MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES

Technical Report
Relief Canyon Gold Project
Pershing County, Nevada, U.S.A.

Prepared for

Pershing Gold Corporation

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Paul Tietz, C. P. G.
Jack S. McPartland

210 South Rock Blvd.
Reno, Nevada 89502
775-856-5700
FAX: 775-856-6053

CONTENTS

Section *Page*

1.0 EXECUTIVE SUMMARY 1
1.1 Property Description and Ownership 1
1.2 Geology and Mineralization 2
1.3 Exploration and Mining History 3
1.4 Drilling and Sampling 4
1.5 Metallurgical Testing 5
1.6 Mineral Resource Estimation 5
1.7 Conclusions and Recommendations 6

2.0 INTRODUCTION 8
2.1 Project Scope and Terms of Reference 8
2.2 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure 9

3.0 RELIANCE ON OTHER EXPERTS 11

4.0 PROPERTY DESCRIPTION AND LOCATION 12
4.1 Location 12
4.2 Land Area 12
4.3 Agreements and Encumbrances 18
4.3.1 2006 Minerals Lease and Sublease ("2006 Lease Agreement") and Area of Interest 18
4.3.2 Royalties 20
4.4 Environmental Permits and Potential Liabilities 20

5.0 ACCESS; CLIMATE; LOCAL RESOURCES; INFRASTRUCTURE; AND PHYSIOGRAPHY 23
5.1 Access 23
5.2 Climate 23
5.3 Local Resources and Infrastructure 23
5.4 Physiography 24

6.0 HISTORY 26
6.1 History of Exploration and Mining 26
6.2 Historical Mineral Inventory Estimates 31
6.3 2010 Firstgold and 2013-2014 Pershing Gold Mineral Resource Estimates 35

7.0 GEOLOGIC SETTING and mineralization 36
7.1 Geologic Setting 36
7.1.1 Regional Geology 36
7.1.2 Local Geology 40
7.1.3 Property Geology 41
7.2 Mineralization 44

8.0 DEPOSIT TYPE 48

9.0 EXPLORATION 49

10.0 DRILLING 50
10.1 Summary 50
10.2 Historical Drilling 53
10.2.1 Falconi 53
10.2.2 Duval 53
10.2.3 Lacana 53
10.2.4 Santa Fe 54
10.2.5 Pegasus 54
10.2.6 Firstgold 54
10.3 Pershing Gold 55
10.4 Drill-Hole Collar and Down-Hole Surveys 56
10.5 Core Recovery 57

11.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY 59
11.1 Falconi 59
11.2 Duval 59
11.3 Lacana 59
11.4 Santa Fe 60
11.5 Pegasus 61
11.6 Firstgold 61
11.7 Pershing Gold 64
11.8 Reverse-Circulation Sample Contamination 65
11.9 Historical Density Data 65
11.10 Comments 67

12.0 DATA VERIFICATION 68
12.1 Database Audit 68
12.1.1 MDA 2010 Audit of Historical Data 68
12.1.2 MDA 2014 Audit 69
12.1.3 MDA 2015 Audit 69
12.2 Site Visit 70
12.3 Lacana QA/QC Data 70
12.4 Firstgold QA/QC Data 72
12.4.1 Firstgold Analytical Standards 73
12.4.2 Firstgold Check Assays 73
12.4.3 Firstgold Preparation Blanks 74
12.4.4 Firstgold Field Duplicates 74
12.5 Pershing Gold 2011-2012 QA/QC Data 76
12.5.1 Pershing Gold Preparation Blanks 2011-2012 76
12.5.2 Pershing Gold Standards 2011-2012 76
12.5.3 Pershing Gold Pulp Duplicates 2011-2012 77
12.5.4 Pershing Gold Field Duplicates 2011-2012 77

12.5.5 Pershing Gold Check Analyses 2011-2012 77
12.6 Pershing Gold 2013 QA/QC Data 77
12.6.1 Pershing Gold Preparation Blanks 2013 77
12.6.2 Pershing Gold Standards 2013 78
12.6.3 Pershing Gold Pulp Replicates 2013 78
12.7 Pershing Gold 2014 - 2015 QA/QC Data 79
12.7.1 Pershing Gold Preparation Blanks 2014 - 2015 79
12.7.2 Pershing Gold Standards 2014 - 2015 80
12.7.3 Pershing Gold Quarter-Core Field Duplicates 2014 - 2015 80
12.7.4 Pershing Gold Same-Laboratory Replicate Pulps 2014 – 2015 81
12.7.5 Pershing Gold Check Assays 2014 - 2015 82
12.8 Discussion of QA/QC Results 83
12.9 Comparison of Drill Programs 83

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING 85
13.1 Introduction 85
13.2 Metallurgical Testing 85
13.2.1 Lacana Laboratory Testing - 1982 to 1983 87
13.2.1.1 Kappes, Cassiday and Associates – 1983 87
13.2.1.2 Dawson Metallurgical Labs – 1982 to 1983 88
13.2.2 Lacana Pilot Heap-Leach Test Work 88
13.2.3 Pegasus Jasperoid Study – 1987 88
13.2.4 Newgold Testing – 2006 88
13.2.5 Firstgold Testing - 2008 to 2009 89
13.2.5.1 Firstgold 2008 89
13.2.5.2 Firstgold – 2009 89
13.2.6 Pershing Gold Testing – 2011 to 2014 90
13.2.6.1 Pershing Gold - 2011 to 2012 90
13.2.6.2 Pershing Gold – 2014 91
13.2.6.3 Pershing Gold – 2015 100
13.3 Operating Data 102
13.3.1 Lacana Operations 102
13.3.2 Pegasus Operations 102
13.3.3 Newgold Operations 102
13.4 Summary 102

14.0 MINERAL RESOURCE ESTIMATE 105
14.1 Introduction 105
14.2 Resource Data 108
14.3 Deposit Geology Pertinent to Resource Modeling 108
14.4 Geology Modeling 109
14.4.1 Water Table 110
14.4.2 Oxidation 110
14.5 Density 111
14.5.1 Gold Modeling 112
14.6 Resource Estimation 117

14.7 Relief Canyon Mineral Resources....118
14.8 Model Checks....123
14.9 Comments on the Resource Modeling....123

15.0 MINERAL RESERVE ESTIMATE....125

16.0 Mining Methods....126

17.0 Revovery Methods....127

18.0 Project Infrastructure....128

19.0 Market Studies and Contracts....129

20.0 Environmental Studies, Permitting and Social or Community Impact....130

21.0 Capital and Operating Costs....131

22.0 Economic Analysis....132

23.0 ADJACENT PROPERTIES....133

24.0 OTHER RELEVANT DATA AND INFORMATION....134

25.0 INTERPRETATIONS AND CONCLUSIONS....137

26.0 RECOMMENDATIONS....139

27.0 REFERENCES....140

28.0 DATE AND SIGNATURE PAGE....149

TABLES

Table 1.1 Relief Canyon Reported Mineral Resources 6
Table 4.1 Unpatented Mining Claims and Leased Land of the Relief Canyon Property 15
Table 4.2 Unpatented Mining Claims and Fee Land Subleased by Pershing Gold from Newmont 16
Table 4.3 Federal, State, and Local Permits and Authorizations for the Relief Canyon Project 22
Table 6.1 Production at Relief Canyon by Pegasus from 1987 through 1990 29
Table 6.2 Preliminary Calculations of "Inferred Geological Reserves" by Duval and Lacana 31
Table 6.3 Comparison of "Mineable Reserves" Calculations 32
Table 6.4 Comparison of 1985 and 1986 "Ore Reserve" Estimates of Lacana and Pegasus 33
Table 6.5 Relief Canyon "Total Mineable Reserves" Calculated by Pegasus in 1986 33
Table 6.6 1997 Estimate of Relief Canyon "Model-Contained Resources" by IMC 34
Table 6.7 Comparison of Firstgold 1996 and IMC 1997 Historical Estimates 34
Table 6.8 Potential "Minable Resources" for the Relief Canyon Deposit 35
Table 10.1 Relief Canyon Mineral Resource Drill Database Summary 51
Table 11.1 Lacana Density Study 66
Table 11.2 Pegasus Density Study 66
Table 11.3 Tonnage Factors Applied to MDA's 2010 Resource Model 67
Table 12.1 Summary of Results of Firstgold Analytical Standards 73
Table 12.2 Summary of Results of Pershing Gold Analytical Standards 78
Table 12.3 Summary of Results of Pershing Gold Analytical Standards 80
Table 13.1 Summary of Historic Metallurgical Testing Data, ...86
Table 13.2 Bottle Test Results, 100%-10M Feed Size, KCA-2012 90
Table 13.3 Summary of the Lithologies Encountered in the Drilling (RC13-122M to 126M) 91
Table 13.4 Head Analyses, Relief Canyon Drill Core Composites, MLI 2014 Testing 94
Table 13.5 Composite Make-Up, Relief Canyon Master Composite, McClelland – 2014 95
Table 13.6 Summary Results, Bottle Roll Tests, MLI 2014 96
Table 13.7 Summary Results, Column Leach Tests, MLI 2014 Testing, 80%-3/4 Inch 97
Table 13.8 Summary Metallurgical Results, Bottle Roll Tests, ...101
Table 14.1 Descriptive Statistics of Relief Canyon Density Values by Rock Type 111
Table 14.2 Descriptive Statistics of Coded Gold Assays 116
Table 14.3 Relief Canyon Gold Assay Caps 116
Table 14.4 Descriptive Statistics of Relief Canyon Gold Composites 116
Table 14.5 Relief Canyon Search Ellipse Orientations 118
Table 14.6 Summary of Relief Canyon Estimation Parameters 118
Table 14.7 Relief Canyon Classification Parameters 119
Table 14.8 Relief Canyon Reported Mineral Resources 119
Table 14.9 Relief Canyon Mineral Resources 120

FIGURES

Figure 4.1 Location of the Relief Canyon Project....13
Figure 4.2 Relief Canyon Property Map (from Pershing Gold, 2015)....14
Figure 4.3 Detail of Land Holdings in the Vicinity of the Relief Canyon Resource Area....17
Figure 5.1 Infrastructure at the Relief Canyon Property....24
Figure 5.2 Photograph Showing Physiography of Relief Canyon Area....25
Figure 6.1 Photograph of One of the Relief Canyon Pits as of 2008....28
Figure 7.1 Regional Geologic Setting of the Relief Canyon Project....39
Figure 7.2 Generalized Geology of the Relief Canyon Mine Area....42
Figure 7.3 Diagrammatic Lithostructural Section of the Relief Canyon Mine Area....45
Figure 10.1 Relief Canyon Drill-Hole Location Map....52
Figure 10.2 Core Recovery versus Gold Grade - >0.004oz Au/ton....57
Figure 10.3 Core Recovery versus Gold Grade – >0.02oz Au/ton....58
Figure 12.1 Hunter Duplicate-Pulp Analyses Relative to Original Duval Assays....71
Figure 12.2 Monitor Pulp-Duplicate Analyses Relative to Original Duval Assays....72
Figure 12.3 Firstgold ALS Field-Duplicate Analyses Relative to Original ALS Assays....75
Figure 12.4 Firstgold American Assay Field-Duplicate Analyses Relative to Original ALS Assays....76
Figure 12.5 Inspectorate Replicate Analyses Relative to Original Inspectorate Assays....79
Figure 12.6 Quarter-Core Duplicate Analyses– Absolute Relative Difference....81
Figure 12.7 Skyline Replicate Pulp Analyses– Absolute Relative Difference....82
Figure 12.8 Q-Q Plot of Gold Assays by Company....84
Figure 13.1 Plan View of the 2013 Metallurgical Drill-Hole Locations....92
Figure 13.2 Gold Leach Rate Profiles, Column Leach Tests....98
Figure 14.1 Cross Section 15109100 Showing Gold Mineral Domains....114
Figure 14.2 Cross Section 15110950 Showing Gold Mineral Domains....115
Figure 14.3 Cross Section 15109100 Showing Block Model Gold Grades....121
Figure 14.4 Cross Section 15110900 Showing Block Model Gold Grades....122
Figure 24.1 Crushing and Conveyor Systems....134
Figure 24.2 Heap-Leach Pad Design....135
Figure 24.3 Processing Plant Layout....135
Figure 24.4 Interior of Processing Plant....136

1.0 EXECUTIVE SUMMARY

Mine Development Associates ("MDA") has prepared this Technical Report on the Relief Canyon gold project, located in Pershing County, Nevada, at the request of Pershing Gold Corporation ("Pershing Gold"). The Relief Canyon project is owned by Gold Acquisition Corp., a wholly owned subsidiary of Pershing Gold.

