0.018	0.006	0.044	2.44
Conglomerate	9786	0.293	0.006	0.005	0.005	0.76
Sandstone	268754	1.760	0.040	0.028	0.048	1.20
Siltstone	409168	1.860	0.041	0.032	0.045	1.09
Sinter	90671	0.688	0.059	0.042	0.056	0.95
Grassy Total	837809	3.179	0.041	0.030	0.048	1.17
Kern Basin Tuff						
Tuff	96351	0.137	0.034	0.028	0.018	0.52
All Lithologies						
Total	951322	3.179	0.039	0.029	0.045	1.15

Figure 14.7 Block Model and Composite Grade Comparison



Source: Gustavson Associates, 2012

14.10.1 SWATH PLOTS

Swath plots were generated to compare average gold and silver grade in the composite samples, estimated gold and silver grade from OK method and the two validation model methods (IDP and NN). The results from the OK model method, plus those for the validation IDP model method are compared using the swath plot to the distribution derived from the NN model method and the composites used in the estimation.

For comparison purposes, assay data from the 10-foot composite intervals are included in the swath plots along with the model results.

Four swath plots were generated:

- Figure 14.8 shows average gold grades elevation trend plot; and
- Figure 14.9 shows average silver grades elevation trend plot;

Figure 14.8 Average Gold Grade Elevation Trend Plot

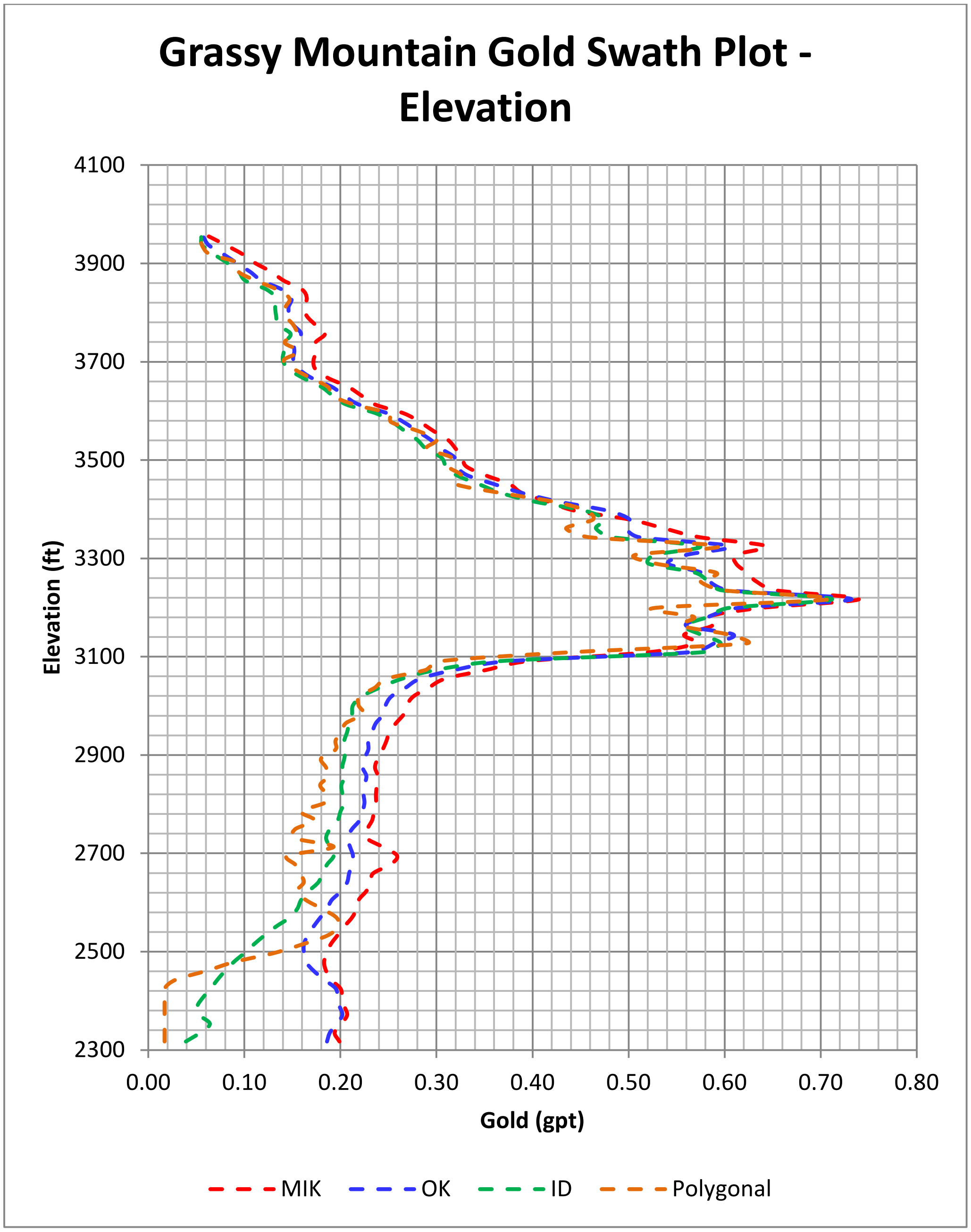
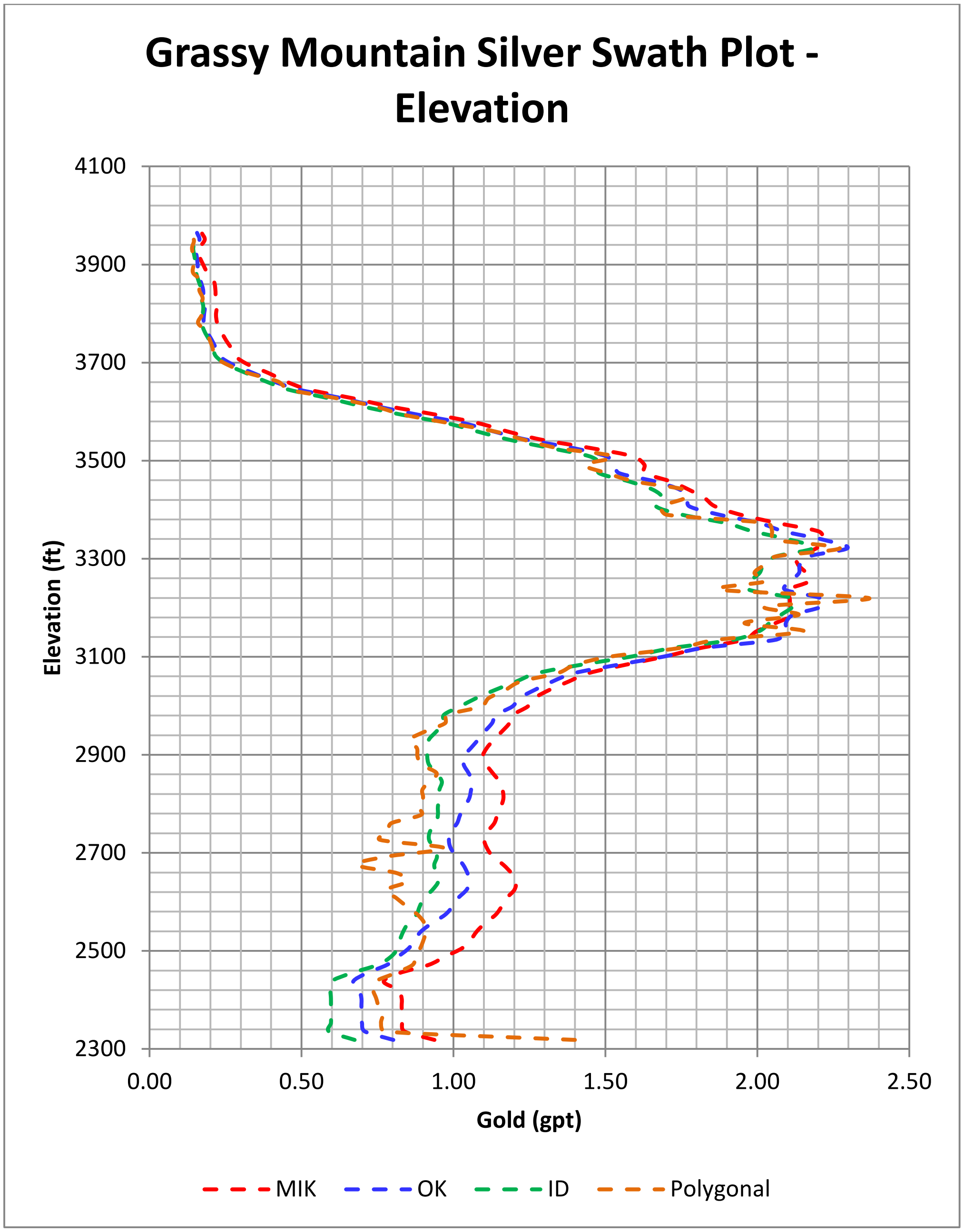


Figure 14.9 Average Silver Grade Elevation Trend Plot



14.10.2 COMPARISON WITH INVERSE DISTANCE AND NEAREST NEIGHBOR

As a final method of model validation, HRC created polygonal, Ordinary Kriging, and Inverse Distance models of the Grassy Mountain project and compared the resources from those models to the median IK results. Figure 14.10 shows grade-tonnage comparisons of the median IK, ID, OK, and polygonal model measured and indicated results. The Median IK line indicates the results of the total model, which reports the average grade of blocks based on the probabilistic grade post processing. The undiluted median IK line reports the grade tonnage for only the portion of blocks estimated with the upper most indicator cut-off. As expected the median IK model has fewer tons at the higher cut-offs because it incorporates dilution into the block. The undiluted median IK curve demonstrates that the upper tail of the gold distribution was adequately handled and sufficiently reduced the overall effect of the higher grade samples on the resource estimation.

*Note all models are measured plus indicated material only.

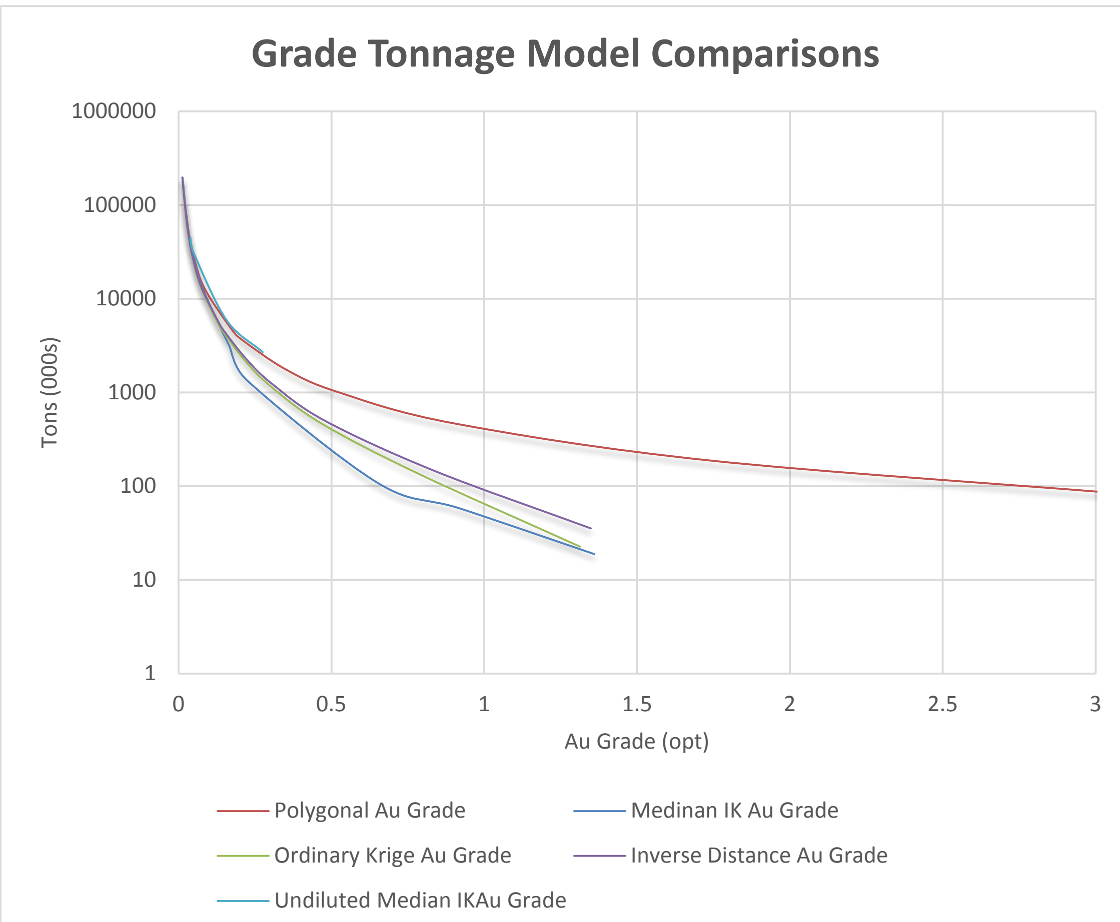


Figure 14.10Grade Tonnage Comparisons of MIK, OK, ID, and Polygonal Models

14.11 MINERAL RESOURCE CLASSIFICATION

The mineral resources at Grassy Mountain are classified as Measured, Indicated, and Inferred in accordance with CIM Definition Standards for Mineral Resources and Mineral Reserves. Mineral resources are not mineral reserves and do not demonstrate economic viability. There is no certainty that all or any part of the mineral resource will be converted to mineral reserves. Resources were classified based on the number of samples and drill holes used, and by the search distance utilized, according to the parameters listed in Table 14.8. The classification scheme is appropriate given the approximately 75-foot drill hole spacing, shown in Figure 14.11.

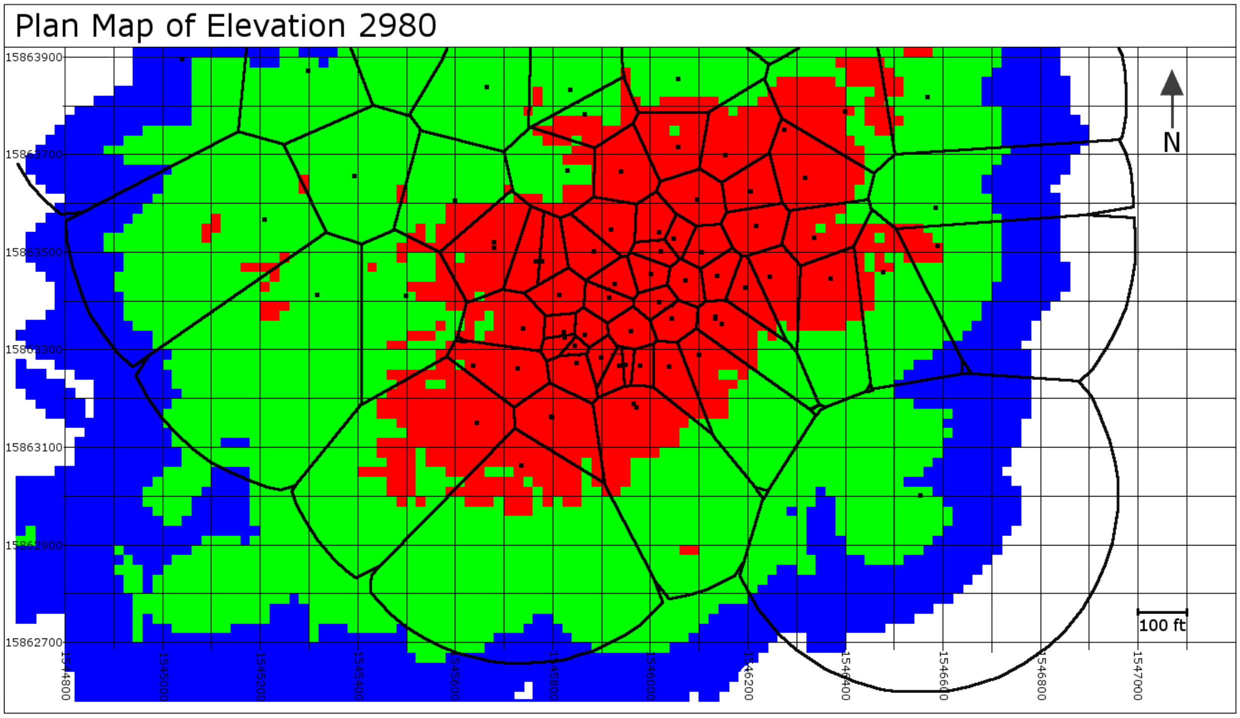


Figure 14.11 Bench Plan with Polygonal Model Demonstrating Drill Density

14.12 MINERAL RESOURCE ESTIMATION

The mineral resource estimate for the Grassy Mountain Project is presented in Table 14.10. This mineral resource estimate includes all of the available drill data through the effective date of this report and has been independently verified by HRC. Mineral resources are not mineral reserves and may be materially affected by economic, environmental, permitting, legal, socio-economic, marketing, political, or other factors.

The current operating plan for the Grassy Mountain project is to develop and mine the underground resources; however, an open pit operation may be considered after the completion of the underground operation.

In order to meet the test of reasonable potential for economic extraction the resources have been divided into an underground resource and an open pit resource. The underground resources are stated at a 0.065 opt Au cutoff and are constrained to the stopes constructed for the PEA, as described in Item 16. The open pit resources are stated at a 0.005 opt Au within a Lerchs-Grossmann pit shell at an $800 gold price. The Lerchs-Grossmann optimization was completed using only the estimated blocks residing outside of the stopes used to define the underground resource.

14.13 UNDERGROUND

In Table 14.10, underground mineral resources are reported above a 0.065 opt cut off, assuming a three-year trailing average gold price of $1,300 per ounce.

HRC re-blocked the model into 15 x 15 x 15 foot blocks and used a cutoff grade to test for reasonable prospects for economic extraction for the material constrained within the stopes constructed for the PEA. Baseline assumptions for breakeven cutoff grade are based on the formula:

- Cutoff Grade (oz/t) = Operating Cost (per ton) / Metal Price (per oz) / Metal Recovery (%)
- Gold price assumption of $1300/oz is based on the trailing 3-year average gold price as of the effective date of this report.

Basis of Assumptions:

- Operating Cost (Underground Cut and Fill Mining): $75.00/ton mining and processing cost
- Gold Price: $1300 /oz
- Gold Recovery : 95%
- Cutoff grade = $75.00 / ($1300 * 95%) = 0.061 oz/t

Based on these assumptions, the authors consides that reporting resources at a 0.065 oz/t cutoff constitutes reasonable prospects for economic extraction based on an underground cut and fill scenario with a Merrill Crowe recovery process following gravity concentration and cyanide vat leaching.

In order to meet the test of reasonable potential for economic extraction for the material residing outside of the stopes, HRC constructed a Lerchs-Grossmann pit shell at an $800 gold price. Resources within the stopes as reported in Table 14.10 were set to a zero grade and given a density of 17 ft^3/ton to reflect the backfill material.

14.14 OPEN PIT

Open resources are stated at a 0.005 opt Au cutoff and constrained to an $800 Lerchs-Grossmann pit shell. The economic parameters used for this analysis are based upon similar operating costs from a Nevada operation scaled to reflect designed production rates, expected process operating costs, and estimated gold recoveries from metallurgical tests completed to date. The cost and recovery parameters used to calculate the cutoff within the $800 pit shell are:

- Gold Selling Price: $1300 /oz
- Mining Cost: $2.00 /ton
- Processing Cost: $3.50/ processed ton
- Reclamation Cost: $0.10/ processed ton
- G&A Cost: $0.40/ processed ton
- Gold Recovery (Crush and Heap Leach): 65%
- Ore Loss: 5%
- Mining Dilution: 5%
- Underground Backfill Density: 17 ft^3/ton
- Cutoff grade = $4.00 / ($1300 * 65%) = 0.0045 oz/t

Based on these assumptions, the authors consider that reporting resources at a 0.005 oz/t cutoff constitutes reasonable prospects for economic extraction based on an open pit mining scenario with an ADR process following crushing and cyanide leaching. Mineral resources for an open pit mining scenario reported in Table 14.10 do not include the underground resources (Figure 14.12).

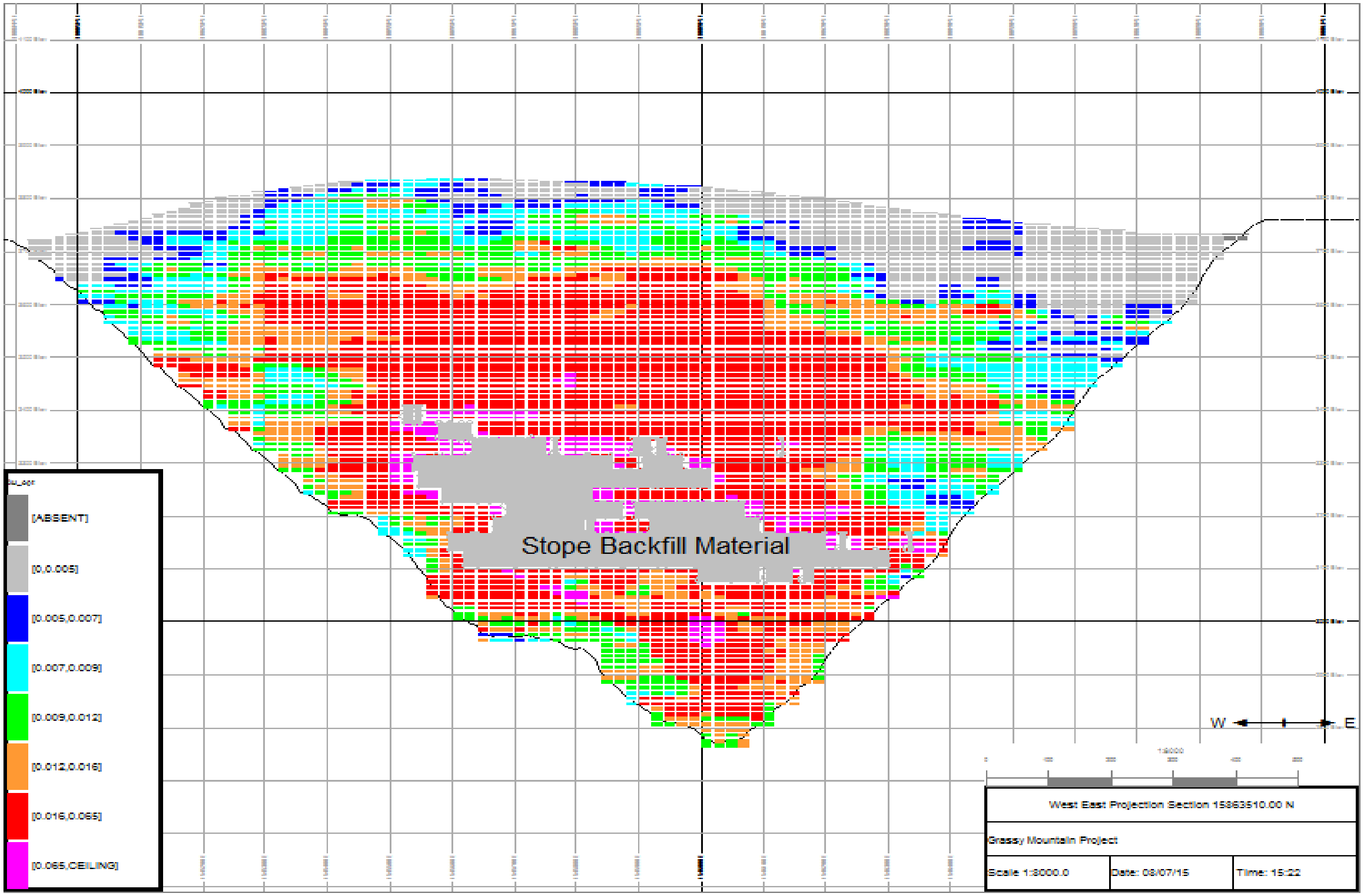


Figure 14.12 – Mineral Resource constrained within an $800 Gold Lerchs-Grossmann optimized pit with the underground resource blocks removed. Strip Ratio 1.5:1.

The authors caution that economic viability can only be demonstrated through prefeasibility or feasibility studies. Mineral resources are not mineral reserves and may be materially affected by economic, environmental, permitting, legal, socio-economic, marketing, political, or other factors.

Table 14.10 Grassy Mountain Mineral Resource Estimate

Measured					
	Tons (000s)	Au opt	Ounces Au (000s)	Ag opt	Ounces Ag (000s)
Underground (0.065 opt cog)	3,157.2	0.155	490.5	0.263	828.9
Open Pit (0.005 opt cog)	52,644.6	0.020	1,027.1	0.072	3,783.6
Indicated					
	Tons (000s)	Au opt	Ounces Au (000s)	Ag opt	Ounces Ag (000s)
Underground (0.065 opt cog)	88.3	0.149	13.2	0.163	14.4
Open Pit (0.005 opt cog)	12,802.8	0.010	121.9	0.027	349.8
Measured plus Indicated					
	Tons (000s)	Au opt	Ounces Au (000s)	Ag opt	Ounces Ag (000s)
Underground (0.065 opt cog)	3,245.5	0.155	503.7	0.260	843.2
Open Pit (0.005 opt cog)	65,447.4	0.018	1,149.0	0.063	4,133.3
Inferred					
	Tons (000s)	Au opt	Ounces Au (000s)	Ag opt	Ounces Ag (000s)
Underground (0.065 opt cog)	0.0	0.000	0.0	0.000	0.0
Open Pit (0.005 opt cog)	221.3	0.007	1.5	0.010	2.2

Quality and grades are estimates and are rounded to reflect the fact that the resource estimate is an approximation.

15 MINERAL RESERVES ESTIMATES

There are no Mineral Reserves estimated for the Project.

16 MINING METHODS

Exploitation of the Grassy Mountain resource will be accomplished utilizing underground mining methods. Once mineralized material is brought to the surface it will be trucked or conveyed to a milling facility.

Multiple schedules were produced to assess various mining and processing scenarios in order to develop a best operating scenario for generating the greatest value to the client. Cash flows were evaluated for underground methods at different production/milling capacities. Based on the mining schedule and cash flow analyses, a 1000-tpd milling case was chosen as the base case for this preliminary economic assessment. Table 16.1 lists the scheduled production of measured and indicated underground resources.

The cutoff grade used in this economic analysis is 0.065 Au opt. This results in more volume of material than reported in the resources section (Table 14.11) at the 0.079 opt cutoff grade. The mineral resource model estimate for scheduling was diluted by averaging the mineralized fraction of model blocks above the cutoff grade of 0.079 to the fraction of each block below the resource cutoff grade of 0.079 to arrive at a fully diluted whole block gold grade block model estimate. This allowed the mining engineers the ability to extract resources at any cutoff grade for scheduling. This method also results in an extraordinarily high average dilution of 45% with a dilution gold grade of 0.021 opt and a dilution silver grade of 0.140 opt. An ore loss of 5% was also applied to the economic analysis. Scheduling for this analysis was accomplished on a whole block tonnage and grade basis. MMC recommends that this is a very conservative approach for an economic analysis and is justifiable at this early stage review of the Project.

Table 16.1 Grassy Mountain Project Scheduled Production

Description	Units	Value
Mill Process Tons (0.065 Au opt cutoff grade)	ktons	3,245
Gold Grade	oz/t	0.155
Silver Grade	oz/t	0.271
Gold Recovery	%	95%
Silver Recovery	%	84%
Gold Ounces Recovered	koz	479
Silver Ounces Recovered	koz	740

Table 16.2 shows the expected mining cost for mineralized material, waste and haulage of this material to its respective destinations as used in this assessment. The processing cost is from section 17 and the G&A is the current best estimate. Metal recovery is derived from section 13 and 17 and the metals prices were approved by Calico. These costs are the best estimates available at the report date and are reasonable approximations from other mining operations. These numbers were used to estimate all expected tonnages and grades to be produced and delivered to the processing plant.

Of noted concern in the mining methods analysis is the RQD information supplied by the site, which indicates some strong and some weak rock types. Further drilling is recommended to allow rock strengths to be reviewed and allow optimized mine plans to be refined.

Table 16.2 Economic Parameters

Parameter	Units	Value
Underground mineralized material Mining Cost	USD/ton	39.86
Surface Haulage + Loading Cost	USD/ton	2.17
Underground Waste Mining Cost	USD/ton	17.63
Total Mining Cost	USD/ton	59.66
Processing Cost	USD/ton	17.61
G& A Cost	USD/ton	5.00
Gold Price	USD/ton	1,300
Silver Price	USD/ton	17.50
Mining Loss	%	5
Dilution	%	45
Dilution Gold Grade	opt	0.021
Dilution Silver Grade	opt	0.140
Gold Recovery	%	95
Silver Recovery	%	84
Design Gold Cutoff Grade	opt	0.065

16.1 PROPOSED MINING METHODS

Initial surface access to the mineralized zone, which dips toward the northeast corner of the Project property, will be via a decline. This portal will start in the northwest corner of the mining claims and proceed on a downward gradient in a southerly direction. Construction of the decline will be completed using an initial production fleet consisting of a twin boom production drill, an eight cu. yd. load-haul-dump (LHD) and three 33-ton haul trucks.

The main decline into the mine will be developed from the portal proceeding vertically downward on a 12.5% grade to the lowest mineralized zones with a further 200 feet of ramp to provide for a materials storage area and for temporary storage of drainage water due to mining activity. When the main ramp is constructed down to the first level that contains mineralized resource material, a second production fleet will be commissioned to begin development of horizontal drifts away from the ramp. While mineralized material is being extracted from the highest level in order to feed the mill for initial startup, development of the main ramp continues as a high priority to provide access to the deepest high-grade mineralization as quickly as possible. Once the ramp has reached the lowest levels of mineralization, extraction efforts will commence on those levels and the rest of the mine will be mined out from the bottom up.

The basic working plan is to mine out stopes using 15-ft by 15-ft by 10-ft advancing faces in a series of three descending levels of 15-ft each. The first level of a stope will be shot and excavated and the roof bolted as quickly as possible using mesh and shotcrete. Once the roof is bolted a second advancing cut commences. Once the level is completed to the relative back of the deposit, the mining fleet will back out and drop down 15-ft vertically to excavate the next level. Once the second level is fully excavated the equipment backs out again and makes a third cut to excavate the third and final level of the stope. Once a stope is mined completely, it is backfilled with waste from other sections of the mine or stockpiled waste from the surface. Open stopes will be backfilled with tailings mixed with 5% cement and allowed to cure for 28 days to achieve optimum strength. The tailings and cement mix will also be used to create cemented-filled barriers at the ends of longitudinal stopes where adjacent stopes would be opened up. Pillars between backfilled stopes are also extracted using a series of levels and then backfilled with waste and, if needed, the tailings and cement mix. Once a level is mined out, the excavation of stopes is repeated on the next three levels up, with stopes being mined down to the tops of the backfilled stopes below.