The purpose of this Technical Report, with an effective date of June 30, 2015, is to describe an updated mineral resource estimate for the Relief Canyon gold project for Pershing Gold, updating a 2014 resource estimate prepared for Pershing Gold by MDA. Though Pershing Gold is not listed in Canada, MDA prepared this report and the estimates provided herein in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101"), Companion Policy 43-101CP, and Form 43-101F1, as well as with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Definition Standards - For Mineral Resources and Reserves, Definitions and Guidelines" ("CIM Standards") adopted by the CIM Council on May 10, 2014.

The effective date of the mineral resource estimate in this report is June 30, 2015.

1.1 Property Description and Ownership

The Relief Canyon property is located at the southwestern flank of the Humboldt Range in northwestern Nevada, about 16 miles in a direct line east-northeast of Lovelock in Pershing County and about 100 miles northeast of Reno, Nevada. As a result of an Asset Purchase Agreement ("APA") dated January 13, 2015, by and between Pershing Gold and its wholly owned subsidiary Gold Acquisition Corp. ("GAC") as buyer, and Newmont USA Limited ("Newmont"), and the actions taken to effectuate the terms of the APA, the property currently consists of approximately 12,100 acres and includes 391 unpatented lode mining claims, 120 unpatented millsite claims, and approximately 4,373 acres of leased or subleased private mineral rights (fee land). The parcels that comprise the property are owned by Pershing Gold or GAC, or are leased by GAC from New Nevada Resources, LLC ("NNR") and New Nevada Lands, LLC ("NNL"), or are leased or subleased by Pershing Gold from Newmont. Pursuant to the APA, the June 15, 2006 Minerals Lease and Sublease ("2006 Lease Agreement") with Newmont was further amended by the Third Amendment dated January 15, 2015 whereby, among other amended terms: (i) 1,593.60 acres of fee land previously subleased from Newmont, were released from the 2006 Lease Agreement, the prior underlying leases terminated as to those lands, and converted to a new Mining Lease between GAC and NNR and NNL; (ii) 74 unpatented lode mining claims owned by Newmont were released from the 2006 Lease Agreement and conveyed to GAC; and (iii) the area of interest modified to exclude the GAC interests referenced in (i) and (ii) above, as well as other proximal lands owned or controlled by GAC. By the Third Amendment none of the GAC owned mining claims, millsites, or the fee lands directly leased by GAC are subject to the 2006 Lease Agreement. The mineral

210 South Rock Blvd.
Reno, Nevada 89502
775-856-5700
FAX: 775-856-6053

resources discussed by this report are all on GAC owned mining claims or GAC leased fee lands. The 2006 Lease Agreement, as amended, is further discussed in Section 4.3.1 below.

GAC-owned Lode and Millsite Claims, Leased Fee Lands:

The 120 unpatented millsite claims and 254 of the unpatented lode mining claims are owned by GAC. There is a 2% net smelter return ("NSR") royalty payable to either Newmont or Royal Crescent Valley Inc. on 141 of the lode mining claims owned by GAC. GAC leases 1,594 acres of the fee lands directly from NNR and NNL pursuant to Mining Lease NNR # 500135, dated January 6, 2015; these lands are subject to a 2.5% NSR payable to NNR and a 2% NSR payable to Newmont. None of the GAC owned mining claims, millsites, or leased fee lands are subject to the 2006 Lease Agreement. The mineral resources discussed by this report are all on GAC-owned mining claims or GAC-leased fee lands and are not subject to the 2006 Lease Agreement.

Pershing Gold-owned and Leased Lode Claims, Subleased Fee Lands:

Pershing Gold owns or leases 137 unpatented lode mining claims and subleases ~ 2,779 acres of fee lands that remain subject to the 2006 Lease Agreement with Newmont. The 2006 Lease Agreement provides Newmont the option ("Newmont Option") under certain circumstances to enter into a joint venture with Pershing Gold or to convey the property to Pershing Gold and receive a sliding scale three to five percent NSR royalty, and a right to a $1.5 million dollar production bonus payment upon conveyance. With regard to the subleased fee land, there is an offset provision in the event of underlying royalties such that Newmont's three to five percent NSR will be reduced by the underlying royalty, provided that Newmont's royalty shall not be less than two percent. Pershing Gold leases from Newmont 81 of the 137 unpatented lode mining claims that are subject to the 2006 Lease Agreement, and owns the other 56. Pershing Gold's 56 owned claims are made subject to the 2006 Lease Agreement by the Agreement area of interest provision. These claims are subject to the Newmont Option. Pershing Gold subleases Newmont's leasehold rights on approximately 2,779 acres of fee land. Newmont holds these rights under two leases with NNR and NNL: (i) Minerals Lease NNR # 182092, dated August 17, 1987 covering 320 acres, with no underlying royalty; and (ii) Mining Lease NNR # 500136, dated December 31, 2014 covering approximately 2,459 acres, with a 2.5% underlying NSR payable to NNR. These subleased fee lands are subject to the Newmont Option.

1.2 Geology and Mineralization

The Relief Canyon property is located on the western flank of the southern Humboldt Range, one of the generally north-trending fault-bounded ranges of the Basin and Range physiographic province. The oldest rocks exposed in the range are mafic and silicic volcanic rocks of the arc-related Lower Triassic Koipato Group, which are overlain by marine carbonate rocks of the Middle to Late Triassic Star Peak Group. The Cane Spring Formation lies at the top of the Star Peak Group and hosts the gold mineralization modeled by MDA at Relief Canyon. Overlying the Star Peak Group is a fluvial-deltaic system called the Auld Lang Syne Group, of which the basal Grass Valley Formation overlies the gold mineralization at Relief Canyon.

During Middle Jurassic to Middle Cretaceous time, east-directed folding and thrusting, as well as metamorphism to at least greenschist facies, affected the Mesozoic carbonate and deltaic sedimentary

rocks of the Relief Canyon area. Isolated remnants of Miocene basaltic and rhyolitic volcanic rocks in the southern Humboldt Range attest to Tertiary volcanism. Cenozoic northeast and north-northwest-trending normal faults are present on the property.

Mesozoic tectonostratigraphy in the vicinity of the Relief Canyon mine consists chiefly of a metamorphosed footwall mafic volcanic package; a metamorphosed, foliated, and highly deformed carbonate-dominant package with intercalations of conglomerate and mafic volcanic rocks; a tectonically thickened, thick-bedded to massive limestone unit; and a tectonically thickened package of siliclastic rocks of the Late Triassic Grass Valley Formation. Altered feldspar porphyry dikes and sills and dikes of gabbro are found in the Relief Canyon mine area. Gold mineralization occurs in both the foliated carbonate package and the thick-bedded limestone unit and is spatially correlated with the contacts of the gabbro intrusions.

Gold mineralization at the Relief Canyon mine is primarily found in three mineral zones that are structurally controlled and characterized by distinctive host rocks. From structurally lowest to highest, the zones are the Jasperoid Zone, the Lower Zone, and the Main Zone. Quartz-illite+fluorite+kaolinite alteration is associated with gold mineralization in all three of these mineral zones.

The modeled Relief Canyon gold mineralization of the Main Zone lies primarily within an envelope of breccia that lies immediately below the Grass Valley Formation. Within the project area, the contact between the Grass Valley Formation and underlying Cane Spring Formation (formerly the Natchez Pass Formation), as well as the mineralized breccia horizon lying between the two units, forms a broad, northeast-trending antiform that plunges about 10° to the southwest. The thickest portions of the breccia, as well as the associated mineralization, lie primarily along the broad crest of the antiform, and the breccia and accompanying mineralization thins and pinches out down dip on the northwest limb and is very thin to nonexistent on the southeast limb. Locally, the breccia-hosted mineralization extends a short distance (usually less than 10 feet) into the overlying Grass Valley Formation.

1.3 Exploration and Mining History

Relief Canyon lies in the Relief-Antelope Springs mining district, which had antimony, silver, and mercury production and fluorite prospecting dating back to the late 1800s. The property was staked in 1978 for high-purity limestone by Falconi Cement Inc. ("Falconi"), who drilled one core hole to test the quality of the limestone. Gold was not identified in the area until 1979, when a regional precious metals prospecting program by the Duval Corporation ("Duval") generated anomalies in the area. Drilling by Duval in 1981 and 1982 confirmed the presence of a low-grade zone of gold.

Lacana Mining Inc. ("Lacana") purchased the property from Duval in 1982. After drilling 204 reverse circulation holes and undertaking pilot-scale heap-leach test work, Lacana opened the Relief Canyon open-pit gold mine in September 1984, only to close it in October 1985 due to poor gold recoveries. Various sources report that from 1984 to 1985 Lacana produced about 14,000 ounces of gold from heap-leach processing of run-of-mine ore. Southern Pacific Land Company (later Santa Fe Pacific Corp.; "Santa Fe") owned property adjacent to the deposit, participated with Lacana in the pilot-scale metallurgical program, and drilled 147 reverse circulation holes on their property to test for continuation of the mineralization.

In 1986, Pegasus Gold Corp. ("Pegasus") purchased the property from Lacana and re-opened the mine in October 1987. Mining ceased in 1989 after having extracted material from three open pits. Production by Pegasus from the Relief Canyon mine is variously reported to be approximately 117,000 ounces.

J. D. Welsh and Associates of Reno, Nevada ("Welsh") purchased the property from Pegasus in September 1993 and reportedly produced several thousand ounces of gold by continuing to rinse the existing heaps.

Newgold, Inc., which later changed its name to Firstgold Corporation (collectively "Firstgold"), purchased the Relief Canyon property from Welsh in January 1995. In the first year, Firstgold processed pregnant pond solution until July 1995.

Through April 1997, Firstgold drilled 73 reverse circulation holes to examine the areas north, west, and southwest of the old pits for continuation of mineralization. The property was apparently then idle until 2003. In 2006, a ground magnetic survey was conducted. Subsequent exploration by Firstgold focused on the potential for mineralization between the existing pits and to the north and northwest. A total of 105 reverse circulation holes and four core holes were completed at Relief Canyon by Firstgold in 2007 and 2008.

Firstgold redeveloped and reconstructed the Relief Canyon heap-leach processing facilities in 2007 and 2008. They attempted to reprocess some of the previously leached material in late 2008 and early 2009 but shut the project down within a few months. In January 2010, Firstgold filed for bankruptcy protection.

Platinum Long Term Growth LLC acquired the Relief Canyon assets, from whom Pershing Gold acquired the Relief Canyon project on August 30, 2011. Since acquiring the project, Pershing Gold has conducted geologic mapping, rock and soil sampling for geochemical analysis, and geophysical surveying. In addition, Pershing Gold has drilled 215 core and 89 reverse circulation holes to expand the resource and to develop and test targets away from the historical pits.

1.4 Drilling and Sampling

Falconi, Duval, Lacana, Pegasus, Santa Fe, Firstgold, and Pershing Gold all drilled at the Relief Canyon property. No information on the single core hole drilled by Falconi in 1978 is included in the database. The database used for the resource estimate described in this report includes 219 core holes and 676 reverse circulation holes for a total of 375,447 feet, of which 215 core holes and 89 reverse circulation holes were drilled by Pershing Gold from 2011 to 2013. Pershing Gold is continuing to drill the Relief Canyon project. The current drilling by Pershing Gold, which started in late spring 2015, have not been included in the database and are not used in the updated mineral resource estimate described herein, which is based on the drill database through February 2015.

Lacana and Santa Fe reported different experiences with drill-hole sampling of the mineralized breccia. Nearly all of the Lacana samples in the breccia were collected by dry drilling methods, as the breccia was intersected above the water table, and they made an effort to mitigate and quantify any effects of contamination. To the west, Santa Fe drilled deeper and encountered heavy formational water flows in

the breccia, and their early sampling procedures allowed fine, clay-sized material to overflow the sampling bucket. Santa Fe revised its sampling procedures to improve collection of the fines, and comparison of the two types of sampling procedures by Santa Fe showed average increases of 8% to 19% in the gold values for intervals for which the fines were caught. Drill logs suggest that most holes by other operators drilled the breccia dry when it was intersected above the water table.

The drill data suggest that down-hole contamination of gold values occurred in some portion of the pre-Pershing Gold reverse circulation drill-hole-sample database for drill-hole intervals below the water table. This issue was mitigated to a significant extent in the North area resource modeling by the exclusion of suspect intervals and the reliance on the recent Pershing Gold core drill program. MDA feels that the procedures used in the resource modeling have minimized the effects of potentially contaminated intervals and the risk to the resource estimate is considered low.

1.5 Metallurgical Testing

The Relief Canyon project contains a predominantly oxidized to partially oxidized gold mineral resource that metallurgical testing and historical mining experience indicate is amenable to cyanide heap-leach processing. Multiple metallurgical studies were completed by Lacana in 1983 and 1984 that concluded with a pilot-scale heap-leach test. Lacana attempted to operate the mine without crushing and reportedly had recoveries in the range of 45 to 50 percent. Pegasus conducted additional test work and chose to crush and agglomerate the ore, which resulted in average gold recoveries in the range of 65 to 70 percent.

Recent metallurgical test work by Firstgold and Pershing Gold confirms potential recoveries in excess of 65 percent for crushed and agglomerated ore. The most recent study completed in 2014 by McClelland Laboratories, Inc. for Pershing Gold included seven column tests with recoveries as high as 91 percent. All columns showed gold recovery in excess of 65 percent except for one rock type. This rock type, a limestone breccia with low cyanide solubility ("LSBXL"), comprises a small part of the mineral resource volumetrically and shows lower recoveries of gold overall. Two composite columns, which were blended to include the appropriate proportion of LSBXL in the deposit, showed gold recoveries of 79 and 82 percent. Continued testing, including metallurgical samples from the Lower and Jasperoid zones within the North area, is ongoing in 2015.

Historical recoveries as well as recent test work indicate that the Relief Canyon resource is amenable to cyanide heap-leach processing.

1.6 Mineral Resource Estimation

The mineral resources at Relief Canyon were modeled and estimated by evaluating the drill data statistically, utilizing the geologic interpretations provided by Pershing Gold to interpret mineral domains on cross sections spaced at 50-foot intervals, rectifying the mineral-domain interpretations on long sections spaced at 10-foot intervals, analyzing the modeled mineralization geostatistically to establish estimation parameters, and estimating grades into a three-dimensional block model. All modeling of the Relief Canyon resources was performed using GEOVIA Surpac™ mining software.

The Relief Canyon reported gold resources are presented in Table 1.1.

Table 1.1 Relief Canyon Reported Mineral Resources

Class	Cutoff (oz Au/ton)	Tons	oz Au/ton	oz Au
Measured-Oxide	0.005	12,182,000	0.024	290,000
Indicated-Oxide	0.005	24,736,000	0.017	426,000
Indicated-Sulfide	0.020	417,000	0.054	23,000
Indicated-Total	variable	25,153,000	0.018	449,000
Meas. + Ind Total	variable	37,335,000	0.020	739,000
Inferred-Oxide	0.005	6,928,000	0.010	70,000
Inferred-Sulfide	0.020	2,000	0.025	40
Inferred-Total	variable	6,930,000	0.010	70,000

Note: rounding may cause apparent inconsistencies

The Relief Canyon mineral resources are reported using a cutoff grade of 0.005 oz Au/ton for oxide/mixed material and 0.02 oz Au/ton for sulfide material. The oxide/mixed cutoff was chosen to capture mineralization potentially available to open-pit extraction and heap-leach processing, while the sulfide cut-off was chosen to reflect the potentially higher costs associated with sulfide processing. The Inferred oxide resource total in Table 1.1 includes a dump/stockpile resource of 25,000 ounces gold at a 0.007oz Au/ton average gold grade. The block-diluted resources are also tabulated at additional cutoffs in order to provide grade-distribution information, as well as to provide for economic conditions other than those envisioned by the 0.005 oz Au/ton cutoff.

Measured resources are restricted to Pershing Gold's core holes due to the general lack of QA/QC data that could be used for verification purposes for the historical reverse circulation drilling database and to some uncertainties in the reverse-circulation-based geologic interpretations.

1.7 Conclusions and Recommendations

MDA has reviewed the project data and the Relief Canyon drill-hole database and has visited the project site. MDA believes that the data presented by Pershing Gold are generally an accurate and reasonable representation of the Relief Canyon gold project and adequately support the mineral resources reported herein. The mineral resource estimate is based on drilling through February 2015. Additional holes drilled by Pershing Gold in 2015 have not been included in this estimate.

The Relief Canyon gold project is a project of merit that deserves additional drilling and metallurgical testing.

Continued developmental core drilling is recommended in order to:

- better define geologic controls of the mineralization;

- identify oxide-sulfide zonation with respect to cyanide gold recovery;
- better identify high clay areas within the Main Zone; and
- target extensions of the current resource.

A flexible 2015 drill program of approximately 75,000 feet of drilling is recommended to complete the above tasks. Upon drilling completion, an updated mineral resource estimate is also recommended at a cost of approximately $100,000. And lastly, a a preliminary economic assessment ("PEA") is recommended that incorporates drill results through February 2015. This PEA can be updated in early 2016 with all drill results completed during the latest program. The estimated cost, including the accompanying technical reports, is approximately $4.7 million.

The following additional metallurgical testing should be completed as necessary to support future mine planning:

- Mineralogical characterization of the major ore type in the Main Zone metallurgical composites (in progress). Estimated cost for this work is approximately $5,000;
- Detailed mineralogical characterization and metallurgical testing on the limestone-breccia (low cyanide solubility) ore type material to determine the causes for the low cyanidation gold recoveries exhibited by that material if this material is to be put on the heaps. (in progress) Estimated cost for this work is approximately $6,000;
- Agglomeration optimization for the high-clay ores, with subsequent column leach testing and hydraulic conductivity testing to confirm permeability of the leached agglomerates under simulated heap stack height compressive loadings if ore-blending plans are not adequate for dealing with high-clay-content ores (in progress). Estimated costs for this work are $20,000;
- Ore variability bottle roll testing. Estimated cost for this work is $15,000;
- Column leach testing on production schedule drill-core composites, considering only practical mineable thicknesses and likely ore scheduling. Estimated costs for this work are approximately $60,000; and
- Column leach testing on drill core composites from the Lower Zone and the Jasperoid Zone of the deposit that are included in the resource but are outside of the "Main Zone" ore zone (in progress). Estimated cost for this work is approximately $170,000.
- Column leach testing on a bulk sample of ROM, 3 inch, -1.5 inch and 0.75 inch size fractions (in progress). Estimated cost for this work approximately $50,000.

The estimated cost of these recommendations is approximately $5.3 million.

2.0 INTRODUCTION

Mine Development Associates ("MDA") has prepared this Technical Report on the Relief Canyon gold project, located in Pershing County, Nevada, at the request of Pershing Gold Corporation ("Pershing Gold"). Pershing Gold is a Nevada corporation. The Relief Canyon project is owned by Gold Acquisition Corp. ("GAC"), a wholly owned subsidiary of Pershing Gold. Throughout this report, with the exception of Section 4.0, "Pershing Gold" will refer to both Gold Acquisition Corp. and Pershing Gold Corporation.

The purpose of this report is to describe an updated mineral resource estimate of the Relief Canyon gold project for Pershing Gold that includes Pershing Gold's 2014 drilling. MDA. prepared the previous resource estimate for Pershing Gold in 2014 (Tietz and McPartland, 2014). Subsequent drilling by Pershing Gold in 2015 has not been included in the database used for the current mineral resource estimate.

MDA has prepared this report and the estimates provided herein in accordance with the disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101"), Companion Policy 43-101CP, and Form 43-101F1, as well as with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Definition Standards - For Mineral Resources and Reserves, Definitions and Guidelines" ("CIM Standards") adopted by the CIM Council on May 10, 2014. Because Pershing Gold is not a Canadian corporation and is not listed in Canada, there has been no trigger requiring a Technical Report in accordance with NI 43-101.

The effective date of this report is June 30, 2015 unless otherwise stated. The effective date of the mineral resource estimate is also June 30, 2015.

2.1 Project Scope and Terms of Reference

The purpose of this report is to provide a technical summary of the Relief Canyon project in support of an updated mineral resource estimate prepared by MDA. The mineral resources were estimated and classified under the supervision of Paul Tietz, C.P.G. and Senior Geologist for MDA; no mineral reserves were estimated. There is no affiliation between Mr. Tietz and Pershing Gold except that of an independent consultant/client relationship.

Section 13.0 on Mineral Processing and Metallurgical Testing was prepared by Jack McPartland, Vice President of Operations for McClelland Laboratories, Inc. and a Qualified Professional Member of the Mining and Metallurgical Society of America with special expertise in Metallurgy and Processing. There is no affiliation between Mr. McPartland and Pershing Gold except that of an independent consultant/client relationship.

Sections 7 and 8 have benefitted from the addition of considerable updated information and new interpretations provided by Douglas Prihar, Manager of Exploration for Pershing Gold, based on the exploration efforts of the geologic staff of Pershing Gold.

The scope of this study included a review of pertinent technical reports and data provided to MDA by Pershing Gold relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. MDA has relied on the data and information provided by Pershing Gold for the completion of this report, including the supporting data for the estimation of the mineral resources. In compiling the background information for this report, MDA used a 1996 review of the project by Watts, Griffis and McOuat Ltd. (Fernette *et al.*, 1996), a 2007 technical report prepared by John Mears, a 2013 technical report prepared by RPA Inc. (Evans and Altman, 2013), a 2014 report prepared by MDA (Tietz and McPartland, 2014), and other references as cited in Section 27.0. MDA prepared a previous technical report on the project for the prior operator in 2010 (Gustin, 2010). Based on the extensive work on the property by previous operators, including mining by two well-known companies, MDA presumes that there is a considerable body of information that has been developed over the years, although only those references cited in Section 27.0 were available for review by MDA.

Mr. Tietz conducted a site visit on October 17 and 18, 2013 and January 15, 2015. The project geology was reviewed, which included: a) a field tour of the deposit area; b) visual inspection of core holes; and c) a thorough review of the geologic cross-sections prepared by Pershing Gold. Drill-site and mineralization verification procedures were conducted, and core drilling/sampling procedures were appraised.