Mechanized, underhand cut-and-fill stoping method is used for all underground mining in this analysis. This method allows for multiple faces to be mined simultaneously. Horizontal development drifts and production drifts will be drilled by drill jumbos and blasted. Hydraulic blast hole drills will be utilized for vertical development and production stoping in the drifts; standard blasting techniques will be utilized. MMC suggests that a medium-term roofing system be utilized to ensure worker safety during mine development and production. Roof support would be done by mechanized rock bolting machines and mechanized shotcreting machines. It is expected that each LHD and drill combo will be able to operate in eight to twelve stopes. The anticipated production rate of 1,400 tpd is expected to require two mining spreads (LHD, Drills, Trucks, etc.) operating five days per week for two ten hour shifts per day. LHDs will work on two levels at least 60 feet apart to prevent roof failure due to proximity between mining levels. Stope mucking will be done using an eight cu. yd. LHD loading into 33-ton haul trucks, which will haul mineralized material to the surface to be stockpiled. Initially, waste material will be trucked out the main decline until sufficient open stopes become available for backfilling, after which all waste material will be used as backfill. The volume of waste material in the mine may not be sufficient to backfill all stopes and, in this case, overburden from the surface waste dumps will be back-hauled into the mine.

16.1.1 ROCK MECHANICS

Early drilling completed by previous owners of Grassy Mountain shows an RQD of approximately 39.2. This indicates the strength of the material near the mineral resource may be of relatively low strength. If, with further drilling, this proves to be the case, roof control may become a significant issue. For this reason underhand cut-and-fill mining has been chosen as the preferred mining method.

It is possible; however, that the RQD study done by the previous owners may have been compromised since MMC's evaluation of an outcrop at the site suggests that these low RQD values may not be correct. For this reason MMC recommends a detailed geotechnical drilling program be carried out.

16.2 HORIZONTAL DEVELOPMENT PARAMETERS

Working sections are based on 15-ft high levels that allow mining equipment to operate under vent bags or tubes and not jeopardize the piping and cables hung in the main access decline for distribution of power and utilities into the working stopes. Stope width is 15-ft and each advancing cut into the mineralize material will be 10 feet based on an 11-ft pattern drill depth. Development parallel to strike in mineralized material will be driven at 15-ft by 15-ft.

All main ramps and level accesses are assumed to be capitalized development. Access crosscuts towards mineralized material and extending perpendicular to mineralization strike are assumed to be operating development.

Table 16.3 lists the development dimensions.

Table 16.3 Development Dimensions

Development	Width (ft)	Height (ft)
Main Ramp Decline	15	15
Level Access	15	15
Mineralized Material Crosscuts	15	15

16.3 STOPE DIMENSIONS

Stopes are designed using a cutoff of 0.065 opt, which allows for costs associated with accessing the stopes. Stopes will be advanced 15-ft wide by 15-ft high and to a depth of 10-ft, based on 11-ft rounds. Table 16.4 shows the stope optimization parameters used in this analysis.

Table 16.4 Stope Optimization Parameters

Dimension	Value (ft)
Stope Width	15
Stope Height	15
Min/Max Stope Length	Grade Dependent
Slope inside Drifts	1% to back of each drift

Figures 16.1 and 16.2 show typical drift layouts as currently planned. Stope access levels are designed for every 30 to 45 feet depending upon rock mechanics at that block in the model. As illustrated for the level shown in Figure 16.1, there are no connections to the horizontal mains as these are designed every second or third bench depending on geotechnical drilling results.

Figure 16.1 Development on 3300 Level

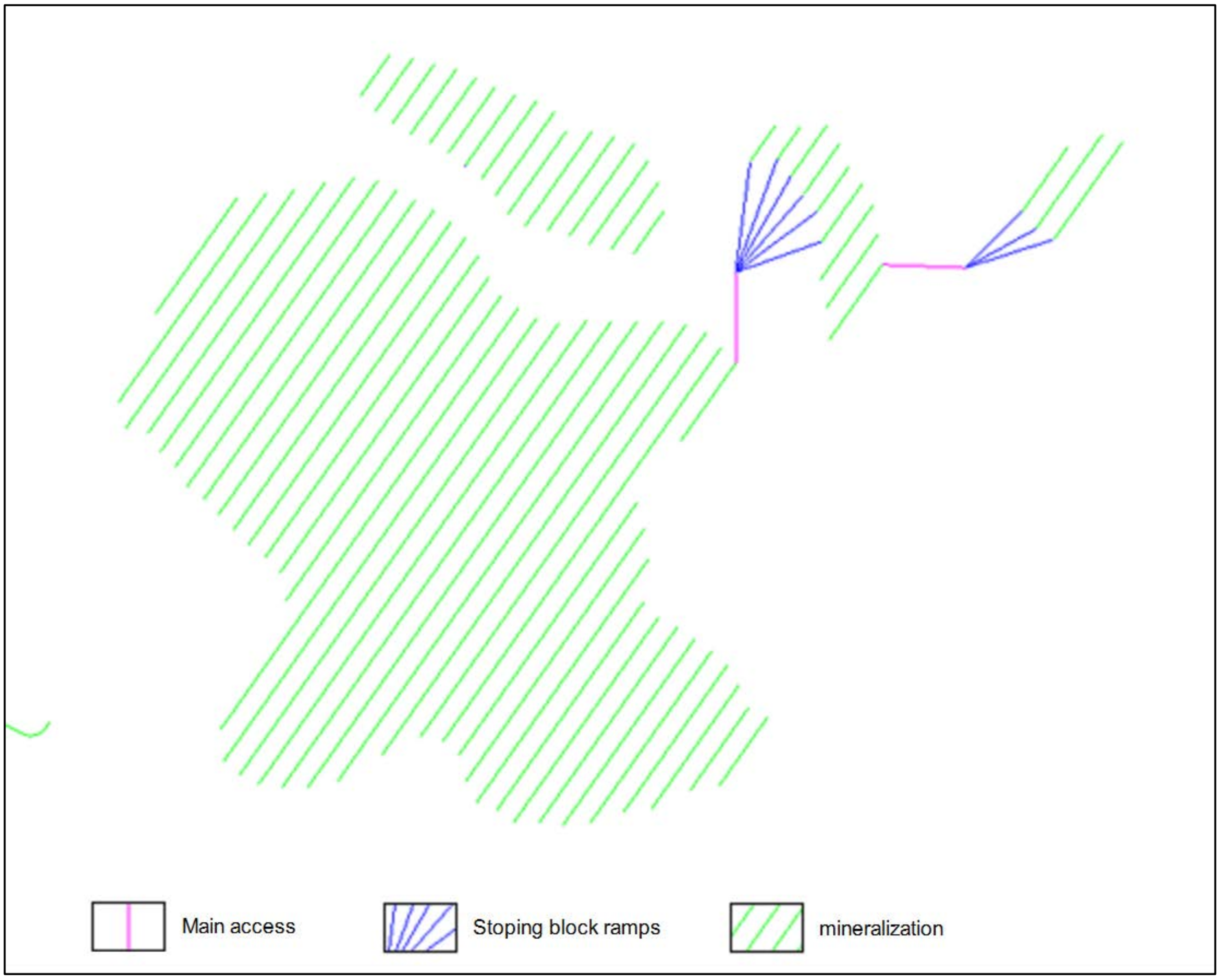
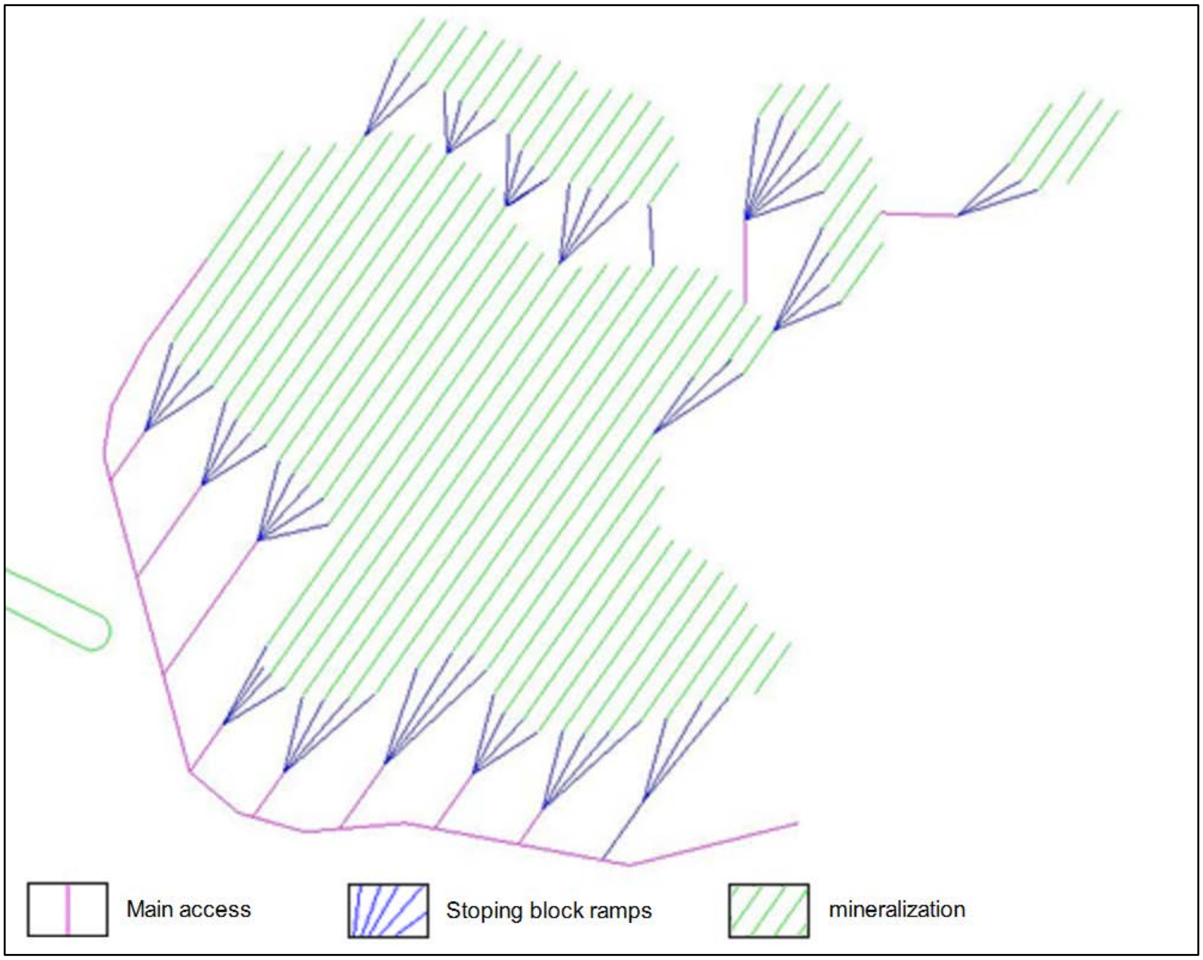


Figure 16.2 Development on 3315 Level

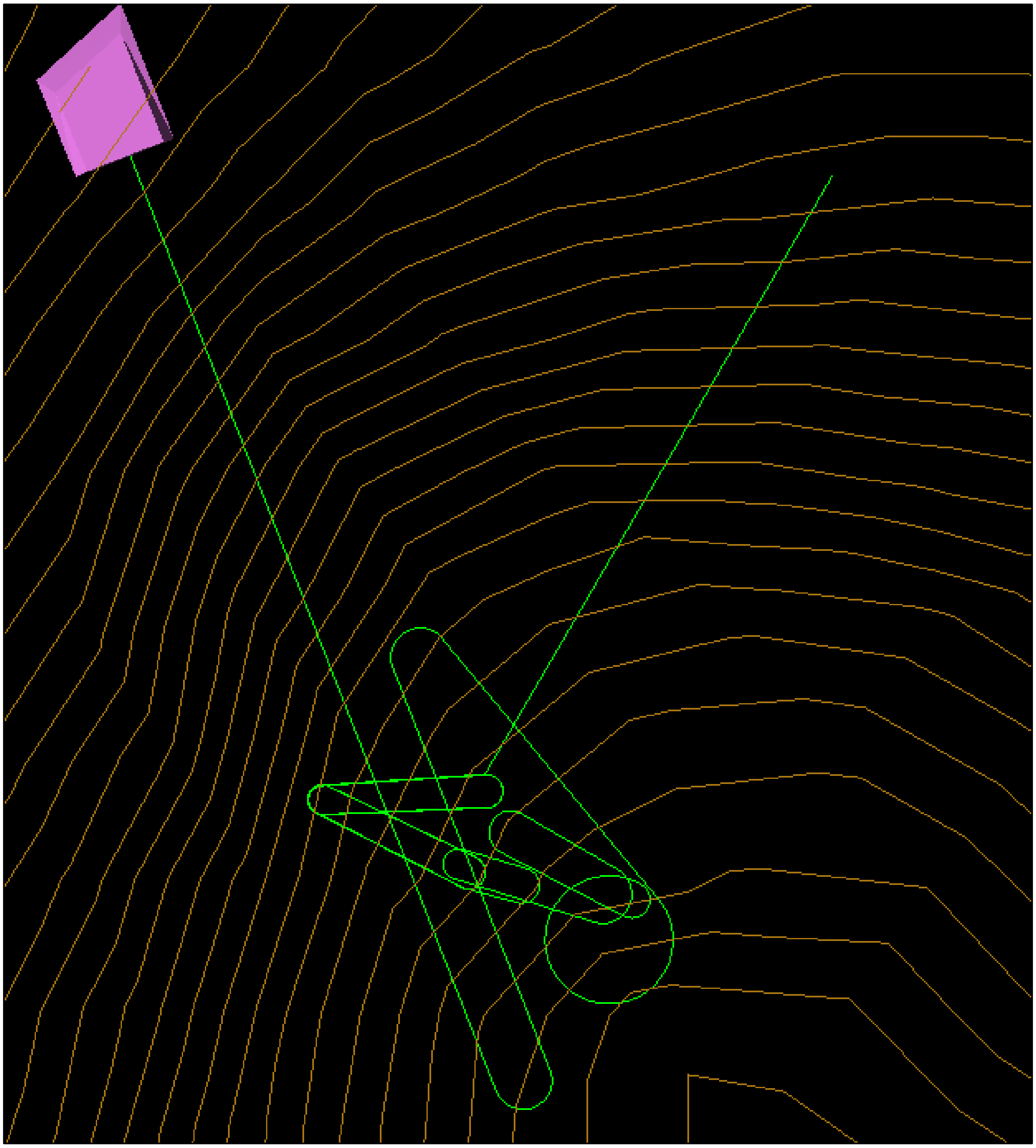


16.4 MINE LAYOUTS

Mine layouts were produced for the resource based on the stope designs, level intervals and the dimensional assumptions. Cross cuts were specified at 60-ft to 90-ft intervals along the strike of the mineralization. The level access drifts were assumed to stand off a distance of 75-ft from the mineralized material.

Bored ventilation raises connecting to surface are to provide adequate ventilation of the Project. These ventilation/escape raises are assumed to provide an alternate route to surface from the bottom of the ramp system and will be equipped with automated hoists and capsules. Local ventilation and escape ladder ways are assumed to be developed by traditional raising boring between levels.

Figure 16.3 Shows Decline from Portal to Bottom Level of Workings



16.5 MINING RATE AND PRODUCTIVITY

It is expected that each LHD will be capable of mining four 175-ton stopes a day. With six stopes per machine-shift and two LHD's on production, this arrangement is expected to meet the 1,400 tpd mining rate needed to feed the mill on a 5-day production schedule for the mine and a 7-day per week schedule for the milling operations.