The authors have made such independent investigations as deemed necessary in the professional judgment of the authors to be able to reasonably present the conclusions discussed herein, and MDA believes that the data provided by Pershing Gold are generally an accurate and reasonable representation of the Relief Canyon gold project.

2.2 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure

In this report, measurements are generally reported in Imperial units. Where information was originally reported in metric units, MDA has made conversions according to the formulas shown below; discrepancies may result in slight variations from the original data in some cases.

Linear Measure

1 centimeter	= 0.3937 inch	
1 meter	= 3.2808 feet	= 1.0936 yard
1 kilometer	= 0.6214 mile	

Area Measure

1 hectare	= 2.471 acres	= 0.0039 square mile

Capacity Measure (liquid)

1 liter	= 0.2642 US gallons

Weight

1 tonne	= 1.1023 short tons	= 2,205 pounds
1 kilogram	= 2.205 pounds	

Currency Unless otherwise indicated, all references to dollars ($) in this report refer to currency of the United States.

Acronyms and abbreviations that appear in report:

AA	atomic absorption spectrometry
ADR	adsorption-desorption recovery
Ag	silver
Au	gold
BLM	United States Department of the Interior, Bureau of Land Management
core	diamond core-drilling method
g Au/t	grams of gold per metric tonne
ICP	inductively coupled plasma analytical method
lb(s)	pound/pounds
Lph/m^2	liters per hour per square meter
NSR	net smelter return
oz Au/ton	ounces of gold per short ton
QA/QC	quality assurance and quality control
RQD	rock-quality designation

3.0 RELIANCE ON OTHER EXPERTS

The authors are not experts in legal matters, such as the assessment of the legal validity of mining claims, private lands, mineral rights, and property agreements. The authors did not conduct any investigations of the environmental or social-economic issues associated with the Relief Canyon project, and the authors are not experts with respect to these issues.

The authors have relied on Pershing Gold to provide all information concerning the legal status of Pershing Gold Corporation, as well as current legal title, material terms of all agreements, existence of applicable royalty obligations, and material environmental and permitting information that pertain to the Relief Canyon property. Sections 4.2 and 0 in their entirety are based on information provided by Pershing Gold, including 2013 title opinions (Thompson, 2013a, 2013b, 2013c, and 2013d), as updated in 2014 and 2015 by Faillers (2014a, 2014b, 2015a, 2015b), and the 2013 technical report by RPA Inc. (Evans and Altman, 2013). Section 4.4 on Environmental Permitting and Potential Liabilities was prepared by Debra W. Struhsacker, Senior Vice President of Pershing Gold and an expert on environmental and permitting issues. The authors offer no professional opinions with respect to the provided information.

4.0 PROPERTY DESCRIPTION AND LOCATION

The authors are not experts in land, legal, environmental, and permitting matters. The information presented in this Section 4 is based entirely on information provided to MDA by Pershing Gold, including 2013 title opinions (Thompson, 2013a, 2013b, 2013c, and 2013d), as updated in 2014 and 2015 by Faillers (2014a, 2014b, 2015a, 2015b), and the 2013 technical report by RPA Inc. (Evans and Altman, 2013).

MDA presents this information in this Section in the interest of full disclosure but expresses no opinion regarding the legal or environmental status of the Relief Canyon property or any of the agreements and encumbrances related to the property.

4.1 Location

The Relief Canyon property is located at the southwestern flank of the Humboldt Range in northwestern Nevada, about 16 miles in a direct line east-northeast of Lovelock, in Pershing County, and about 100 miles northeast of Reno, Nevada (Figure 4.1). The center of the Relief Canyon property is located at approximately 40° 12’ 15” North latitude and 118° 10’ 13” West longitude. The property area is within the Lovelock 1:250,000 and Buffalo Mountain 1:50,000 scale topographic maps.

4.2 Land Area

As a result of an Asset Purchase Agreement (“APA”) dated January 13, 2015, by and between Pershing Gold and its wholly owned subsidiary Gold Acquisition Corp. (“GAC”) as buyer, and Newmont USA Limited (“Newmont”), and the actions taken to effectuate the terms of the APA, the Relief Canyon property currently consists of approximately 12,100 acres and includes a total of 391 unpatented lode mining claims, 120 unpatented millsite claims, and approximately 4,373 acres of fee land (Figure 4.2). The parcels that comprise the property are owned by Pershing Gold or their wholly owned subsidiary GAC, or are leased by GAC from New Nevada Resources, LLC (“NNR”) and New Nevada Lands, LLC (“NNL”), or are leased or subleased by Pershing Gold from Newmont. The Relief Canyon property is comprised of:

GAC-owned Lode and Millsite Claims and Leased Fee Land that is *not* subject to the 2006 Minerals Lease and Sublease Agreement between Victoria Resources (US) Inc. (“Victoria Resources”) and Newmont (“2006 Lease Agreement”), which is described in Section 4.3.1:

- 254 unpatented lode mining claims are owned by GAC and cover approximately 4,693 acres in Sections 3, 4, 9, 10, 14, 15, 16, 18, 20, and 30, Township 27 North, Range 34 East MDM and Section 12, Township 27 North, Range 33 East MDM;
- 120 unpatented millsite claims owned by GAC covering approximately 592 acres in Section 18, Township 27 North, Range 34 East, MDM; and
- 1,594 acres of the fee land in Sections 17, 19, and 21, T27N R34E, MDM, that GAC leases directly from NNR and NNL pursuant to a Mining Lease (NNR # 500135) dated January 6, 2015.

Figure 4.1 Location of the Relief Canyon Project

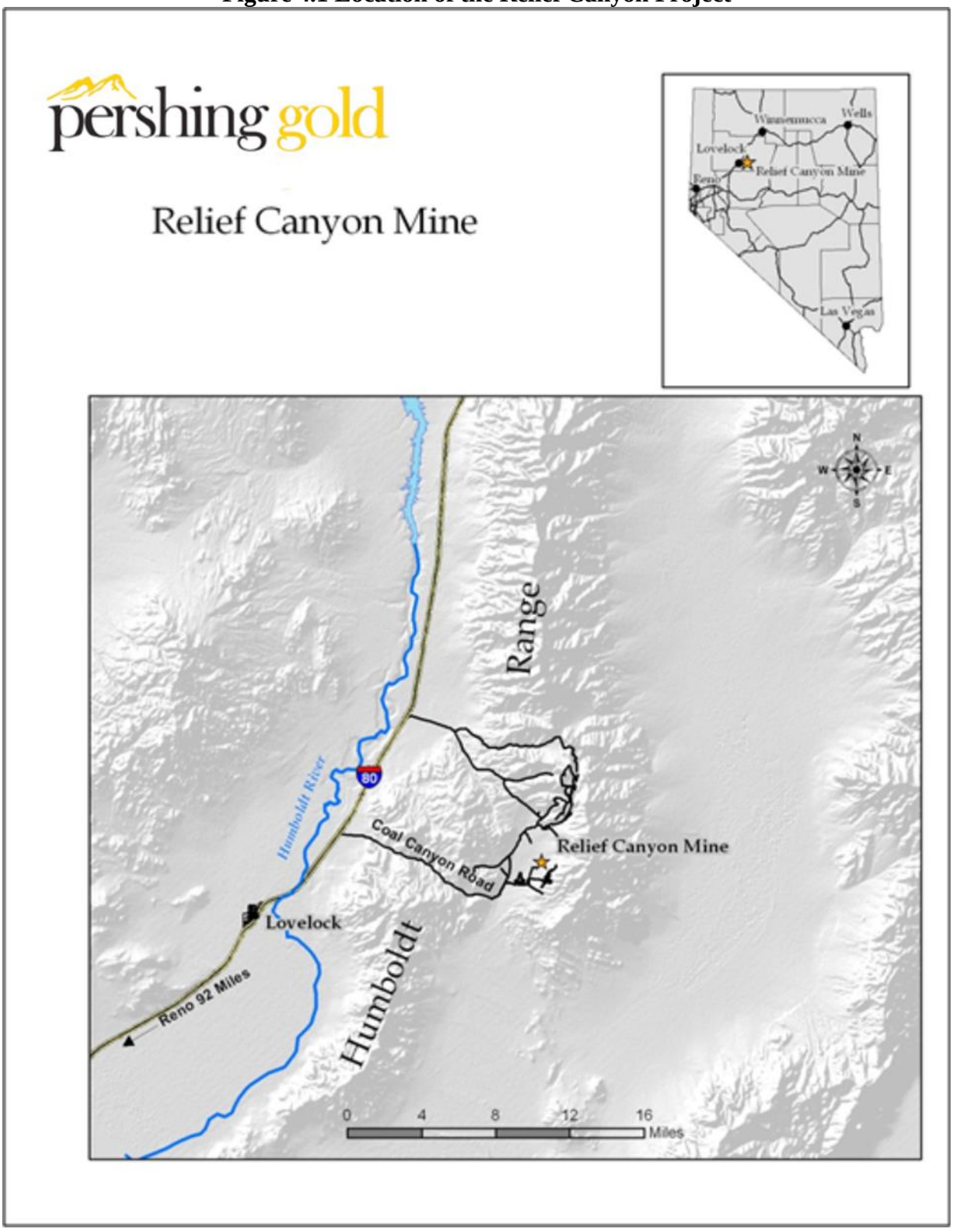
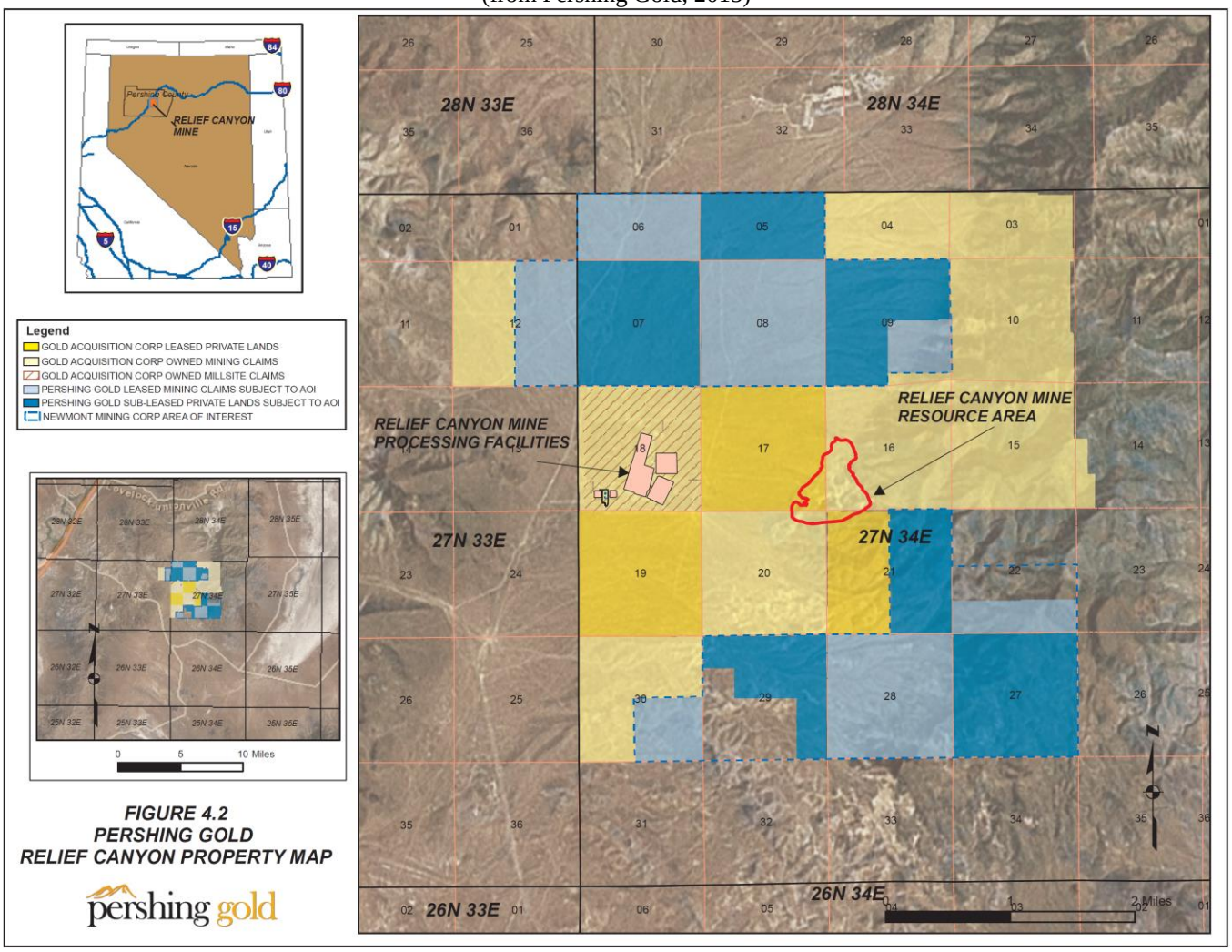


Figure 4.2 Relief Canyon Property Map
(from Pershing Gold, 2015)



Pershing Gold-owned or controlled Lode Claims and Subleased Fee Lands that *are* subject to the 2006 Lease Agreement between Victoria Resources and Newmont:

- 137 unpatented lode mining claims (56 claims owned by Pershing Gold and 81 claims leased from Newmont) covering approximately 2,442 acres in Sections 6, 8, 9, 22, 28, and 30 Township 27 North, Range 34 East, MDM; and Section 12, Township 27 North, Range 33 East, MDM; and
- One Minerals Lease and one Mining Lease covering approximately 2,779 acres of fee land in Sections 5, 7, 9, 21, 27, and 29, Township 27 North, Range 34 East, MDM;

The mineral resources discussed in this report are all within GAC owned mining claims or GAC leased fee lands. Table 4.1 lists the 254 lode mining claims and 120 millsites owned by GAC, and describes the 1,594 acres of fee land leased directly by GAC from NNR (not subject to the 2006 Lease Agreement). Table 4.2 provides additional information about the fee land subleased from Newmont. Figure 4.3 shows the portion of the property discussed in detail in this report.

Table 4.1 Unpatented Mining Claims and Leased Land of the Relief Canyon Property

(***not*** Subject to the 2006 Lease Agreement)

Claims	BLM Serial Nos.	County Recording	Count	Royalty
PF 63-109 lode claims PF 125-147 lode claims PF 152-155 lode claims	802860 - 802906 802922 - 802944 802949 - 802952	222734 - 222780 222796 - 222818 222823 - 222826	74	2.0% NSR – Newmont[1]
R 1 - 4 lode claims	902710 - 902713	243962 - 243965	4	2.0% NSR – RCVI[2]
RCL 60-63 lode claims	902722 - 902725	243974 - 243977	4	2.0% NSR – RCVI[2]
RC 1-57 millsite claims	902731 - 902787	243985 - 244041	57	RCVI[2] n/a - millsites
NGR 1-5 lode claims	929649 - 929653	249316 - 249320	5	2.0% NSR – RCVI[2]
RM 1-63 millsite claims	929654 - 929716	249321 - 249383	63	RCVI[2] n/a - millsites
NRC 1-5, 7-17 lode claims	947420 - 947435	354339 - 354354	16	2.0% NSR – Newmont[1]
Bobcat 1-30 lode claims	969360 - 969389 amended	357884 – 357913 492051 – 492080	30	2.0% NSR – RCVI[2]
RCD 5 lode claim	1036656 amended	470991 482546	1	2.0% NSR – RCVI[2]
DROR 181-206 lode claims	1073954 - 1073979	480004 - 480029	26	none
NGAC 1-87 lode claims	1078563 - 1078649	481355 - 481442	87	none
RCLR 46 – 50 lode claims	1082910 - 1082914	482538 - 482542	5	2.0% NSR – RCVI[2]
RR 6 lode claim	1082915	482543	1	2.0% NSR – RCVI[2]
RCDR 1 lode claim	1082916	482544	1	2.0% NSR – RCVI[2]
Total Unpatented Lode/Millsite Claims Owned By GAC			374	

Mining Lease NNR 500135 dated January 6, 2015, by and between NNR and NNL, collectively as Owners, and GAC, as Lessee, concerning the following property:

T. 27 N., R. 34 E., MDM, Pershing County, Nevada (1,593.60 acres):

Section 17: All
Section 19: Lots 1-4, E1/2W1/2, E1/2 (All)
Section 21: W1/2

Primary term of 20 years from the effective date of lease and continuing as long thereafter as any mining, development (which includes exploration or development drilling), or processing operations are being conducted on the leased premises. Annual Advance Royalty ("AMR") payments of one dollar per acre (escalates on 5th anniversary) are required to maintain the lease. AMR payments are current to the 1st anniversary date January 6, 2016.

Royalty: 2.5% NSR payable to NNR pursuant to Mining Lease 500135, and

2.0% NSR – Newmont[1]

[1] *– 2.0% NSR payable to Newmont USA Limited pursuant to Royalty Deed dated January 15, 2015.*

[2] *– 2.0% NSR payable to Royal Crescent Valley Inc. pursuant to Amended & Restated Net Smelter Return Royalty Agreement dated August 24, 2011, as amended February 13, 2013.*

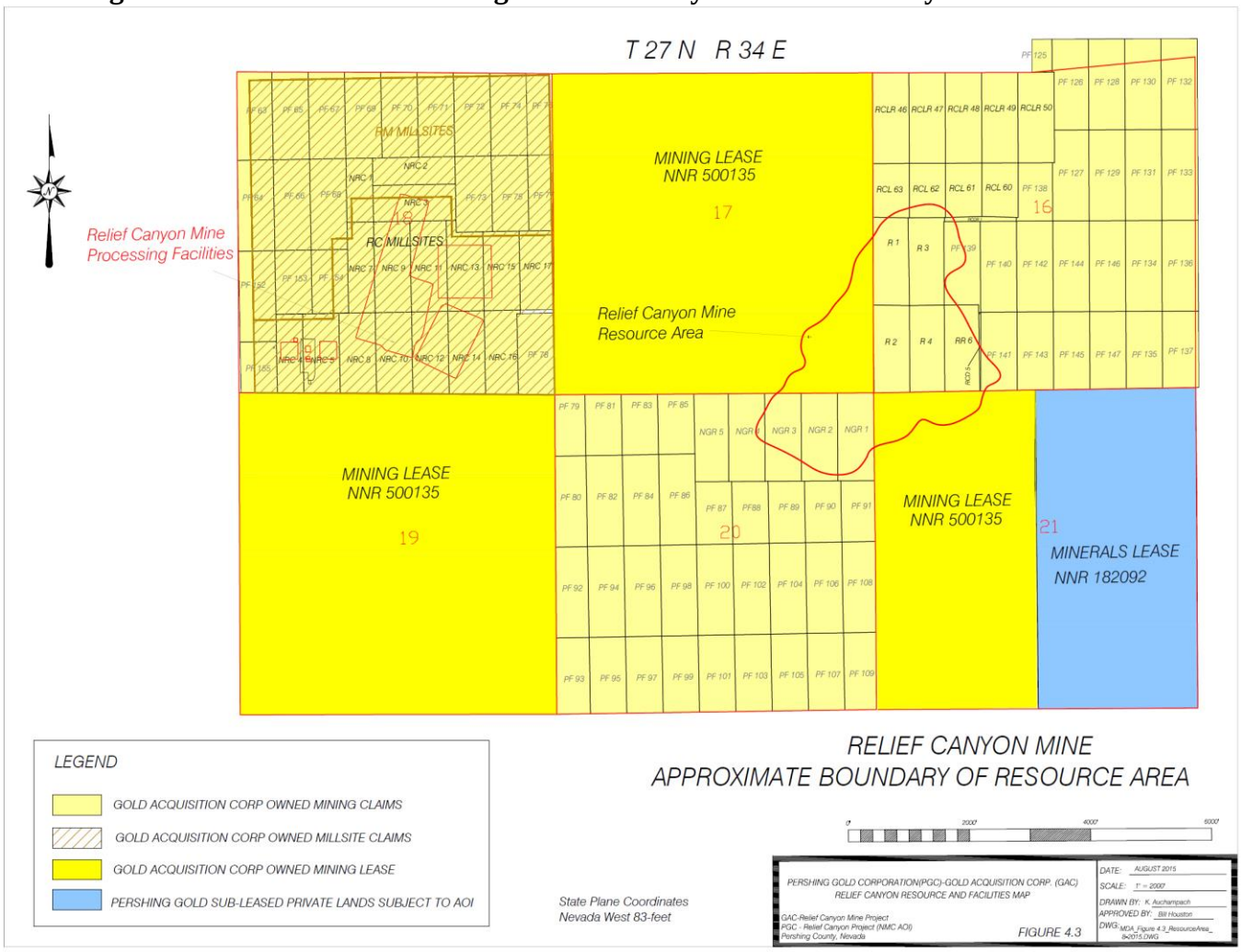
Table 4.2 Unpatented Mining Claims and Fee Land Subleased by Pershing Gold from Newmont

Claims	BLM Serial Nos.	County Recording	Count	Royalty
PF 1- 62 lode claims, leased PF 110 - 124 lode claims, leased PF 148 - 151 lode claims, leased Note PF 1 – 18 amended	802798 - 802859 802907 - 802921 802945 - 802948 -	222672 - 222733 222781 - 222795 222819 – 222822 492032 - 492049	81	Newmont Option[3]
GVA 1-36 lode claims, owned	939692 - 939727	352199 - 352234	36	Newmont Option[3]
TASK 63 - 72 lode claims, owned	940156 - 940165	351937 - 351946	10	Newmont Option[3]
NPGC 1-10 lode claims, owned	1078553 - 1078562	481344 - 481353	10	Newmont Option[3]
Total Claims Owned or Controlled by Pershing Gold Subject to 2006 Lease Agreement			137	
2,778 acres of Fee Land Subleased by Pershing Gold from Newmont Subject to the 2006 Lease Agreement				
Lease A (320 acres): Minerals Lease NNR # 182092 dated August 17, 1987, by and between NNR and NNL, as successors-in-interest to Southern Pacific Land Company, and Newmont, successor-in-interest to Santa Fe Pacific Minerals, and subleased by Pershing Gold pursuant to the 2006 Lease Agreement, concerning the following property: T. 27 N., R. 34 E., MDM, Pershing County, Nevada (320 acres): Section 21: E2 Primary term of 25 years from effective date of lease and as long thereafter as the lessee exercises its rights. Royalty: Subject to Newmont Option[3] - no underlying royalty – no annual advance royalty payment.				
Lease B (2,458.88 acres): Mining Lease NNR 500136 dated December 31, 2014, by and between NNR and NNL, collectively as Owners, and Newmont, and subleased by Pershing Gold from Newmont pursuant to the 2006 Lease Agreement, concerning the following property: T. 27 N., R. 34 E., MDM, Pershing County, Nevada (2,458.88 acres): Section 5: Lots 1-8 (All) Section 7: Lots 1-4, E1/2W1/2, E1/2 (All) Section 9: N1/2, SW1/4 Section 27: All Section 29: NE1/4, N1/2NW1/4, SE1/4NW1/4, E1/2SE1/4 Primary term of 20 years from the effective date of lease and continuing as long thereafter as any mining, development (which includes exploration or development drilling), or processing operations are being conducted on the leased premises. Annual Advance Royalty ("AMR") payments of one dollar per acre (escalates on 5th anniversary) are required to maintain the lease. Newmont makes AMR payments which are reimbursed by Pershing Gold on invoice. AMR payments are current to the 1st anniversary date December 31, 2015. Royalty: 2.5% NSR payable to NNR pursuant to Mining Lease 500136, and subject to Newmont Option[3]				

[3] *The 2006 Lease Agreement provides Newmont the option ("Newmont Option") under certain circumstances to enter into a joint venture with Pershing Gold or to convey the property that is subject to the 2006 Lease Agreement to Pershing Gold and receive a sliding scale three to five percent NSR royalty, and a right to a $1.5 million dollar production bonus payment upon conveyance. With regard to the subleased fee land, there is an offset provision in the event of underlying royalties such that Newmont's three to five percent NSR will be reduced by the underlying royalty, provided that Newmont's royalty shall not be less than two percent.*

A $155 annual maintenance fee must be paid to the U.S. Bureau of Land Management ("BLM") for each claim on or before September 1st, to keep the claims in good standing for the following year. Additionally, an Affidavit and Notice of Intent to Hold Claims accompanied by a $10.50 per claim filing fee must be paid to Pershing County by November 1 st of each year. Faillers (2015a, 2015b) reported that federal claim maintenance fee payments and proper filings with Pershing County have been timely made to maintain all of the claims and millsites (511 total) as listed in Table 4.1 and Table 4.2 current through the assessment year ending on August 31, 2016. The holding costs that were paid in 2015 for the 2015-2016 assessment year for the 511 claims listed in Table 4.1 and Table 4.2 were $79,205 to the BLM and $5,386.50 to Pershing County.