Linked sequences of development were based on mining geometries defined by ramp systems, level geometries, and ventilation circuits. Mining rates and productivity assumptions were then used to define the production schedules and to then determine the mining equipment fleet required. These assumptions are listed in Table 16.5.

Table 16.5 Mining Rates and Productivity Assumptions

Activity	Rate or Productivity
Main Ramp Development	12–24feet / day
Level Development	20 feet / day
Stope Production	1 round /day
Vent Raise	4-8 feet /day
Drift Drilling	100 feet /boom-hour
Rock Bolting	75 t/hr
Stope Drilling	75 t/hr
Drift/Stope Mucking	75 t/hr
Haul Truck	75 - 125 t/hr

16.6 MINING EQUIPMENT

For each section, the mining fleet is expected to be comprised of the following: a production drill (jumbo or vertical), a LHD, and haul trucks. A roof bolter (for the top cut) and a shotcrete machine will work between multiple sections. The depth of the down holes may be adjusted once production or additional geotechnical drilling is completed and can provide support for a different stope height. The full production equipment is shown in Table 16.6.

Table 16.6 Estimated Mining Equipment Requirements for 1000 tpd Milling Option

Equipment	Quantity	Description
Drill jumbo	3	2 boom
LHD	3	8.0 CYD
Haul truck	4	33 ton
Vertical Drill	2	2
Explosives Truck	1	1
Water Truck	1	1,000 gallon
Utility Vehicle	3	3
Man Tractor	5	5
Lube Truck	1	1

Roof Bolter	1	1
Scissor Lift Truck	1	1
Shotcrete Truck	1	1
Shotcrete Trans mixer	2	2
Diesel Generator (1-mW)	1	Mine Startup / Main backup over LOM

16.7 MINING SCHEDULE

The underground mining schedule is based on a five day work week with two ten hour shifts per day, offset by 30 minutes for afternoon blasting when the mine is clear of personnel. By moving four shots of 175 tons each machine each day, the mine can produce sufficient tons to feed the mill. 175 tons by two machines by four shots per day by 260 days per year equals 364,000 ton per year. There is sufficient time in each day to start a fifth or sixth stope if production is delayed. MMC suggests that a series of stopes be developed in advance (8 to 12 available stopes) to allow all steps in the mining process to proceed un-constrained. If this practice is undertaken, then a slow drilling day (i.e. mechanical issues, training a new operator, etc.) can be covered by bringing in a second drill or by allowing overtime to be scheduled as the needed. Expected Mine life and production rates are presented in Table 16.7.

Underground mineable resources are listed for Measured and Indicated and for Inferred classifications in Table 16.8 and 16.9 for the Grassy Mountain Project based on the cutoff grades presented in Table 16.2. Table 16.10 shows the overall production schedule.

Table 16.7 Underground Production Rates

Description	Units	Value
Expected Mine Life (Including Development)	Years	10
Peak Production Rate	tons per day	2,500
Average Production Rate	tons per day	2,100

Table 16.8 Measured and Indicated Components of Scheduled Production at 0.065 opt Cutoff

Class	Tons	Au Oz	Ag Oz
Measured	3,157,230	490,548	828,878
Indicated	88,256	13,186	14,355
Measured & Indicated	3,245,486	503,735	843,233
Note: All waste is expected to be produced by the decline, horizontal access and development drifts into the deposit			

Table 16.9 Inferred Components of Scheduled Production

Class	Tons	Au Oz	Ag Oz
Inferred	0	0	0

Table 16.10 Grassy Mountain Project Underground Production Schedule

Grassy Mountain Production													
Year	**-2**	**-1**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**
Capital Drifting Feet	-	4,798	-	-	-	-	-	-	-	-	-	-	4,798
Capital Drifting kTons	-	223.3	-	-	-	-	-	-	-	-	-	-	223.3
Capital Vent Raising Feet	-	1,305	185	131	131	95	135	135	135	135	225	-	2,610
Capital Vent Raising kTons	-	4.1	0.6	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.7	-	8.2
Opex Drifting Feet	-	-	3,282	3,647	4,098	4,168	7,409	9,879	7,409	5,557	4,778	-	50,228
Opex Drifting kTons	-	-	160.0	169.0	177.5	185.5	227.5	252.4	203.5	133.6	105.2	-	1,614.2
Mineralized Stoping kTons	-	-	366.1	365.6	366.9	364.8	365.5	363.0	365.3	366.5	319.8	-	3,245.5
Au Grade oz/ton	-	-	0.200	0.168	0.180	0.163	0.162	0.139	0.131	0.133	0.116	-	0.155
Ag Grade oz/ton	-	-	0.219	0.251	0.265	0.236	0.205	0.275	0.285	0.288	0.441	-	0.260
Contained Au kOz	-	-	73	61	66	59	59	50	48	49	37	-	503.7
Contained Ag kOz	-	-	80	92	97	86	75	100	104	105	141	-	880.7
Au Recovery	-	-	95%	95%	95%	95%	95%	95%	95%	95%	95%	-	95%
Ag Recovery	-	-	84%	84%	84%	84%	84%	84%	84%	84%	84%	-	84%
Recovered Au kOz	-	-	70	58	63	56	56	48	45	46	36	-	478
Recovered Ag kOz	-	-	67	77	82	72	63	84	87	89	119	-	740
Total Drifting Feet	-	17,351	12,373	13,063	13,724	14,338	17,588	19,510	15,733	10,331	8,143	-	142,151
Total Rejected kTons	-	225	160	169	178	186	228	253	204	134	105	-	1,840
Total Processed kTons	-	-	366	366	367	365	366	363	365	366	320	-	3,243

17 RECOVERY METHODS

As discussed in Section 13 of this report, the Grassy Mountain project is envisioned to utilize both milling/cyanide leach process scenarios. The project will begin with processing oxide and lower grade mixed ores as the mill process comes online in year 1. The following table, Table 17.1, shows the gold and silver recoveries assumed for the Project.

Table 17.1 Process Recovery Assumptions for Grassy Mountain

Process	Assumed Gold Recovery (%)	Assumed Silver Recovery (%)
Mill	95	84

Recovery assumptions are based on test work results and the project flow diagram as discussed in Section 13 of this report.

17.1 OPERATING COSTS

Operating costs are based on similar mining operations in North America using similar mining methods, and buildup of costs from consumables and power estimates based on test work results. Processing cost was assumed to be $17.61 milled. Process operating cost estimates are as follows:

Table 17.2 Process Operating Costs per Process Ton

Unit Costs	Costs
Crushing and Grinding (US $/ Ton)	3.79
Gravity / Refining Circuits (US $/ton)	1.16
Leaching Circuit (US $/ Ton)	4.00
Tailings Disposal (US $/ Ton)	0.97
Process Labor (US $/Ton)	8.85
Total Processing Cost (US $/Ton)	17.61

18 PROJECT INFRASTRUCTURE

Currently there is no infrastructure at the site. The nearest population centers to the proposed Grassy Mountain Project are Vale (population 1,860), Nyssa (population 3,239), and Ontario (population 11,268), Oregon. All of these towns are located within 35 miles of the Project and it is anticipated that they will provide logistic support for the Project. Most equipment and industrial support will need to be sourced out of Boise, Idaho which is about 60 miles away from the Project site. Personnel will be sourced from Boise and Malheur County. Major medical support will be provided in Ontario and Boise. Calico will support or maintain its own mine rescue team.

18.1 ACCESS

Access to the Grassy Mountain Project is provided by Twin Springs Road, a gravel road which originates at US Highway 20 approximately 4 miles west of Vale. There are some unimproved dirt access and exploration roads on the site.

18.2 POWER

Initial electrical power will be provided with diesel generators as there is currently no electrical power at the Project. The current proposal evaluates a 3-year period to cost $18.3M for power line construction and consumption from Idaho Power compared to $22.3M for purchase and operation of diesel power generation. Idaho Power has been consulted and indicated that getting a power line into the area would take approximately 18 months.

18.2.1 POWER LINE VS GENERATING STATION

The power line option (to be constructed by Idaho Power company but paid for by Calico) will use power generation capacity from the existing network at the main connection near Vale, Oregon via a 69 kV power line to the mine side of the Grassy Mountain Project, a run of about 18 miles. Power will then be stepped down to 4,160 volts onsite. It will be distributed across the mine site including: a 3-mile 4.5 mW power line run to the mill; a power line to the batch plant and shop/office areas; and then a line sent underground to local distribution boxes for use by underground equipment.

Table 18.1 compares the power costs for the mill and mine for the power line option and for onsite diesel generated power. The table shows expected costs from Idaho Power at a 3 mW steady load, but any increase in the power load would only make the line power more cost effective. The total onsite demand is estimated at 4.0 mW, but a 5.0 mW total load has been used for planning to anticipate surges while the plant is starting up or operating.

Table 18.1 PowerLine Construction vs Diesel Generators Onsite (US $)
At 3mW total load and $0.08 per kwhr price

Cost Item	Power Line to Mill	Power generated on site	Comments
Cost of Supplying 3 MW of power 365 x 24 hours or 26.2 M kW per year	3,000kW *365 d/y * 24 h/d * $0.08 per kWhr = $2.1 M / year	3,000kW * 365 d/y * 24h/d * $0.25 per kWhr = $6.6 M /year	Onsite generators could be up to 3 times more expensive
Cost of Generating Plant	$0	4 unit at 1-mW $268,000 each = $1.1 M	Purchase Diesel Generators
Transformer at Mine Site	$1 M	$0	
Power line to Mine	18 miles at $500,000 per mile or $9.0 M	$0	Construct power line
Transformer at Mill Site	$1 M	$0	
Power line to Mine site	3 miles at $500,000 per mile or $1.5M	$1.5 M	Generators will need power distribution
3 Year Total Operating Cost	$ 6.31 M	$19.71 M	Substantial improvement via power line
3 Year Total Capital Cost	$12.5 M	$ 2.6 M	Significant short term cost for power line but better overall
Cost over 3 years	$18.81 M	$22.31 M	Significant savings but higher capital cost
Cost over 4 years	$20.91 M	$28.88 M	

Note: A mW is the conventional abbreviation for Megawatt, kW is for Kilowatt, kWhr is a Kilowatt–hour a common billing term; no salvage has been included in the value of each option. This study has used $0.08 per kWhr but the local estimate from Idaho Power, estimates that, with a 3 mW load, Calico could get a $0.05 kWhr rate.

MMC recommends the building of the power line as the best long-term economic option. Initially, all power will be supplied by on site diesel generators until the proposed power line can be run to the Project site. This will be contingent upon approvals by the State of Oregon and/or the US Department of Interior, Bureau of Land Management (BLM). . MMC suggests an initial purchase of four (4) 1-mW diesel generators to provide short term power to the underground while line power for the Project is approved and constructed to the site. Three of the generators can later be sold after main power lines are installed and the remaining unit can serve as a backup. In the event that line power is not yet available once mill construction is complete, MMC suggests renting trailer mounted generators to bring to site as an interim measure. Again, these can be large 1-mW units.

18.3 WATER

Preliminary estimates of average water requirements for mining and processing purposes range from 150 to 300 gpm. Water will be obtained from ground water sources consisting of wells and inflows (if any) to underground workings. Water supply can likely be obtained from the following existing wells.

- PW-1 (near northeast side of deposit, 25 gpm sustainable yield);
- 59772 (near east side of deposit, 50 gpm sustainable yield);

- Prod-1 (1.5 miles north of deposit, 50 gpm sustainable yield); and
- PW-4/GW-4 (2 miles north of deposit, 175 gpm sustainable yield)

New wells can be developed in the vicinity of the processing facility. Based on testing of an existing stockwater well (i.e. Bishop Rye Field Well), a properly constructed well at the processing site should yield approximately 100 gpm. Previous exploration drilling in Negro Rock Canyon (1 to 3 miles north of the processing area) also indicated potential well yields ranging from 25 to 150 gpm.

18.3.1 TAILINGS RECLAIM WATER

A pre-feasibility study from Kilborn to Newmont dated 1993, is used here as no additional data is available to MMC. Kilborn's study indicated limited concern for water supplied to the mill.

The mine schedule anticipates over the first two years of mine operation (years -1 and 1) that there will be very limited makeup water coming back from early tailings disposal and that little or no water will be intersected underground. During the first year, once the first 25 feet of the tailings basin has been completed and approved by state and federal governments, all water that can be made available should be pumped into the tailings basin to allow sufficient water to fill all tanks in the milling facility and to create a pond of sufficient size to allow settling of tailings. Reclaim water from the tailing's decant is eventually expected to average 160 gpm, ranging from 130 to 175 gpm. This will require sufficient water to be held or captured in the tailings pond once it is constructed.

Further start-up water demands will need to be addressed in future studies.

18.3.2 FRESH/FIRE WATER

The fresh and fire water is expected to be supplied by five (5) existing wells onsite. These wells will deliver water into a 12-foot diameter by 16-foot high collection tank with a capacity of 13,500 gallons. Pumps will transfer water from this tank as needed to a mill supply and firewater tank near the mill. This tank is expected to be 30 feet in diameter and 35 feet high with a capacity of 175,000 gallons with 135,000 gallons dedicated for fire water supply pumps. One electrical and one diesel pump will be installed into the fire water system to supply up to 1,500 gpm. This flow rate will consume the stored water in 1.5 hours, and it is anticipated that local fire crews will be available within this timeframe.

The mining operation will be responsible for developing a Fire Protection Plan as part of the Division 37 Consolidated Permitting Process.

18.3.3 POTABLE WATER

Fresh water will be treated and made available as potable water. The water holding tank is expected to hold 12,000 gallons and peak consumption will be 100 gpm during shift changes. Bottled water will also be supplied to the site as potable water supply.

18.4 PERSONNEL

Mining and milling personnel are expected to be sourced from local communities with limited relocation to supply the expertise to reinforce the sites experience level. See Table 18.2 below; for a detailed personnel listing. Calico's policy is to hire locally. The company also intends to investigate the availability of local vocational training programs for partnering, including Treasure Valley Community College in Ontario, Oregon and the College of Western Idaho in Boise, Idaho.

Table 18.2 Operating Work Force

	Number per crew	Crews per shift	Num. of shifts	Total Personel	Hourly Rate	Bonus percent	Bonus Rate	Benefits at 40%	Annual Cost
Development									
Drill Operator	1	1	2	2	$ 29.00	25%	$ 7.25	$ 11.60	$ 191,400
Drill Helper	1	1	2	2	$ 25.00	15%	$ 3.75	$ 10.00	$ 155,000
Loader Operator	1	1	2	2	$ 28.00	25%	$ 7.00	$ 11.20	$ 184,800
Truck Driver	2	1	2	4	$ 26.00	25%	$ 6.50	$ 10.40	$ 343,200
Roof Bolter	2	1	2	4	$ 25.00	25%	$ 6.25	$ 10.00	$ 330,000
Production									
Drill Operator	3	1	2	6	$ 29.00	25%	$ 7.25	$ 11.60	$ 574,200
LHD operator	3	1	2	6	$ 28.00	25%	$ 7.00	$ 11.20	$ 554,400
Truck Driver	2	1	2	4	$ 26.00	25%	$ 6.50	$ 10.40	$ 343,200
Blaster	1	1	2	2	$ 27.00	25%	$ 6.75	$ 10.80	$ 178,200
Mine General Underground									
Pumpman	1	1	2	2	$ 24.00	25%	$ 6.00	$ 9.60	$ 158,400
Ventilation	1	1	2	2	$ 24.00	25%	$ 6.00	$ 9.60	$ 158,400
Trainee/Absentee	1	1	2	2	$ 22.00	15%	$ 3.30	$ 8.80	$ 136,400
Mine General Surface									
Topman	1	1	2	2	$ 24.00	25%	$ 6.00	$ 9.60	$ 158,400
Warehouse	2	1	2	4	$ 21.00	25%	$ 5.25	$ 8.40	$ 277,200
Fill Plant Operator	1	1	2	2	$ 22.00	25%	$ 5.50	$ 8.80	$ 145,200
Maintenance									
Electrician	2	1	2	4	$ 27.00	25%	$ 6.75	$ 10.80	$ 356,400
Mechanic	4	1	2	8	$ 26.00	25%	$ 6.50	$ 10.40	$ 686,400
Welder/Other	2	1	2	4	$ 25.00	25%	$ 6.25	$ 10.00	$ 330,000
Milling									
Crusher	1	1	4	4	$ 14.85	25%	$ 3.71	$ 5.94	$ 196,020
Grinding, Flotation, Filtration	2	1	4	8	$ 22.25	25%	$ 5.56	$ 8.90	$ 587,400
Leach/CIP Oper	1	1	4	4	$ 16.97	25%	$ 4.24	$ 6.79	$ 224,004
Stripping/Tailings Operator	2	1	4	8	$ 19.09	25%	$ 4.77	$ 7.64	$ 503,976
Mechanical	2	1	4	8	$ 21.63	25%	$ 5.41	$ 8.65	$ 571,032
Labor	2	1	4	8	$ 14.85	15%	$ 2.23	$ 5.94	$ 368,280
Total Hourly				102	Hourly Employees				$ 7,711,912
Total Salaried Staff					Base Pay			Benefits	Annual Costs
Mine Manager	1		1	1	$ 130,000			$ 52,000	$ 182,000
Shift Foreman Mine and Mnt	2		2	4	$ 90,000			$ 36,000	$ 504,000
Chief Engineer	1		1	1	$ 85,000			$ 34,000	$ 119,000
Engineer	1		1	1	$ 75,000			$ 30,000	$ 105,000
Surveyor	1		1	1	$ 65,000			$ 26,000	$ 91,000
Asst Surveyor	1		1	1	$ 55,000			$ 22,000	$ 77,000
Environmental	2		1	2	$ 70,000			$ 28,000	$ 196,000
Chief Geologist	1		1	1	$ 85,000			$ 34,000	$ 119,000
Geologist	1		1	1	$ 70,000			$ 28,000	$ 98,000
Safety/Training	1		1	1	$ 65,000			$ 26,000	$ 91,000
Process Manager	1		1	1	$ 130,000			$ 52,000	$ 182,000
Mill Foreman	4		1	4	$ 75,000			$ 30,000	$ 420,000
Metallurgist (Chief and Met)	2		1	2	$ 82,500			$ 33,000	$ 231,000
Mnt Foreman and planner	2		1	2	$ 62,500			$ 25,000	$ 175,000
Chief Assayer/Refiner	2		1	2	$ 50,000			$ 20,000	$ 140,000
Technicians in Mill and Lab	2		1	2	$ 45,000			$ 18,000	$ 126,000
Accounting (Snr, 2 acct's)	3		1	3	$ 45,000			$ 18,000	$ 189,000
Receptionist (GM, Mine, Mill	3		1	3	$ 38,000			$ 15,200	$ 159,600
Total Salaried				33					$ 3,204,600
Total Mine, Mill and General Personnel				135	Total Manpower				$ 10,916,512
			Unit labor costs against 365,000 tons per year					$ 29.91	per ton
Note: All bonus's are based			Labor Productivity assumes 240 shifts per man each year					14.91	tons/manshift
on exceeding mining plans			All Labor Productivity per man each year					11.27	tons/manshift

18.5 TAILINGS STORAGE

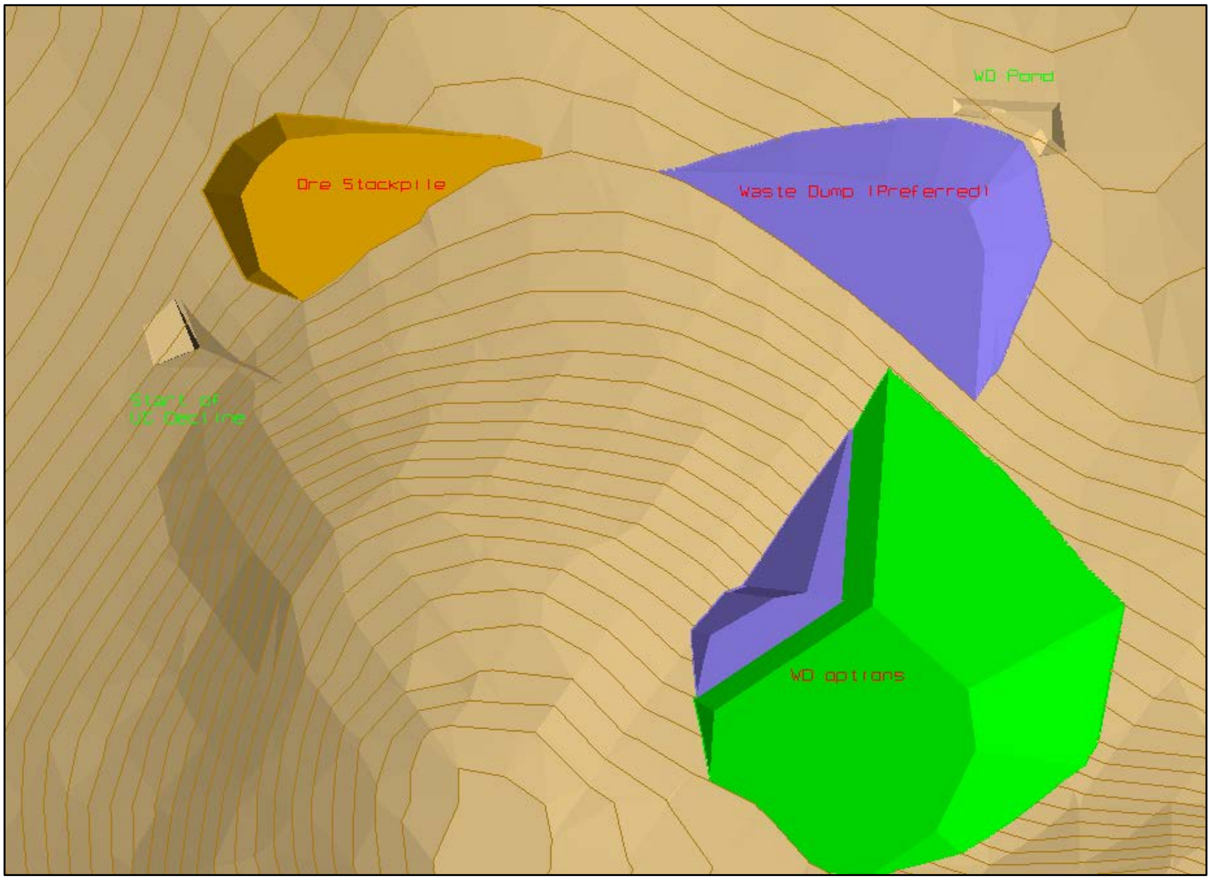
A small tailings storage facility will be needed near the plant to protect the environment and to accommodate tailings from mill production. The tailings facility is expected to be approximately 1000-ft by 1000-ft by 30-ft deep to store up to 1.5 Mt of tailings at 17.5 ft^3/ton. The facility will need to be constructed in compliance with Oregon's regulations and a geo-technical study should be done to ensure the design and construction of the facility will be safe in the event of an earthquake. A portion of the underground waste will be consumed by the tailings facility though most will be used as backfill. Generally, it is expected to be a dry tailings storage facility.

18.6 OVERBURDEN STORAGE

There will be almost no overburden storage at the mine site as the portal pad for the main decline is only expected to be approximately 350 wide by 250 feet long. Material from this cut will be stockpiled near the decline and reclaimed, seeded and stored until needed for final portal reclamation. There will need to be a small waste rock facility near the mine portal to hold early ramp development and initial storage of waste rock from the mine that is not used for tailings pond construction. The mill site is expected to have a significant overburden stockpile from the preparation of the plant and crusher sites and associated yards, where material will need to be stripped and this material stockpiled and re-vegetated nearby until the mill is decommissioned.

Figure 18.1 shows, surface topography with the portal location, waste dump options, mineralized material stockpile and site topography.

Figure 18.1 Mine Site Layout with Portal and Stockpiles Options



18.7 BACKFILL

Backfilling of stopes will be accomplished by placing waste rock into mined out stopes and tailings mixed with cement. No test work has been done for cemented backfill tailings at this time, so a standard mix of 5% cement is used for this analysis pending further study.

The backfill plant will be located very near the underground mine and will deposit the cemented tailings backfill into the mine via a drilled hole that delivers the backfill material to each heading. A utility crew will be required to move connections so that backfill is delivered to the appropriate stope. This will allow backfilling to proceed on a 24-hour basis. The mine stopes will be sloped downhill at 1% away from the cross drift access to allow the maximum volume to be placed in each drift.

19 MARKET STUDIES AND CONTRACTS

The study assumes that a gold doré will be produced at a facility located at Grassy Mountain and sold to a gold refiner offsite. No transport and refining charges have been considered in the analysis and no contracts for delivery of gold doré have been established due to the preliminary nature of the evaluation.

It has been assumed that gold would be sold on the spot market, which has historically been able to absorb the entire world production.

No contracts for materials delivery, electrical supply or maintenance have been established.

20 ENVIRONMENTAL STUDIES, PERMITTING, RECLAMATION AND SOCIAL OR COMMUNITY IMPACT

20.1 ENVIRONMENTAL LIABILITIES

There are no known environmental liabilities associated with the Grassy Mountain Project. During preparation of the previous NI 43-101 Calico Technical Report on Resources (March, 2012), discussions were held with the BLM regarding:

- At least two open drill holes that had not been properly abandoned;
- Old drill roads that had not been reclaimed; and
- Two groundwater monitoring wells that need to be reclaimed or used (they are enclosed in a locked housing box).

All concerns identified by the BLM have now been addressed at the site. As of the date of this report, the two open drill holes have been properly abandoned per BLM specifications and the old not in use drill roads have been reclaimed. The groundwater monitoring wells are in use for ongoing exploration activities.

20.2 EXPLORATION PERMITS AND JURISDICTIONS

There is a valid existing exploration permit (Plan of Operations) with the Bureau of Land Management (BLM) and the State of Oregon which was renewed in February 2014. Renewal is an annual process. The exploration plan for 2015 has not been formulated. The program would involve: exploration drilling and mapping, geotechnical drilling and geochemical sampling, and ground water characterization studies per an approved work plan described below. A bond in the amount of $146,000 is associated with the exploration permit.

Calico also has a second active exploration permit with the BLM and DOGAMI. A bond in the amount of $3,400 has been posted to cover surface disturbance activities related to soil and rock sampling as part of ongoing permitting baseline studies. These sampling activities have been completed; however, a request to release the bond has not been submitted to the BLM and DOGAMI.

The State of Oregon Department of Geology and Mineral Industries (DOGAMI) Technical Review Team (TRT) approved Ground Water Resources Final Environmental Baseline Work Plan describes additional ground water characterization and water supply well drilling to be conducted during mine development. The TRT authorities and responsibilities are discussed later in this section of the report. The project's estimated peak water use is about 400 gallons per minute (gpm). The average water use at steady state operation will average about 310 gpm.

The following ground water characterization and monitoring well construction is planned:

- At least one exploration borehole near and down-gradient of the deposit located on patented land will be drilled to a depth below the deposit (estimated at 1000 feet);
- An up-gradient well from the deposit will be drilled;
- Based on the results of the first borehole, additional wells may be developed to characterize water-bearing zones near the deposit;

- Based on the results of an additional pump testing of the Bishop Well, a new production test well will be drilled at Rye Field near the proposed mill facility location; and
- Additional wells may be drilled near the mine and the processing facility in conjunction with the planned feasibility analysis and report (see Ground Water Resources Final Environmental Baseline Study Work Plans, Grassy Mountain Project, Calico Resources, March 2013).

On February 8, 2012, Calico Resources USA Corp. filed an application for extension of time to complete construction of a water system and to apply water to beneficial use under Oregon Water Resources Department ("OWRD") Permit No. G-10994, for purposes of mining the Grassy Mountain site. The public protest period closed on July 27, 2012, and no protests were filed. On December 26, 2012, OWRD issued a final order approving the request for extension of time, which was subject to judicial review through February 25, 2013. No petitions for judicial review were filed by the deadline.

The extension of Permit No. G-10994 marks a significant step forward for the Grassy Mountain project. The new completion date for construction of the water system and application of water to beneficial use is October 1, 2028. During that timeframe, Calico is authorized to use up to 2.0 $ft.^3$ per second (898 gpm) of ground water for mining and industrial uses. As a condition of the extension, Calico will submit progress reports to OWRD in 2017, 2022 and 2027 to provide evidence of diligence towards completion of the project. The reports will be subject to public comment.

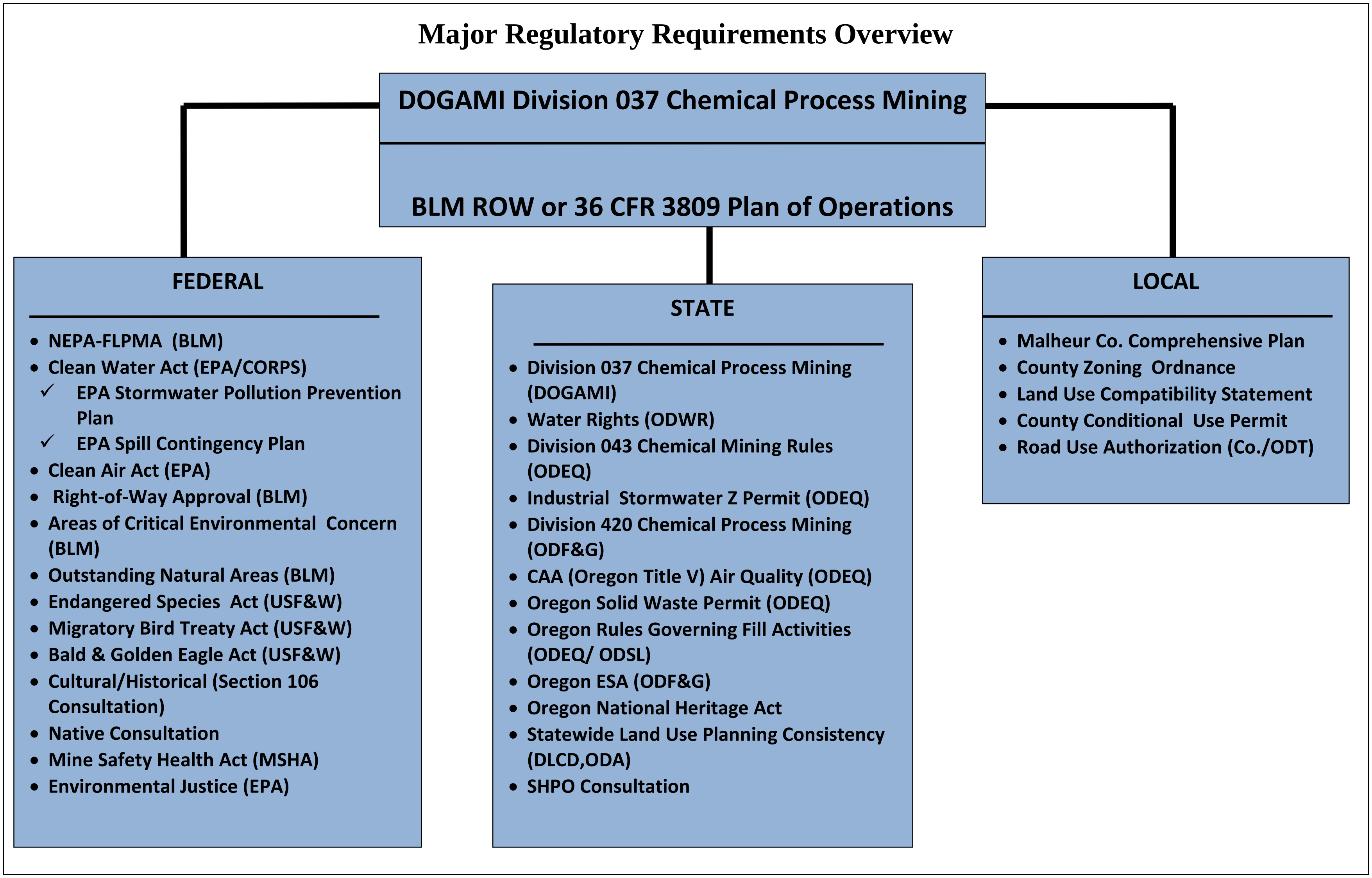
20.2.1 PERMITS REQUIRED FOR FULL SCALE MINING

Calico entered into a Memorandum of Understanding for Cost Recovery (MOU) with the Oregon Department of Geology and Mineral Industries (DOGAMI) on July 10, 2012. The MOU provides a mechanism whereby Calico, as the project proponent, agrees to reimburse DOGAMI and other primary state agencies for their involvement in processing permit applications for the Grassy Mountain Project.