Figure 4.3 Detail of Land Holdings in the Vicinity of the Relief Canyon Resource Area



4.3 Agreements and Encumbrances

4.3.1 2006 Minerals Lease and Sublease ("2006 Lease Agreement") and Area of Interest

In April 2012, Pershing Gold executed an Asset Purchase Agreement and Assignment and Assumption of Mineral Lease and Sublease with Victoria Resources by which Pershing Gold acquired Victoria Resources' interests in a 2006 Minerals Lease and Sublease agreement with Newmont (the "2006 Lease Agreement"). On April 5, 2012, Victoria assigned its interests in the 2006 Lease Agreement to Pershing Gold. This acquisition gave Pershing Gold control of the lands surrounding the Relief Canyon mine that had previously been acquired by GAC and eliminated the land ownership constraints associated with the private land sections adjacent to the mining claims on which a portion of the mine is located.

Pursuant to the Asset Purchase Agreement ("APA") dated January 13, 2015, by and between Pershing Gold and its wholly owned subsidiary GAC as buyer, and Newmont, and the actions taken to effectuate the terms of the APA, the 2006 Lease Agreement was amended by the Third Amendment dated January 15, 2015 whereby:

- the 2006 Lease Agreement area of interest ("AOI") was significantly reduced and is now described as shown in Figure 4.1 to encompass

  Township 27 North, Range 33 East, MDM, Section 12 (E1/2),

  Township 27 North, Range 34 East, MDM, Sections 5 – 8; Section 9 (All - excepting area encompassed by PF 125, 126, 128, 130, and 132 lode claims); Section 21 (E1/2); Section 22 (S1/2); Sections 27 – 29; and Section 30 (area of Task 63 – 72, only - SE 1/4);

- 1,593.60 acres of fee land previously subleased from Newmont, were released from the 2006 Lease Agreement, the prior underlying leases terminated as to those lands, and converted to a new Mining Lease (NNR # 500135) dated effective January 6, 2015, by and between GAC and NNR and NNL, as described in Table 4.1. There is 2.5% NSR royalty payable to NNR pursuant to the Lease. These 1,594 acres are no longer subject to the 2006 Lease Agreement. Newmont was granted a 2 percent Net Smelter Return ("NSR") royalty on these lands pursuant to Royalty Deed dated January 15, 2015;

- 74 of the Newmont PF unpatented lode mining claims (PF 63 - 109, 125 - 147, and PF 152 - 155), as listed in Table 4.1, were released from the 2006 Lease Agreement and conveyed to GAC, and are no longer subject to the 2006 Lease Agreement. Newmont was granted a 2 percent NSR royalty on these claims pursuant to Royalty Deed dated January 15, 2015;

- 16 Pershing Gold-owned NRC claims (NRC 1 - 5 and 7 - 17), as listed in Table 4.1 that were within the prior AOI were conveyed from Pershing Gold to GAC, and are no longer subject to the 2006 Lease Agreement. Newmont was granted a 2 percent NSR royalty on these claims pursuant to Royalty Deed dated January 15, 2015;

- Mining Lease NNR # 189056 covering 494.66 acres of fee land in Section 33, T28N R34E, MDM was completely released from the 2006 Lease Agreement without any further force or effect;

- 320 acres of fee land (E1/2 Section 21) leased by Newmont under Minerals Lease NNR 182092, dated August 17, 1987, by and between NNR and NNL, and Newmont, as described in Table 4.2

Lease A, remain subleased to Pershing Gold under the 2006 Lease Agreement, and subject to the Newmont Option (JV or sliding scale NSR royalty offset by underlying royalty). There is no underlying royalty on this Minerals Lease.

- The prior Minerals Lease NNR # 182092 and Mining Lease NNR # 188095, covering 2,458.88 acres of fee land subleased from Newmont, were terminated as to those lands, and were converted to a new Mining Lease (NNR # 500136) dated effective December 31, 2014, by and between Newmont and NNR and NNL, as described in Table 4.2 Lease B. These 2,458.88 acres, now leased under NNR # 500136, remain subleased to Pershing Gold under the 2006 Lease Agreement, and subject to the Newmont Option (JV or sliding scale NSR royalty offset by underlying royalty), and an underlying 2.5% NSR royalty payable to NNR pursuant to the Lease.
- The 137 unpatented lode claims described in Table 4.2 (81 PF leased from Newmont, and 56 Pershing Gold-owned GVA, TASK, and NPGC claims included in the AOI) remain subject to the 2006 Lease Agreement and the Newmont Option.

Pershing Gold's 137 owned and leased claims, and its subleasehold interest in the 2,788.88 acres of fee land, all as described in Table 4.2 are inside the AOI boundary defined in the 2006 Lease Agreement, as amended by the Third Amendment, and are AOI Lands on which Newmont has the option (Newmont Option) at any time until Pershing Gold delivers a positive feasibility study, and for a period of 90 days thereafter, to become 51-percent manager of a joint venture with Pershing Gold, upon payment to Pershing Gold of 250 percent of the expenditures made on those lands since March 2006. If Newmont elects not to enter into a joint venture, Newmont would convey the leased and subleased properties to Pershing Gold, reserve a sliding scale, 3 percent to 5 percent NSR royalty on the claims and the subleased properties (offset by underlying royalties) inside the AOI boundary, and have the right to a $1.5 million production bonus payment. The Newmont Option is limited to the AOI Lands. GAC's 374 mining claims and millsites, and the 1,594 acres held by GAC under NNR Lease # 500135 at the Relief Canyon mine are not AOI Lands and are not subject to the 2006 Lease Agreement or Newmont Option.

The 2006 Lease Agreement provided for a $3.6 million work commitment scheduled to be spent over seven years and to be completed by June 15, 2013. Thereafter, starting with the 8th anniversary, $500,000 must be spent each year, or payment must be made to Newmont of an annual rental fee of $10/acre if the work commitment for the preceding year was not met. One-half of the work commitment has to be for direct exploration drilling and associated expenses, including but not limited to drill-road construction, sample assays, down-hole surveys, and reclamation. The Third Amendment provides for an additional work commitment starting on January 15, 2015 of $2.6 million, and scheduled to be spent over seven years, to be completed by January 15, 2022. Pershing Gold has met all work commitments under the original work commitment schedule through January 15, 2015. As of June 2015, Pershing Gold has spent in excess of approximately $1.96 million, towards satisfying the work commitment requirement under the new additional work commitment schedule in the Third Amendment. These expenditures keep the 2006 Lease Agreement, as amended, in good standing through the work requirement period due by January 15, 2020, with about $450,000 available towards satisfying the requirement due on January 15, 2021.

Mining Lease NNR #500136 shown in Table 4.2, Lease B, requires Newmont to make annual advance royalty ("AMR") payments of one dollar per acre (escalates on 5th anniversary) to NNR. Newmont makes AMR payments, which are reimbursed to Newmont by Pershing Gold on invoice. Pershing Gold

will have to reimburse Newmont approximately $2,458.88 to cover the 2015 advance royalty payment due by December 31, 2015. AMR payments are current to the next payment due by the 1st anniversary date, December 31, 2015.

Mining Lease NNR #500135 shown in Table 4.1 requires GAC to make annual AMR payments of one dollar per acre (escalates on 5th anniversary) to NNR. GAC has made the $1,594 AMR payment that was due January 15, 2015. AMR payments are current to the next payment due by the 1st anniversary date, January 15, 2016.

4.3.2 Royalties

There is a 2.0 percent NSR royalty payable to Royal Crescent Valley, Inc. on the GAC owned R, RCL, Bobcat, RR, RCD, RCDR, RCLR, and NGR lode claims described in Table 4.1 pursuant to Amended & Restated Net Smelter Return Royalty Agreement dated August 24, 2011, as amended February 13, 2013.

There is a 2.0 percent NSR royalty payable to Newmont on the 74 PF and 16 NRC lode claims owned by GAC described in Table 4.1 pursuant to Royalty Deed dated January 15, 2015.

There is a 2.5 percent NSR royalty payable to NNR on the 1,593.60 acres of fee land covered by Mining Lease NNR # 500135, described in Table 4.1, dated January 6, 2015, by and between NNR and NNL, collectively as Owners, and GAC, as Lessee.

There is a 2.0 percent NSR royalty payable to Newmont on the 1,593.60 acres of fee land covered by Mining Lease NNR # 500135, described in Table 4.1, pursuant to Royalty Deed dated January 15, 2015.

There is a 2.5 percent NSR royalty payable to NNR on the 2,458.88 acres of fee land covered by Mining Lease NNR # 500136, described in Table 4.2, dated December 31, 2014, by and between NNR and NNL and Newmont, and subleased by Pershing Gold from Newmont pursuant to the 2006 Lease Agreement. This royalty would be an offset to the Newmont royalty under the Newmont Option of the 2006 Lease Agreement.

Section 4.3.1 describes the sliding scale, 3 percent to 5 percent NSR royalty or joint venture option (Newmont Option) that applies to the unpatented lode claims and private fee lands within the AOI covered by the 2006 Lease Agreement with Newmont, as amended by the Third Amendment. Under the 2006 Lease Agreement with Newmont, there is an offset provision in the event of underlying royalties such that Newmont's 3 to 5 percent NSR royalty will be reduced by the underlying royalty, provided that Newmont's royalty shall not be less than 2 percent. The royalty that would be payable on Mining Lease 500136, Table 4.2, Lease B, would be 2.5 percent to NNR and 2.5 percent to Newmont. There is no underlying royalty on Minerals Lease 182092, Table 4.2, Lease A, or on the 137 lode claims described in Table 4.2, so there is no royalty offset applicable to these lands.

4.4 Environmental Permits and Potential Liabilities

The following section was prepared by Debra W. Struhsacker, Senior Vice President of Pershing Gold and an expert on environmental and permitting issues. The authors are not experts on environmental issues and present this information with no opinion. The authors cannot verify that the information

provided below constitutes all of the permits required for future work on the property, including the possible development of the mineral resource discussed in this report.