Figure 20.1 shows a general overview of the major regulatory and permitting requirements for the Grassy Mountain Gold Mine. In summary, key components of the Calico permitting program are:

- Environmental baseline studies for all resource categories described in Chapter 735, Division 037 Chemical Process Mining Rules;
- Meeting all requirements of Division 037 Rules which include, but are not limited to: 1) preparation of a Consolidated Permit Application; 2) obtaining all necessary federal, state, and local permits and authorizations; and 3) satisfying any potentially applicable NEPA requirements (these may be required by the BLM for the main haul road and access roads rights of way (ROW)); and
- Implementing a pro-active community involvement and consultation process including: 1) local hire preference; 2) local contracting and purchase were practicable; and 3) mine worker job training to provide an experienced workforce.

Figure 20.1 Calico Resources Grassy Mountain Project



A key authorization permit which will be required is the permit for Chemical Processing Mining, as required under Chapter 735, Division 037, 1991 Oregon Laws (§632-037-0005). The Consolidated Permit also requires approval by the Oregon Department of Environmental Quality (ODEQ) under Division 043, Chemical Mining Rules (OAR 430-043-000), which address other environmental stipulations. "Chemical Process Mining" means a mining and processing operation for metal bearing ores that uses chemicals to dissolve metals from ore. The Calico processing facility will employ cyanide in the metallurgical process. This process will be optimized in the final metallurgical test work shown to be feasible as part of the Preliminary Economic Assessment. Currently, gravity separation, potentially conventional flotation, and cyanide vat leaching have been evaluated. Only cyanide vat leaching would "dissolve" gold and silver minerals and be subject to these regulations. The Division 037 Rules provide a well-defined regulatory pathway with definitive permitting requirements and timelines.

Calico has filed a Notice of Intent (NOI) as previously discussed. This was done to initiate the agency Division 037 permit process, and provide for public notice that the project is proceeding into the permitting phase. As part of initiating the public notification, an interagency "Technical Review Team" (TRT) has been organized to provide interdisciplinary review of technical permitting issues for the state Consolidated Permitting Process. This TRT has met numerous times and accepted the NOI.

In addition, DOGAMI administrators and the TRT have reviewed and approved the *Calico Resources Final Environmental Baseline Work Plans Grassy Mountain Mine Project. It was* approved on March 8, 2013. On March 11, 2013 a "Notice of Prospective Applicant's Readiness to Collect Baseline Data" was issued to Calico by DOGAMI. The environmental baseline program is currently being implemented by Calico, and is expected to be completed by Quarter 3, 2015 for all resource categories. Others, like water resources, vegetation, wildlife, wetlands, geology and soils, aquatic resources and noise have already been completed. This information will be supplemented by an earlier database developed by Atlas Minerals and Newmont Mining Corporation.

With the TRT approval of the work plans, Calico now has the go-ahead to prepare the Division 037 Consolidated Permit Application for the Grassy Mountain Gold Mine. This has been initiated concurrent with completion of the baseline studies. This single application, as required under Oregon Laws, will include the following elements:

- General information;
- Existing environment-baseline data;
- Operating plan;
- Reclamation and closure plan; and
- Alternatives analysis.

Upon completion of the consolidated application, a completeness review will be conducted by the TRT, and a Notice to Proceed with the preparation of draft permits will be issued by DOGAMI. This notice will also involve a directive by DOGAMI to hire a third party to prepare and Environmental Evaluation (EE), to be issued at least 60 days prior to the issuance of any draft permits. This EE is not a federal NEPA requirement. It is a State of Oregon requirement which includes: 1) impact analysis; 2) cumulative impact analysis, and 3) alternatives analysis (627-037-0085).

Concurrent with this assessment, DOGAMI will also contract a third-party to prepare a Socioeconomic Analysis. This analysis will identify major and reasonably foreseeable socioeconomic impacts on individuals and communities located in the vicinity of the proposed mine. In particular, the analysis will describe impacts on population, economics, infrastructure, and fiscal structure (627-037-0090).

This process for permit review and approval will also involve a consolidated public hearing on all draft permits, and the draft operating permit. Other applicable State of Oregon and federal permits may include, but are not limited to the following (see Figure 20.1 earlier):

- Fill and Removal Permit(s) (ORS 196.600 and 196.800);
- Permits to appropriate groundwater or surface water, or to store water in an impoundment (ORS 537.130, ORS 537.400, and ORS 540.350);
- Water Pollution Control Facility (ORS 468.740);
- Storm Water Pollution Prevention Plan (EPA);
- Air Quality Permits (ORS 468.310);
- Solid Waste Disposal Permit (ORS 459.205);
- Permit to Clear Right of Way (ORS 477.685);
- Permit for Placing Explosives (ORS 509.140);
- Hazardous Waste Storage Permit (ORS 466.005);
- Land Use Permit (OAR Chapter 632, Division 001); and
- Any other state permits, if applicable and required under Division 37

At this time, it is not contemplated that the Grassy Mountain Gold Mine will require either a federal National Pollutant Discharge Elimination System Permit (NPDES) from the EPA or US Army Corps of Engineers 404 Dredge and Fill Permit. The Grassy Mountain Gold Mine project does not involve a discharge to waters of the US. Neither does it involve construction in wetlands, or placement of dredge tailings or fill material into waters of the U.S.

The State has retained a Project Manager to oversee the permitting program and lead the review team. A "Project Coordinating Committee" (PCC) was also formed for the purpose of sharing information; further coordinating the federal, state and local permitting requirements; optimizing communication; facilitating the regulatory process; and avoiding duplicative effort. The PCC has met formally and conducted a series of public meetings in Ontario and Bend, Oregon. These meetings were attended by agencies, public officials, project supporters, and non-governmental organizations (NGOs).

Division 037 mandates DOGAMI to manage and facilitate the regulatory permitting process. It requires that a series of public meetings are held, to be coordinated by DOGAMI or its contractor. This committee is charged with gathering comments from the public regarding the specifics of the project. DOGAMI acts as the facilitating state agency and state clearinghouse for the mine permitting process. It is the applicant's responsibility to secure other needed state permits such as air pollution control, storm water pollution prevention plan, and land use permits as may be required. However, the Division 037 process is designed to promote a consolidated permitting pathway.

DOGAMI will coordinate with other agencies to avoid duplication on the part of the applicants and related agency requests. The agency is also responsible for reviewing mine operating plans and issuing reclamation permits. It establishes reclamation bond amounts for the project, working closely with Calico. As part of DOGAMI's permitting process, it also requires the preparation of detailed environmental baseline data collection work plans described earlier that direct the inventorying of the various existing natural and human resources that may be impacted by the project. These include: air quality, surface and ground water quality and hydrology, vegetation, fisheries, wildlife, socioeconomic, historical/cultural, and other resource categories.

The basic information for a Division 037 application involves:

- Determining existing environmental baseline conditions;
- Providing an operating plan (mine plan and reclamation/closure plan);
- Providing an alternatives analysis;
- Providing an environmental evaluation;
- Providing a socio-economic impact analysis;
- Developing a plan to minimize pollution and erosion;
- Protecting fish and wildlife during operations and closure (fish and wildlife standards),
- Providing a water balance;
- Establishing financial assurance requirements; and
- Inclusion of all other state, federal, and local permit applications required under Division 037.

DOGAMI officials have indicated that the Division 037 timeline for this requirement can be expected to be about one year from the date that a "complete application" (as deemed complete by DOGAMI) is submitted for the regulatory process to be concluded, and a permit issued.

While the Grassy Mountain Project development target is located on private land, some of the planned access needs may occur on BLM lands or via county roads. Other project components, such as the processing facilities, will be located on nearby privately-owned land leased by Calico. This leased fee land totals about 1,382 acres and is located approximately 4 miles southwest of the patented claims in Township 22 South, Range 43 East, in Malheur County Oregon.

Other permits and/or authorizations related to storm water, water rights, access, air quality, solid waste management, wildlife protection, spill contingency planning and reclamation will also be required. At this time based on the current project configuration which involves mining on patented mining claims at the mine site and leased fee land at the processing site, it appears some level of environmental analysis by the BLM under NEPA will be required for the haul road right-of-way. Calico has met with BLM officials in Vale, Oregon. As a result, Calico anticipates filing an Application for Transportation and Utility Systems and Facilities on Federal Lands during Quarter 1, 2015. This application will be the basis for a determination by the BLM of whether the access/haul road component of the project will be subject to an environmental assessment (EA), or environmental impact statement (EIS).

No other major federal action is required to construct or operate the mine and mill at the Grassy Mountain Project. The project is a "zero discharge" operation. No wetlands will be impacted by the project. Grassy Mountain is not a Prevention of Significant Deterioration (PSD) air quality source.

20.3 ENVIRONMENTAL AND PERMITTING RISKS AND OPPORTUNITIES

As with almost all mining projects, there are inherent risks and opportunities related to the final outcome of the project. Most of these risks related to environmental and permitting are based on uncertainty of the permitting program, and timing to obtain all necessary permits and authorizations. Other risks can involve new regulations, tightening of standards like air or water quality, and legal challenges.

Subsequent high-level engineering studies and environmental baseline studies are required to further define these risks and opportunities, as will be conducted at the pre-feasibility and feasibility levels. To facilitate project permitting and development for the PEA and permitting programs, and to design a sustainable project and reduce environmental risks, Calico has adopted the following environmental principles for the project:

- Minimize the project footprint and locate nearly all the facilities on patented or fee land;
- Protect local surface and ground water quality and quantity by applying BMP’s and water treatment, as necessary;
- Confirm the presence of potential threatened and endangered or sensitive amphibians, wildlife, or plant species at the site;
- Effectively manage all related mine waste including lining the tailings storage facility, use of tailings and waste rock underground as backfill, and segregation and selective handling of waste rock as necessary;
- Reduce the carbon footprint for the project by processing the gold concentrate on-site;
- Conduct environmental monitoring to ensure compliance with all applicable state, federal and local laws, regulations, and ordinances;
- Transport all fuel to the mining operation according to accepted transport and spill prevention and response standard operating procedures (SOPs) developed specifically for the project;
- Integrate pro-active wildlife habitat mitigation and enhancement proposals with and environmentally responsible reclamation and closure plan;
- Provide adequate financial assurance for implementing an effective reclamation and closure plan to ensure long-term protection and rehabilitation of the mine site; and
- Implement a responsible community and statewide public affairs program to further open communications, maximize local job opportunities and involvement, and meet environmental justice requirements for the Grassy Mountain Mine project.

Collectively, these objectives or environmental principles will guide project development. They will also serve to reduce risk, and enhance related project opportunities

20.4 CONCEPTUAL RECLAMATION AND CLOSURE PLAN

20.4.1 INTRODUCTION

The Calico Grassy Mountain Project (the Project) is an underground mine. The Project covers both patented mining claims and fee land managed by the Oregon Department of Geology and Mineral Industries (DOGAMI), and public lands managed by the U.S. Department of Interior, Bureau of Land Management (BLM).

This reclamation and closure strategy describes conceptual reclamation principles and facility-specific reclamation treatment that will be part of a final Operating and Reclamation Plan for the project, which is an integral component of the Division 037 Consolidated Permit Application described earlier in Section 20 of this report. The strategy reflects the alternative that is described in this PEA. It includes preliminary cost estimates that ultimately will be expanded and updated for the purpose of bonding, as part of the Operating and Reclamation Plan. It incorporates in summary key reclamation, closure, and monitoring elements.

The major components of the Project are the underground mine, mill site, a tailings storage facility (TSF), a small waste rock repository, an administrative office, maintenance facility, and power plant. Ancillary facilities include access road, haul road, topsoil stockpile, diversion system, water supply and other minor facilities.

The mine life is an estimated 10 years, plus 2 years of active reclamation. The construction timeline is 18 months. The production rate is estimated at approximately 1,400 tons per day of mineralized rock and up to about 1000 tons of waste rock. Much of the waste rock will be placed back underground for fill, thus minimizing above ground storage needs. Also some waste rock in the early years may be used for TSF construction.

The mine would be accessed through a new 3700 Level portal and decline. Mined ore would be hauled or conveyed to the surface, then hauled by truck to the processing plant at the Bishop site. Processing would be by gravity separation and flotation and/or cyanide vat leach of the concentrate. Tailings would be spigotted behind a lined rock embankment at the TSF near the mill, or placed underground when there sufficient working room available.

Mining would occur 255 days per year, based on a 5 day a week 2 shift mining operation. Processing would occur year round over the life of mine. Site reclamation and closure are expected to be generally completed two years after cessation of mining. Details regarding the mining and reclamation projects will be provided in the Operating and Reclamation Plan. Reclamation guidelines are presented in the section which follows.

20.4.2 GUIDELINES AND GOALS FOR RECLAMATION AND CLOSURE

Calico has adopted a Corporate Environmental Policy. This policy states "Calico is committed to protecting the environment, at the same time producing so as to maximize the economic benefits to its shareholders". This is the primary goal, "producing and protecting", upon which this reclamation and closure strategy is derived.

Calico's long-term goals of reclamation during and after mining and processing operations are to return the land to a safe and stable condition, consistent with productive post-mining land uses. The designated uses are: wildlife habitat and recreation use. Future mineral development on land controlled by Calico is also considered in the conceptual plan.

Calico will adhere to the commitments in implementing these reclamation goals at the Project. The following guidelines are designed to lead the program:

- Stabilize and protect surface soil materials from wind and water erosion;

- Stabilize steep slopes by recontouring them into rounded landforms;
- Establish long-term, self-sustaining vegetation communities by reseeding with native seed stocks and promoting natural recolonization and succession;
- Establish wildlife habitat as a key reclamation goal;
- Minimize long-term care and maintenance requirements; and
- Protect the public by mitigating potential hazards at the site associated with mines and processing facilities.