All of GAC's project permits and licenses for the Relief Canyon mine are in good standing with no outstanding notices of deficiency or unresolved compliance issues. Permits issued by the U.S. Bureau of Land Management ("BLM") and the Nevada Division of Environmental Protection/Bureau of Mining Regulation and Reclamation ("NDEP/BMRR") authorize mining within the current pit (and to extend the pit boundary in a previously disturbed 8-acre area immediately north and east of the northern boundary of the North Pit). These permits also authorize heap leaching on the approved leach pads and processing solutions in the existing ADR plant. BLM and NDEP/BMRR recently authorized GAC to relocate the crushing facilities from its millsite claims in Section 18, Township 27 North, Range 34 East, to the adjacent private land on Section 17. GAC is also authorized to reconfigure the access and haul roads to the new crusher location.

The Water Pollution Control Permit issued by NDEP/BMRR, required GAC to provide a hydrologic study to document the elevation of the water table underneath the pit areas prior to resuming mining. GAC retained Schlumberger Water Services ("SWS") to perform this study, which was provided to NDEP/BMRR and BLM in July 2014. The hydrology study also presented information from a 28-day aquifer test and water elevation measurements from groundwater monitoring wells and piezometers located in the vicinity of the mine and elsewhere in the project area. In March 2015, GAC provided an updated hydrology study prepared by SWS that presents a groundwater model based on the drawdown and recovery data collected during the 28-day pump test. This model evaluates the rate of groundwater drawdown as a result of pumping the two on-site water wells for processing water for the heap leach facilities and the projected groundwater elevation recovery rates following mining.

Table 4.3 provides a list of all of GAC's permits for the Relief Canyon mine.

There are no known environmental issues that could materially impact Pershing Gold's ability to extract the Mineral Resource. With the exception of the reclamation obligations associated with the features created by previous site operators and owners, there are no known material environmental liabilities due to the previous mining activities. Pershing Gold has provided a $5.6 million reclamation bond for the Relief Canyon mine and other nearby exploration projects. The current reclamation bond obligation is $5,479,799. In compliance with the NDEP/BMRR permits and the BLM Plan of Operations listed in Table 4.3, Pershing Gold personnel collect groundwater monitoring data that are reported on a quarterly basis and other environmental data that are submitted to the agencies as required. Both NDEP and BLM personnel conduct quarterly inspections of the mine site.

GAC has submitted a modification to the Plan of Operations to expand the boundary of the pit and to construct a new waste rock storage area on private land in Section 17, Township 27 North, Range 34 East. The authorized heap leach pads have adequate capacity (21 million tons of ore) to accommodate ore mined from the proposed pit expansion. GAC has also submitted a permit application for a Mercury Operating Permit to Construct Thermal Mercury Emissions Units to the NDEP/Bureau of Air Pollution Control pursuant to the Nevada Mercury Control Program (NMCP). The Mercury Operating Permit will authorize adding a gold recovery system (e.g., carbon stripping, electrowinning cells, a carbon regeneration kiln, a carbon soak tank, a doré furnace, and a mercury abatement system that includes a scrubber and a retort) to the existing ADR plant. The Class II Air Quality Operating permit for the

Relief Canyon Mine will be upgraded to a Class I Operating Permit in conjunction with issuance of the Mercury Operating Permit.

Table 4.3 Federal, State, and Local Permits and Authorizations for the Relief Canyon Project

Permit or Approval	Agency	Comments
	FEDERAL	
Plan of Operations NVN-64634	BLM - Winnemucca District Office/Humboldt River Field Office	Covers both mining and exploration. Current reclamation bond amount is $5,479,799, which BLM and NDEP approved and accepted in May 2015.
BLM Right-of-Way Grant N-83323	BLM - Winnemucca District Office/Humboldt River Field Office	Is good for the life of the project. May have to be amended to expand mining. For the radio repeater communications site.
	STATE	
Reclamation Permit No. 0264	NDEP/ Bureau of Mining Regulation & Reclamation	Covers both mining and exploration. Current reclamation bond amount is $5,479,799, which BLM and NDEP approved and accepted in May 2015.
Water Pollution Control Permit – NEV 2007105	NDEP/ Bureau of Mining Regulation & Reclamation	Is good for the life of the project. May need to be amended to recommence mining. Will have to be amended to expand mining. Effective date of 9/24/11; will remain in effect for five years. Hydrology study provided to satisfy requirement to document the elevation of the water table beneath the pits.
Air Quality Class II Operating Permit # AP1041-2441	NDEP/Bureau of Air Pollution Control	Updated and approved on 5/30/13. Will become a Class I Operating Permit when the Mercury Operating Permit to Construct is issued.
Mercury Operating Permit to Construct Thermal Mercury Emission Units	NDEP/Bureau of Air Pollution Control Nevada Mercury Air Emissions Control Program	Submitted the application to add the gold recovery equipment to the existing ADR plant
Class III Landfill Waiver No. F444	NDEP/Bureau of Waste Management	Valid from 1/11/12 - 1/11/17
Large Capacity Septic System Annual Report	NDEP/Bureau of Water Pollution Control	Permit No. GU9021
Industrial Artificial Pond Permit S34478	NV Department of Wildlife	Valid from 11/1/11 – 10/31/16
	COUNTY	
Pershing County Special Use Permit	Pershing County Planning Department and Board of County Commissioners	Will need to be updated to expand mining operation.

Notes. BLM – Bureau of Land Management; NDEP – Nevada Division of Environmental Protection; BAPC – Bureau of Air Pollution Control.

5.0 ACCESS; CLIMATE; LOCAL RESOURCES; INFRASTRUCTURE; AND PHYSIOGRAPHY

5.1 Access

Access to the Relief Canyon property is via Interstate 80 northeast of Lovelock. From exit 112 located 7 miles northeast of Lovelock, access is by way of Coal Canyon Road about 10 miles southeast, turning north at Packard Flat onto a gravel road for about two miles to the property. Coal Canyon Road is a paved, county-maintained road.

5.2 Climate

The climate at Relief Canyon is typical of the high desert. Summers are warm with cool nights; winters are cool to cold with occasional moderate snowfall. Precipitation is low and comes primarily in winter, although there are infrequent rains in the summer. The yearly precipitation is about six inches in the valleys and up to 20 inches in the mountains in Pershing County (Johnson, 1977). Average annual precipitation at the Relief Canyon mine was 4.85 inches from 2009 through 2013 (Schlumberger Water Services, 2014, citing Gold Acquisition Corp., 2014, WPCP Permit #NEV2007105, 2013 Annual Report). Mining can be conducted year-round on the property.

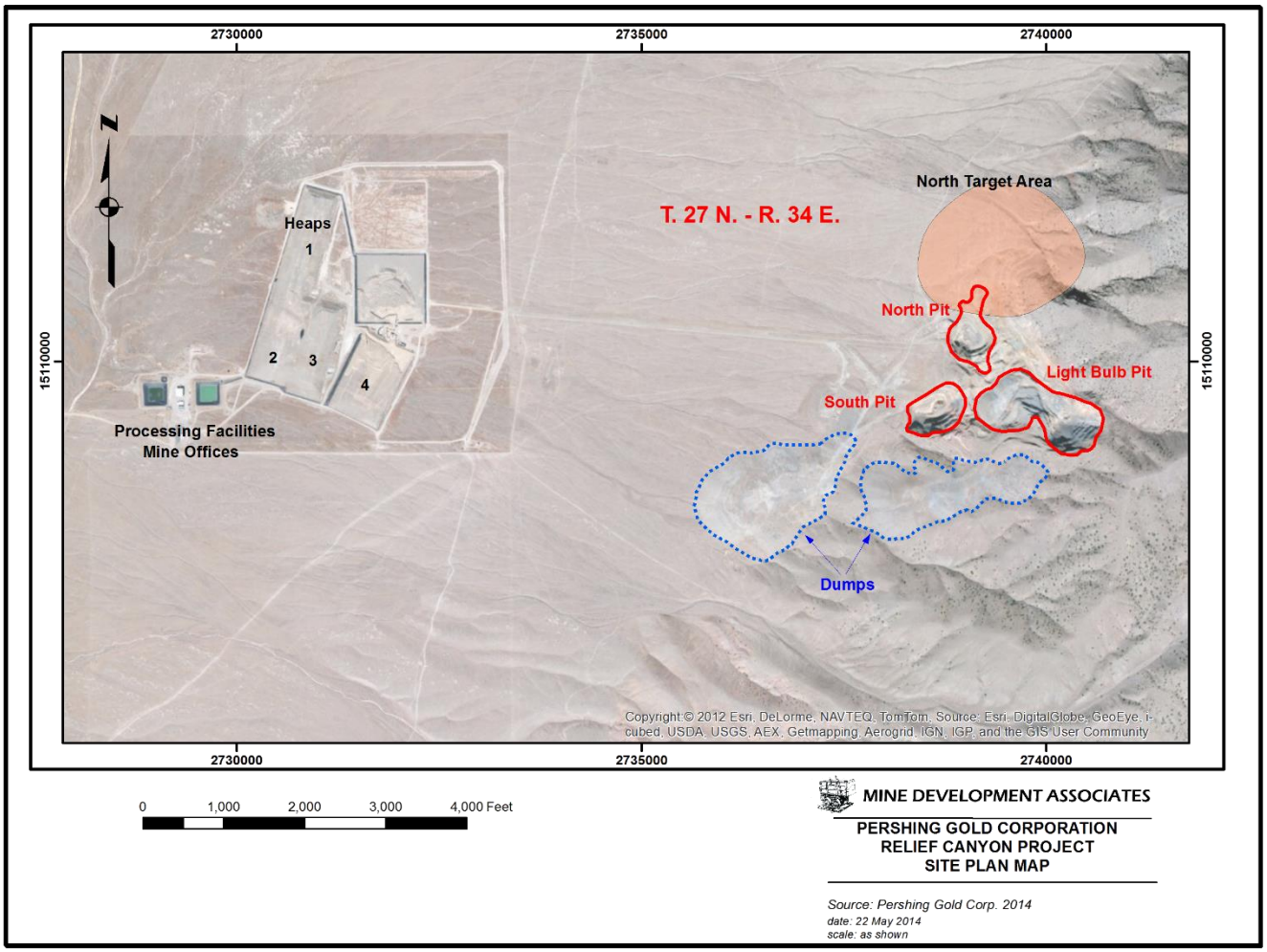
5.3 Local Resources and Infrastructure

The city of Lovelock lies about 19 miles by road west-southwest of the property and had an estimated population of 1,987 in 2013, according to the website of the Nevada State Demographer (http://nvdemography.org/data-and-publications/estimates/). The city of Reno, Nevada, is about 90 miles southwest of Lovelock on Interstate 80, and is part of a metropolitan area with a population of approximately 425,000 as of the 2010 census. Necessary supplies, equipment, and services for exploration and mine development would be available in the Reno area. A trained mining and industrial workforce is available in Lovelock and other communities nearby.

There are currently three open pits (North, South, and Light Bulb pits), several waste-rock dumps, a topsoil stockpile, access roads, and heap-leach pads on and adjacent to the property. The site also has all processing facilities necessary for production, including a two-stage crushing plant, grasshopper conveyors and stacking equipment, process ponds, and a carbon-adsorption recovery plant (Figure 5.1).

Electricity is available on the property, and water is available from two wells located east of the process plant.

Figure 5.1 Infrastructure at the Relief Canyon Property
(Information from Evans and Altman, 2013)



5.4 Physiography

The Relief Canyon property is located on the southwestern flank of the Humboldt Range, one of the generally north-trending, fault-bounded ranges of the Basin and Range physiographic province. Within the project area, the topography varies from flat to hilly (Figure 5.2). Elevations in the project area vary between 4,600 feet in the valley on the west, to 5,500 feet in the range to the east of the open pits (Mears, 2007).