20.4.3 SUMMARY OF CONCEPTUAL RECLAMATION REQUIREMENTS

OAR Chapter 632, Division 035, and OAR Chapter 632 Division 037 describe reclamation plan requirements for the State of Oregon. Under these regulations, DOGAMI requires that a chemical process mine comply with reclamation and closure standards. The operator must use best available and practicable technology and best management practices (BMPs). The reclamation plan must consider environmental protection, restoration, human health and safety, wildlife, fish, and livestock.

Under 43 CFR 3800 (Mining Claims under the General Mining Laws), the BLM defines surface management to include performance standards that govern the operation and reclamation of surface mining projects. As such, the BLM will be responsible for managing reclamation of the haul road connecting the mine area with the processing plant and TSF.

20.4.4 CONCEPTUAL RECLAMATION PLAN ACTIVITIES

Reclamation activities would include concurrent reclamation done during construction and operation, and final reclamation conducted at closure. A summary of concurrent reclamation is as follows:

- Vegetation will be removed only from areas directly affected by project activities.
- Salvageable soil-like material will be stockpiled onsite for the purpose of final reclamation.
- Cut and fill slopes for access and service roads will be designed to prevent erosion.
- Drainage channels will be constructed where necessary and disturbed slopes will be temporarily revegetated or otherwise stabilized to prevent erosion.
- All disturbed areas will have appropriate interim reclamation and drainage controls implemented in a timely manner through the construction and operations phase of the Project.

Final reclamation would begin at the final stages of mining operations. Facilities not needed for the reclamation process, including buildings, storage tanks, processing facilities and the like would be either salvaged or demolished. These materials would be removed from the site. Concrete pads would be broken into pieces and covered with clean fill. Compacted areas would be ripped, and all areas would be graded to blend in with the natural topography. Roads would remain in place as long as necessary to conduct reclamation monitoring. Closure and reclamation of all roads on the site would involve removing and culverts, ripping the road, and pulling and contouring the cut-and-fill slopes to blend in with the surrounding terrain.

The late stages of final reclamation would include the removal of stormwater diversions and sediment ponds at the plant site, followed by regrading and revegetation. The final stages of reclamation at the mine site would involve removal of the remaining structures and covering the mine portal with a steel gate. Growth media would be spread over regraded areas to a maximum depth of one foot, followed by seeding. The depth of growth media, plant species, and seed mixtures, and the application of fertilizers and soil amendments would be determined through the use of test plots run over the life of mine. A monitoring program would be established to track revegetation success.

The TSF would be reclaimed by de-watering the supernatant pond and construction of an engineered two feet layer of soil-like material mixed with a partial rockfill working surface. This working surface would be graded so as to create undulating relief in the surface layer topography, and mitigate the visual impacts of a straight line land form. Areas on the surface where trees would be planted in "islands" may require more growth media. The covered pile would then be revegetated. Upgradient stormwater will continue to be routed around the TSF in two engineered channels. Sections of the channels would be armored at design points with large riprap to provide for long-term integrity. The downgradient sediment pond and contact water pond would continue to function for sediment control.

20.4.5 ESTIMATED RECLAMATION COSTS

Detailed cost estimates would be developed for the Project based on final design of the facility and the approved Operating Plan to be developed as part of the Division 037 Consolidated Permitting Process. These costs will be subject to DOGAMI and BLM final review and approval. They will reflect prevailing Malheur County wage rates for equipment operators, engineers, and laborers. They would also include supervision, design, contingency, administration, insurance and bond costs.

For the purpose of this PEA, reclamation costs for current mining projects in Alaska, Nevada, and Idaho were evaluated and factored to reflect environmental conditions and the scale of the Project. The Project would potentially directly and indirectly affect up to 270 acres of land. More specifically, those 270+ acres are defined as follows:

- Mine permit area = 62 acres;
- Processing facility and tailings storage area = 134 acres; and
- Access road area = 74 acres

About 50% of the 270 acres would actually be disturbed. An example is the haul road right of way where a 200 foot wide limit is being permitted, but actually a 30 foot wide road alignment plus up to 40 foot corridor for piping, power lines to the mill or conveyor room will be disturbed. Therefore, the reclamation estimate factored herein provides conservatively nearly $10,000/acre for the purposes of the reclamation program at the Grassy Mountain Project.

A preliminary cost estimate shown below in Table 20.1 below.

Table 20.1 Major Component Reclamation Cost Estimate

Major Component Reclamation Cost Estimate	
Major Component	**Estimated Cost**
Mobilization/Demobilization	$100,000
Portal Closure, plugging land site reclamation	$150,000
Fill Placement	$75,000

Haul Road, reclamation (incl. treatment of roadside areas)	$225,000
Foundations demolition/building salvage	$150,000
Hydroseeding at $3,000/acre (50% area)	$405,000
Reclamation Monitoring Subtotal	**$1,155,000**
Engineering design at 5%	$57,750
Agency administration at 2%	$23,100
Federal contract direct costs at 3%	$34,650
Subtotal	**$1,270,500**
Inflation at 3% per year	$38,115
Contingency at 15%	$190,575
TOTAL	**$1,499,190**

21 CAPITAL AND OPERATING COSTS

Capital and operating costs used for the Grassy Mountain PEA were developed from previous experience in mine and mill development and CostMine cost data service (InfoMine, 2014) for mining costs. In addition, all available project technical data and metallurgical test work were considered to build up a processing operating cost estimate.

A project configuration which included the underground mine and a central process facility was developed as the basis for capital cost estimation. Preliminary site infrastructure alternatives (process plant, tails storage facility, power and water) were examined as a basis to estimate costs. Generalized arrangements were evaluated to establish a physical basis for the capital costs estimates.

Cost accuracy is estimated to be + or – 30%.

21.1 CAPITAL COSTS

Capital costs were developed based on scaling costs from similar facilities for production rates and from design basis assumptions. The costs are collected in two separate categories: (1) Initial capital to include construction costs to initiate mining operations including Engineering, Procurement, and Construction Management (EPCM), pre-stripping and start-up working capital, contingency; and (2) Sustaining capital to include costs due to delayed construction of the underground mines, plus additions to the mobile mining equipment fleet and equipment rebuilds, and sustaining EPCM for mill construction in year 1. The estimated capital costs are listed in Table 21.1.

Table 21.1 Summary of Estimated Capital Costs

Capital Category	Costs (USD Millions)
Initial Capital	$119.6
Sustaining Capital and EPCM	$24.1
Total Capital Costs	$143.7

21.1.1 INITIAL CAPITAL COSTS

The scope of the initial capital costs includes direct capital costs, indirect costs, Owner's cost, and preproduction mining costs. These costs are incurred after project approval and after construction and operating permits have been received; they occur in year -1, and include all capital costs up to the start of production. Direct capital costs include construction of the process facilities, establishment of the surface mining facilities and purchase of equipment. Preproduction mining costs include some development (~16%) to the underground mining areas. Indirect costs include EPCM. A rate of 15% of direct capital, excluding mobile equipment, was used to calculate EPCM. Owner's costs are an allowance for property maintenance and the expansion and training of the mine management and labor force.

Table 21.2 Grassy Mountain Initial Capital Costs

Capital Category	Costs (USD Millions)
Develop Underground	$18.2
Mill Construction	$48.4
EPCM	$7.8
Contingency	$14.2
Owner's Costs	$5.0
Indirects with $2M in Working Capital	$26.1
Total Initial Capital Cost	$119.7

21.1.2 SUSTAINING CAPITAL COSTS

Sustaining capital costs include capital expenditures beyond year -1 required to maintain capacity and to construct underground development. Sustaining contingency of $24.1M is for the development underground and additional EPCM to complete work around the site.

Table 21.3 Grassy Mountain Project Sustaining Capital Costs

Capital Category	Costs (USD Millions)
Continue to Develop UG	$23.8
Sustaining EPCM	$0.3
Total Sustaining Capital Cost	$24.1

21.1.3 CONTINGENCY CAPITAL COSTS

Contingency capital costs were applied to all direct capital cost items at a rate of 25%, excluding mobile equipment. Initial contingency capital cost is estimated at $14.2M for mill construction and start-up, and mine development and start up.

21.1.4 WORKING CAPITAL COSTS

Working capital is estimated to be $2.0M, calculated to cover the first 2 months of operating costs. Working capital is included in the Total Capital Costs in Table 21.1.

21.1.5 OPERATING COSTS

Operating costs are based on similar mining operations in the immediate area of Grassy Mountain and on other mining operations in North America using similar mining methods. Power, grinding media, and reagent consumptions are based on laboratory test work results. Estimates of average per unit operating cost are listed in Table 21.4.

Table 21.4 Unit Mining Costs and Average Operating Cost per Process Ton

Unit Costs	Costs (USD)
Underground Mining and Surface Transportation (US $/ Mined Ton)	$42.03
Underground Mining Cost thru Processed (US $/Process Ton)	$63.04
Processing Cost (US $/Process Ton)	$17.61

Unit Costs	Costs (USD)
Administration Cost (US $/Process Ton)	$5.00
Reclamation Cost (US $/Process Ton)	$1.54

22 ECONOMIC ANALYSIS

The production schedules presented in Section 16 have been used in conjunction with the cost data discussed in Section 21 to create a model for projection of the Grassy Mountain Project's economic performance. Costs remained constant in 2014 (InfoMine), and so no escalation of costs has been assumed for the purpose of this analysis. Operating costs are generated based on production physicals (tons or feet of development) and unit mining rates.

The base case economic evaluation used historical three-year trailing averages for gold and silver prices. This approach is consistent with the guidance of the United States Securities and Exchange Commission, is accepted by the Ontario Securities Commission and is industry standard. A second case was prepared using previous study prices for gold and silver. The pre-tax, pre-royalty as well as the post-tax, post-royalty results for the base case and upside case are listed in Table 22.1. Post-tax versions for each case were prepared with the correct royalties and using a 30% tax.

Table 22.1 is preliminary in nature and is based on Measured, Indicated and Inferred Mineral Resources. Inferred resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that this preliminary economic assessment will be realized.

Table 22.1 Projected Grassy Mountain Project Economic Performance

(Constant Au and Ag Price, No Cost Escalation, USD)

Item	Base Case	Upside Case	Base Case Post-Tax	Upside Case Post-Tax
Gold Price Per Ounce	$1,300	$1,500	$1,300	$1,500
Silver Price Per Ounce	$17.50	$20.00	$17.50	$20
Net Cash Flow	$202.8M	$299.2M	$157.0M	$224.5M
NPV @ 5% Discount Rate	$144.2M	$221.9M	$107.7M	$162.6M
NPV @ 7.5% Discount Rate	$121.0M	$191.4M	$88.2M	$138.2M
NPV @ 10% Discount Rate	$101.0M	$165.2M	$71.4M	$117.3M
Internal rate of Return	32.6%	45.1%	27.1%	37.4%
Operating Costs Per Ounce of Gold Equivalent Produced (life of mine)	$578	$578	$578	$578
Total Costs Per Ounce of Gold Equivalent Produced (includes all capital and closure costs)	$880	$880	$880	$880

Table 22.2 Grassy Mountain Project Annual Cash Flow Analysis

		Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Closure
Waste Mined Tons (x1000)		225	160	169	178	186	228	253	204	134	105	-
Ore Mined Tons (x1000)		-	366	366	367	365	366	363	365	366	320	-
Underground Mining (x1000)		$ 163	$ 20,992	$ 21,323	$ 21,717	$ 21,947	$ 23,657	$ 24,547	$ 22,691	$ 19,949	$ 16,969	$ -
Ore Transport (x1000)		$ -	$ 794	$ 793	$ 796	$ 792	$ 793	$ 788	$ 793	$ 795	$ 694	$ -
Milling (x1000)		$ -	$ 6,447	$ 6,438	$ 6,461	$ 6,424	$ 6,437	$ 6,393	$ 6,433	$ 6,453	$ 5,632	$ -
Gen. and Admin. (x1000)		$ -	$ 1,830	$ 1,828	$ 1,834	$ 1,824	$ 1,828	$ 1,815	$ 1,827	$ 1,832	$ 1,599	$ -
Total Costs (x1000)		$ 163	$ 30,063	$ 30,381	$ 30,808	$ 30,986	$ 32,714	$ 33,543	$ 31,743	$ 29,030	$ 24,894	$ -
Yearly Capital (x1000)		$ 119,711	$ 7,106	$ 1,641	$ 990	$ 1,885	$ 1,656	$ 2,743	$ 3,383	$ 1,627	$ 3,749	$ 2,000
Gross Yearly Costs (x1000)		$ 119,874	$ 37,169	$ 32,022	$ 31,798	$ 32,872	$ 34,370	$ 36,285	$ 35,126	$ 30,657	$ 28,643	$ 2,000
Gold Value (recovered) (x1000)		$ -	$ 88,977	$ 74,566	$ 80,291	$ 72,156	$ 72,042	$ 61,287	$ 57,959	$ 58,956	$ 44,996	$ -
Silver Value (recovered) (x1000)		$ -	$ 1,171	$ 1,338	$ 1,421	$ 1,256	$ 1,096	$ 1,459	$ 1,521	$ 1,540	$ 2,061	$ -
Gross Yearly Revenue (x1000)		$ -	$ 90,148	$ 75,905	$ 81,712	$ 73,412	$ 73,139	$ 62,746	$ 59,481	$ 60,496	$ 47,057	$ -
Gross Yearly Profit (x1000)		$ (119,874)	$ 52,980	$ 43,883	$ 49,914	$ 40,540	$ 38,769	$ 26,461	$ 24,355	$ 29,839	$ 18,414	$ (2,000)
Taxes at (x1000)	10%	$ -	$ 5,298	$ 4,388	$ 4,991	$ 4,054	$ 3,877	$ 2,646	$ 2,435	$ 2,984	$ 1,841	
Royalties at (x1000)	2.47%	$ 2,200	$ 1,309	$ 1,084	$ 1,233	$ 1,001	$ 958	$ 654	$ 602	$ 737	$ 455	
Net Yearly Profit (x1000)		$ (122,074)	$ 46,373	$ 38,410	$ 43,690	$ 35,485	$ 33,934	$ 23,161	$ 21,318	$ 26,118	$ 16,118	$ (2,000)
Sum of Yearly Profits (X1000)		$ (122,074)	$ (75,701)	$ (37,290)	$ 6,399	$ 41,884	$ 75,818	$ 98,979	$ 120,297	$ 146,415	$ 162,533	$ 160,533

Table 22.2 is preliminary in nature and is based on Measured, Indicated and Inferred Mineral Resources. Inferred resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that this preliminary economic assessment will be realized.

Sensitivity of the projected economic performance was evaluated by varying the revenue, operating cost and capital cost over a range of 80% - 120% of the base case assumptions. Tables 22.2, 22.3 and 22.4 list the variation of NPV and IRR for ranges in the Base Case Assumptions for revenue, operating cost and capital cost respectively. The result is shown graphically in Figures 22.1 and 22.2 for NPV at a discount rate of 7.5% and Internal Rate of Return (IRR) respectively.

The sensitivity of projected economic performance to variation in Au price and metallurgical recovery and Ag price and metallurgical recovery are listed in Tables 22.5 and 22.6 respectively.

Table 22.3 Sensitivity of NPV and IRR to Variation of Revenue between 80% and 120% of the Base Case Assumption

Total Revenue Sensitivity					
Factor	NPV (US$M)				IRR
	10%	7.50%	5%	Total Cash Flow	
120%	183.98	212.06	244.62	327.30	48.7%
116%	167.39	193.85	224.53	302.42	45.6%
112%	150.79	175.64	204.45	277.54	42.4%
108%	134.19	157.44	184.36	252.65	39.2%
104%	117.59	139.23	164.28	227.77	35.9%
100%	100.99	121.02	144.20	202.88	32.6%
96%	84.40	102.81	124.11	178.00	29.2%
92%	67.80	84.60	104.03	153.11	25.8%
88%	51.20	66.40	83.94	128.23	22.2%
84%	34.60	48.19	63.86	103.34	18.4%
80%	18.01	29.98	43.78	78.46	14.5%

Table 22.4 Sensitivity of NPV and IRR to Variation of Operating Cost between 80% and 120% of the Base Case Assumption

OPEX Sensitivity					
Factor	NPV (US$M)				IRR
	10%	7.50%	5%	Total Cash Flow	
120%	65.30	81.55	100.30	147.53	25.5%
116%	72.44	89.44	109.08	158.60	27.0%
112%	79.58	97.34	117.86	169.67	28.4%
108%	86.72	105.23	126.64	180.74	29.9%
104%	93.86	113.13	135.42	191.81	31.3%
100%	100.99	121.02	144.20	202.88	32.6%
96%	108.13	128.91	152.98	213.95	34.0%
92%	115.27	136.81	161.76	225.02	35.3%
88%	122.41	144.70	170.53	236.09	36.7%
84%	129.55	152.60	179.31	247.16	38.0%
80%	136.69	160.49	188.09	258.23	39.3%

Table 22.5 Sensitivity of NPV and IRR to Variation of Capital Cost between 80% and 120% of the Base Case Assumptions

CAPEX Sensitivity					
Factor	NPV (US$M)				IRR (%)
	10%	7.50%	10%	7.50%	10%
120%	73.91	93.66	73.91	93.66	73.91
116%	79.32	99.13	79.32	99.13	79.32
112%	84.74	104.60	84.74	104.60	84.74
108%	90.16	110.07	90.16	110.07	90.16
104%	95.58	115.55	95.58	115.55	95.58
100%	100.99	121.02	100.99	121.02	100.99
96%	106.41	126.49	106.41	126.49	106.41
92%	111.83	131.97	111.83	131.97	111.83
88%	117.25	137.44	117.25	137.44	117.25
84%	122.67	142.91	122.67	142.91	122.67
80%	128.08	148.38	128.08	148.38	128.08

Figure 22.1 Graph of IRR Sensitivity to Variation of Revenue, Operating Cost and Capital Cost

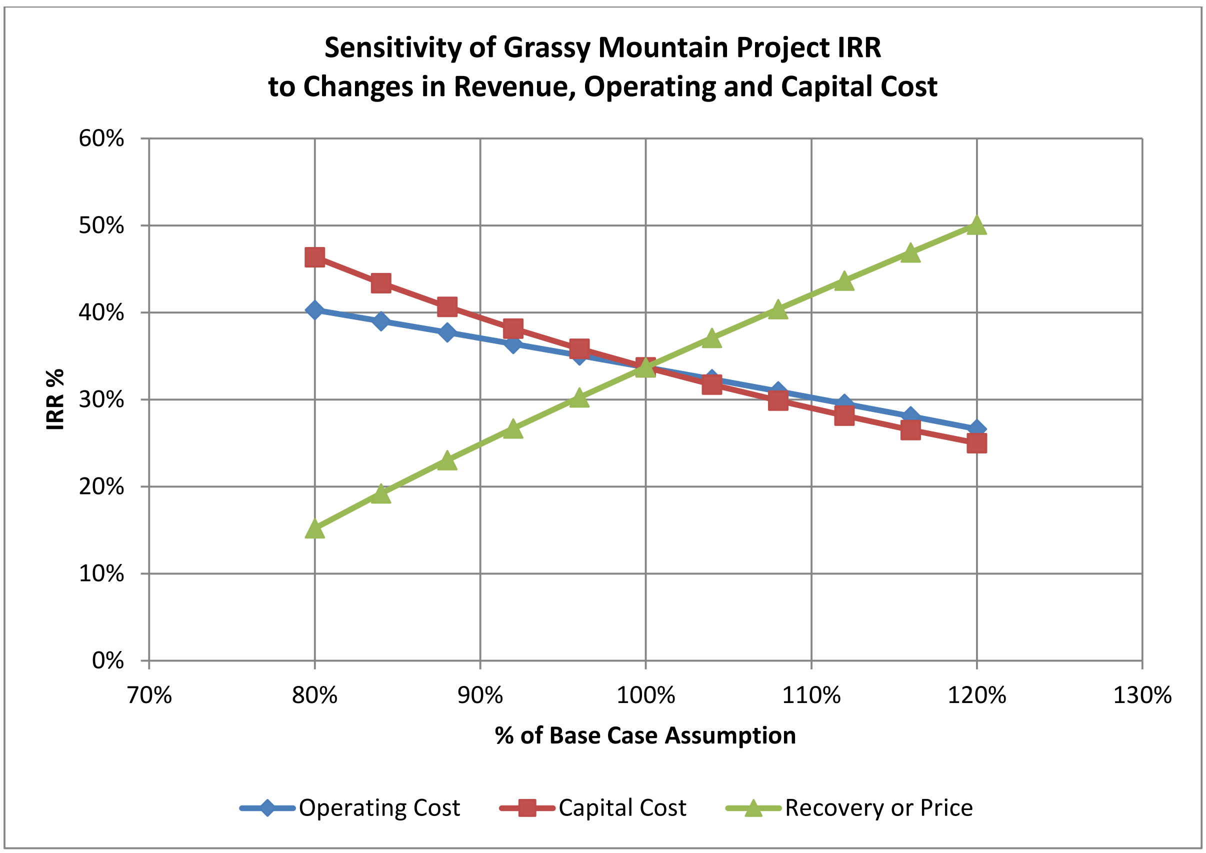


Table 22.6 Sensitivity to Gold Price

Au Price Sensitivity						
Gold Price	Factor	NPV (US$M)				IRR (%)
		10%	7.50%	10%	7.50%	10%
1,560	120%	183.98	212.06	183.98	212.06	183.98
1,508	116%	167.39	193.85	167.39	193.85	167.39
1,456	112%	150.79	175.64	150.79	175.64	150.79
1,404	108%	134.19	157.44	134.19	157.44	134.19
1,352	104%	117.59	139.23	117.59	139.23	117.59
1,300	100%	100.99	121.02	100.99	121.02	100.99
1,248	96%	84.40	102.81	84.40	102.81	84.40
1,196	92%	67.80	84.60	67.80	84.60	67.80
1,144	88%	51.20	66.40	51.20	66.40	51.20
1,092	84%	34.60	48.19	34.60	48.19	34.60
1,040	80%	18.01	29.98	18.01	29.98	18.01

Figure 22.2 Graph of NPV7.5% Sensitivity to Variation of Revenue, Operating Cost and Capital Cost

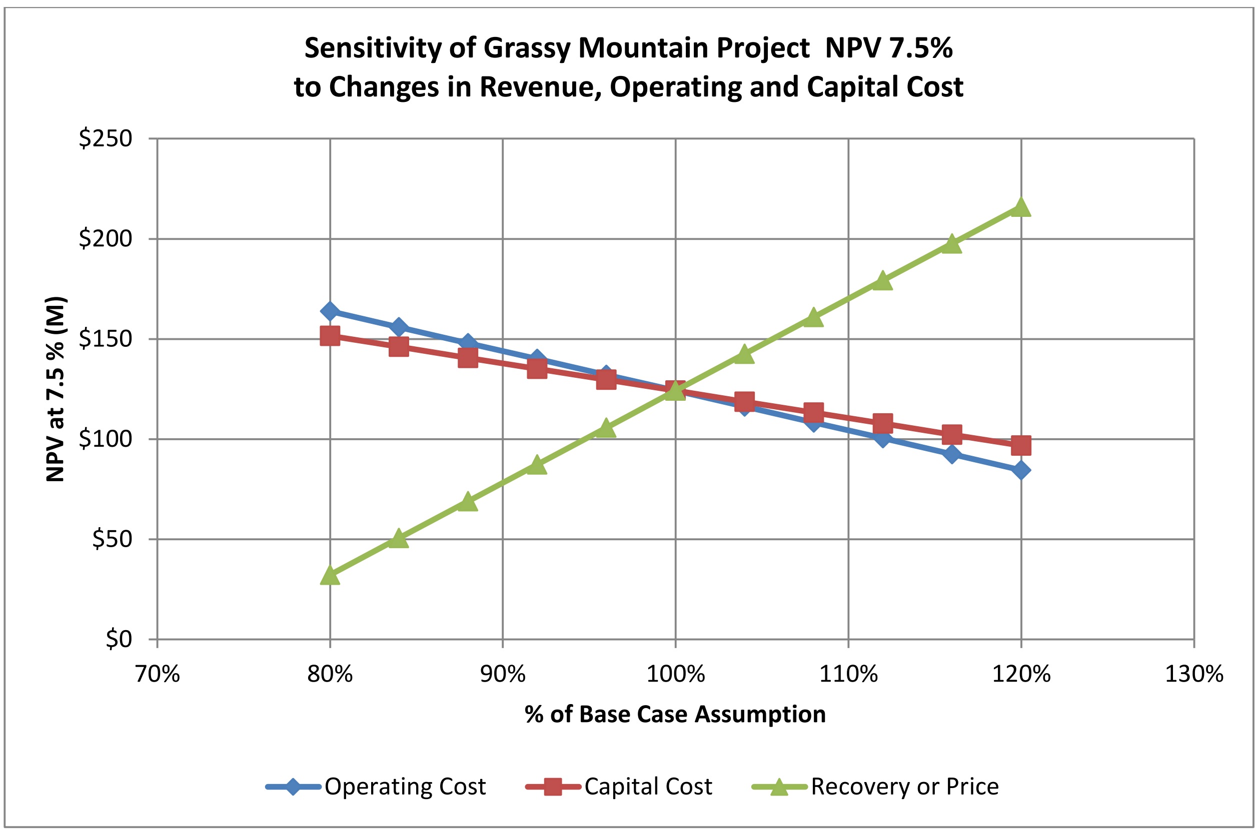


Table 22.7 Sensitivity to Silver Price

Ag Price Sensitivity						
Silver Price	Factor	NPV(US$M)				IRR (%)
		10%	7.50%	**5%**	**Total Cash Flow**	10%
21.00	120%	102.58	122.78	146.18	205.44	32.9%
20.30	116%	102.26	122.43	145.79	204.93	32.9%
19.60	112%	101.94	122.08	145.39	204.41	32.8%
18.90	108%	101.63	121.73	144.99	203.90	32.7%
18.20	104%	101.31	121.37	144.59	203.39	32.7%
17.50	100%	100.99	121.02	144.20	202.88	32.6%
16.80	96%	100.67	120.67	143.80	202.37	32.6%
16.10	92%	100.36	120.31	143.40	201.86	32.5%
15.40	88%	100.04	119.96	143.00	201.35	32.5%
14.70	84%	99.73	119.60	142.61	200.83	32.4%
14.00	80%	99.40	119.25	142.20	200.32	32.3%

23 ADJACENT PROPERTIES

MMC knows of no modern or historic activity associated with adjacent properties that might affect the current exploration program at Grassy Mountain.

24 OTHER RELEVANT DATA AND INFORMATION

The authors are not aware of any additional information or exploration necessary to make the technical report understandable and not misleading.

25 INTERPRETATIONS AND CONCLUSIONS

Calico has invested considerable effort, in the advancement of the Grassy Mountain Project through drilling, permitting, technical and metallurgical evaluations, internally and with the assistance of reputable consulting firms. This evaluation indicates a strong positive performance of a milling facility at the Project at the current metal price environment. The project performance is most sensitive to gold price and gold recovery. Metallurgical data to this point indicates economic extraction of metals is not complicated.

The project economics suggest that this is a project that can be put into production for a capital investment of approximately US $119 million and being paid back within 3 years of startup. Grassy Mountain is a project that warrants a more advanced review than a scoping study. Measured and Indicated Mineralization has been sufficiently identified and should be used as the basis of a Preliminary Feasibility Study.

Potential exists for the discovery of additional mineral resources at exploration target areas identified within the Grassy Mountain claim block.

MMC is of the opinion that the current mineral resource at Grassy Mountain is sufficient to warrant continued planning and effort to explore, permit, and develop the Grassy Mountain Project.

MMC believes there is sufficient data to support a basic geologic model and continuing development of the project. MMC has suggested a development of a decline to the mineral deposit to allow access to a large pilot scale recovery test and determination of other items that are important to the overall cost structure at Grassy Mountain.

MMC and Hardrock Consulting LLC (HRC) are of the opinion that the detailed geologic model described herein, along with the results of the exploration, drilling, and geophysical surveys completed as of October 2014, are sufficient to support preparation of a PFS.

MMC recommends that additional drilling of the main Grassy Mountain deposit be limited to geotechnical drill holes to acquire the necessary data and information to support engineering design and mine planning. This core drilling will also provide core for additional metallurgical work and confirmation of the cost of metals recovery.

26 RECOMMENDATIONS

26.1 PROJECT DEVELOPMENT

MMC recommends that Calico should engage the services of a reputable team in the advancement of the project towards the preliminary feasibility level. The Project represents a resource which includes Measured and Indicated resources. MMC recommends the following plans should be investigated to develop a better knowledge of the deposit economic criteria.

26.1.1 EXPLORATION DECLINE

Calico has completed the PEA, this document, MMC recommends an exploration decline into to allow detailed Metallurgy and Geotechnical testing of the mineralized and waste materials to determine the safest roof and mining design and confirm early estimates of recovery and costs across rock type that carry economic grades

26.1.2 GEOTECHNICAL DRILLING PROGRAM

MMC recommends that additional drilling of the main Grassy Mountain deposit be linked to Geotechnical design requirements and metallurgical work. Geotechnical drilling will enhance existing geotechnical data to allow optimization of the mine design.

MMC agrees with Calico's planned expenses for exploration and development at Grassy Mountain, as summarized below.

Recommended work for the next phase of the project;

- Provide 6-10 geotechnical holes to provide a better understanding of the strength of the rock being mined down the decline. This will provide a better understanding of the strength of the rock materials inside the decline and how much it may cost in the future to develop the rest of the mineral deposit once in production.
    - MMC suggests 4 holes in the decline to provide information within 50 feet of the decline alignment.
    - MMC suggests additional drilling to allow a better understanding of the rock strengths near the decline and within the mineral deposit. This core drilling can also be used to supplement the metallurgical understanding and improve future recoveries, if production in the Grassy Mountain mine is permitted.
- Continue with the permitting of the project, and push to obtain consent of the State of Oregon as this project is perceived by the public to be a safe development for an impoverished area of southeastern Oregon.

26.1.3 METALLURGY AND PROCESS DESIGN

The above mentioned holes would also allow further metallurgical work to be undertaken to fine tune the processing portion of this design report. MMC would also suggest a final pilot scale test to support the processing parameters of this report.

26.1.4 INFRASTRUCTURE

- A transportation study should be considered. This would include recommendations for road enhancement and logistics between the minesite and Vale.

Based on the results of Calico's 2012 exploration program and the results of this study, MMC draws the following conclusions:

MMC proposes the following work plan:

Table 26.1 Proposed Work Plan for Grassy Mountain

Work Program at Grassy Mountain	
Geotechnical Drilling including Met Work	$1,500,000
Exploration Decline	$3,000,000
Permitting and Environmental Costs	$1,500,000
Resource Model/Mine Planning Updates	$200,000
Total	$6,200,000

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