Vegetation is sparse, consisting of grasses and shrubs of the high desert, with a few trees in the higher elevations of the range.

Schlumberger Water Services ("Schlumberger") conducted a hydrogeological study of the Relief Canyon mine over a 2.5-year period in order to prepare a baseline hydrogeologic characterization report (Schlumberger Water Services, 2014). In February 2014, Schlumberger conducted a 28-day pump test

of the two groundwater production wells, PW-1 and PW-2, (Schlumberger Water Services, 2015). Groundwater flow at the Relief Canyon mine is controlled by an alluvial aquifer in the Quaternary alluvium and a fractured bedrock aquifer in the Grass Valley and Cane Springs formations. As of January 2015, the groundwater elevation was 43 ft below the bottom of the North Pit, 47 ft below the bottom of the South Pit, and 303 ft below the bottom of the Lightbulb Pit. The two water production wells northwest and southwest of South Pit, PW-1 and PW-2, were completed in the 1980s. The 2014 Schlumberger pump test described in Schlumberger Water Services 2015, found that pumping PW-1 and PW-2 for process water will further lower the groundwater elevation in a localized area under the pits. Schlumberger concluded that "*in the event that future pit dewatering requirements exceed the future potential mine consumptive use, excess water would likely be managed through operation of Rapid Infiltration Basins…in the valley-fill alluvium*." Gold Acquisition Corp. owns water rights certificates 13402 and 13403 and water rights permit 76626 with a total annual duty of 618 acre feet per year available to provide the required water supply for the project (Schlumberger Water Services, 2014).

Figure 5.2 Photograph Showing Physiography of Relief Canyon Area
(Lacana/Pegasus Heaps in middle ground)

6.0 HISTORY

6.1 History of Exploration and Mining

The project history has been compiled from the following references: Johnson (1977), Fiannaca (1982), Fiannaca and McKee (1983), Easdon (1983b), Fiannaca and Easdon (1984), Wittkopp *et al.* (1984), Atiyeh (1986), Parratt *et al.* (1987), Pegasus Gold Inc. (1987, 1988, 1990), Wallace (1989), Cuffney *et al.* (1991), Abbott *et al.* (1991), Wojcik (1996), Fernette *et al.* (1996), Firstgold (2006, 2007d, 2007e, 2008a, 2008c), Mears (2007), and Evans and Altman (2013). In some cases, references differ as to details of the history, but MDA has assembled what it believes to be an accurate description of events.

The Relief-Antelope Springs mining district, in which the property is situated, had historical production of silver, antimony, and mercury, but there is no evidence that it had produced gold prior to development of the Relief Canyon deposit in the 1980s.

Exploration began in the district in the early 1860s with discovery of antimony and silver in the same decade and mercury discovered in 1907. Historical production of silver, antimony, and mercury totaled about $3,000,000. There were a number of fluorite prospects in the immediate vicinity of the Relief Canyon deposit, where mining took place in the 1940s, although none have had reported production (Papke, 1979). The site of the current Relief Canyon deposit was originally known as the Bohannon or Emerald Spar fluorite prospect.

In 1978, the property was staked for high-purity limestone by Falconi Cement Inc. ("Falconi"), which drilled one core hole measuring 745 feet to test the quality of the limestone that passed through mineralized breccia into Natchez Pass Formation limestone. That hole is not included in the current database.

As part of a regional, precious metals prospecting program with an emphasis on the Humboldt Range, Duval Corporation ("Duval") explored the area in 1979 with mapping and stream-sediment sampling and detected 0.45ppm gold in a single stream sediment sample from the site. Duval then contacted Falconi, logged and assayed their single core hole, and ran a series of soil and rock-chip sample lines over Falconi's property. Assays of the core showed the presence of gold. Duval negotiated a joint-venture agreement with Falconi in 1979 and staked an additional 2,300 acres. Duval initiated a detailed mapping and sampling program, which identified a gold anomaly that was 2,000 feet by 1,500 feet in area, ranging between 0.01 and 0.06 oz Au/ton in grade. Duval proceeded to drill reverse circulation percussion holes during 1981-1982 that confirmed the presence of a low-grade but potentially mineable zone that was 2,400 feet by 1,800 feet in size. Fiannaca and McKee (1983) and Fiannaca and Easdon (1984) reported that Duval drilled 40 reverse circulation holes, although the database shows 41; Mears (2007) reported that Duval drilled 44 holes. MDA cannot account for these discrepancies.

Lacana Mining Inc. ("Lacana"; Lacana Gold Inc. was the U. S. subsidiary, and this name is also referenced in the literature) first optioned and then purchased the property from Duval in 1982, including the remaining 10 percent interest held by Falconi. At the start of its investigation, Lacana undertook various sampling programs to verify Duval's assays and to understand the metallurgy of the mineralization. These are described in Section 12.3 and Section 13.2 of this report, respectively. In addition, Lacana commissioned aerial photography in order to prepare a topographic map of the main

drilling area. Lacana took 48 samples from several trenches to evaluate variations among assays of the drill intervals along a vertical plane adjacent to the holes. The samples were taken on a 5-foot continuous chip basis on vertical lines spaced 10 feet apart horizontally. The end points of each sample interval were horizontally parallel to the end points of each 5-foot drill interval. Lacana's initial efforts also included mapping, sampling, drilling, and bench-scale metallurgical testing.

Lacana conducted detailed geological mapping of the property and then drilled 48 reverse circulation holes in order to provide details on the "inferred geological reserves."

In September 1983, Lacana undertook pilot-scale heap-leach test work, mining and cyanide heap leaching two 5,000-ton blocks of mineralization. Bo-Ter Construction Company was contracted to mine the deposit and construct the leaching facility, crushing plant, and recovery circuit according to final design engineering by Mine and Mill Engineering. Additional reverse circulation drilling on 25-foot centers was conducted at each of four potential mining sites, and 140 blast holes were drilled on the two selected sites. The leach tests indicated that a net gold recovery approximating 70 percent could be achieved by standard cyanide heap leaching of run-of-mine material with 80 percent for agglomerated material.

Based on encouraging preliminary results midway through the pilot test, Lacana undertook a second drilling phase to sample the main zone of mineralization on 100-foot centers. A total of 99 reverse circulation holes were drilled in this phase. A third phase of drilling was undertaken to better define the pit perimeter and to condemn potential sites for waste dumps; this phase consisted of 57 reverse circulation holes. The three phases of exploration drilling reported here total 204 holes, but the database shows 205 holes. MDA cannot account for the discrepancy.

Southern Pacific Land Company ("SPLC"), who was an adjacent property owner, had participated with Lacana in the pilot-scale metallurgical program and according to Fiannaca and Easdon (1984) drilled 147 reverse circulation holes proximal to Lacana's deposit on their own property to test for continuation of mineralization; this drilling apparently took place in 1983 and possibly into 1984. The database includes 146 holes. Southern Pacific Land Company later merged with Santa Fe Industries, subsequently Santa Fe Pacific Corp., whose natural resource interests were spun off as Santa Fe Pacific Gold Corp. Santa Fe Pacific Gold Corp. later merged with Newmont Mining Corp., and Santa Fe Pacific Corp.'s property interests were sold to Nevada Land and Resource Company. For simplicity, SPLC and its later iterations are referred to as "Santa Fe" in this report.

At some point during their tenure on the property, Lacana commissioned an IP survey by Phoenix Geophysics, Inc. Results from a single IP line were provided to MDA.

Cooksley Geophysics Inc. conducted a reflection seismic exploration program in the alluvium of Packard Flat near Relief Canyon for Lacana in 1984 (Cooksley and McMahon, 1984). The program was designed to define stratigraphy and structure covered by the alluvium. Three lines were run – two trending northwest and one trending east. The alluvium ranged from less than 50 feet to over 300 feet in thickness. All three lines encountered well-stratified sections thought to represent Mesozoic units.

Lacana began mining the open-pit Relief Canyon mine and leaching run-of-mine material in August 1984 but closed it in October 1985 due to poor leach recoveries. Based on metallurgical testing, Lacana

had expected gold recovery from run-of-mine material to be about 65 percent, but actual gold recoveries were only 48 percent (Wojcik, 1996). According to Fernette *et al.* (1996, citing the 1986-1988 Canadian Mines Handbook), Lacana produced 13,826 ounces of gold in 1984-1985. However, the Nevada Bureau of Mines and Geology (1987; 2008) reported that 1984 production from Relief Canyon was 24,500 ounces of gold from one million tons per year (this may be mined ounces, as opposed to recovered ounces, which is consistent with the material estimated to have been mined in Table 6.4, but would suggest a recovery of 56 percent); they did not report any production for 1985.

In March 1986, Pegasus Gold Corporation ("Pegasus") entered into an option agreement with Lacana to evaluate the property. Work began immediately on an evaluation of the mineable material (estimates described in Section 6.2). The project database includes 17 Pegasus holes totaling 5,100 feet that are stated to have been drilled in 1987 and 1988. Pegasus purchased the property in July 1986 and re-opened the mine in November 1986, using crushing and agglomeration to process the clayey ores. They also installed an adsorption-desorption recovery ("ADR") type cement block process plant. Mining ceased in 1989 with four heap-leach pads completed; Pegasus continued leaching operations until August 1990. Figure 6.1 shows one of the Relief Canyon pits as of fall 2008.

Figure 6.1 Photograph of One of the Relief Canyon Pits as of 2008

Table 6.1 shows production by Pegasus from Relief Canyon as reported by Pegasus to the Nevada Division of Minerals (NV Div. Minerals column), Pegasus' annual reports, and Fernette *et al.* (1996, citing Pegasus' 1990 annual report and the Canadian Mines Handbook for 1989-1991). Wojcik (1996) reported that Pegasus recovered some 117,600 ounces of gold from 5.18 million tons of ore. According to Mears (2007), Pegasus processed about two million tons per year averaging 0.03 oz Au/ton. Pegasus reported that its 1989 gold production came from 1,600,000 tons of ore with a cutoff grade of 0.010 and

that the gold and silver grades for that year were 0.028 oz Au/ton and 0.100 oz Ag/ton, respectively (Pegasus Gold Inc., 1989).

Various reports suggest that Pegasus achieved recoveries of 65 percent to 70 percent at Relief Canyon. The Pegasus 1989 annual report states that Pegasus' recovery from their heap leaching of crushed and agglomerated ore in 1987 exceeded 65 percent. Fernette *et al.* (1996) state that, "*no data is available from the Pegasus operation so actual gold recoveries are not known. According to the 1990 Pegasus Annual Report, during 1987 and 1988, the mine produced 83,600 ounces of gold from 4 million tons of ore with an average grade of 0.03 ounces of gold per ton. This would indicate that 70% of the gold in the ore was recovered."*

Table 6.1 Production at Relief Canyon by Pegasus from 1987 through 1990

(Data from Pegasus Gold Inc. annual reports (1987, 1989, 1990) and data provided by the Nevada Commission on Mineral Resources, Division of Minerals (personal communication, 2010) based on figures provided by Pegasus)

Year	Gold (ounces)			Silver (ounces)	Tons Mined[2]
	NV Division of Minerals	Pegasus Annual Repts.	Fernette *et al.* (1996)	NV Division of Minerals	
1986		1,800			
1987	41,177	41,600	41,600	31,868	4.9 million
1988	40,827	40,000	42,000	42,570	9.5 million
1989	29,906	29,900	29,900	29,828	9.6 million
1990	4,064	4,100	4,100	6,414	0
Total	115,974	117,400	117,600	110,680	24.0 million

[1] Table does not include 1984 through 1985 production by Lacana; see text.
[2] Tonnages reported here by the NV Division of Minerals appear to be total of ore and waste.

Based on the information presented herein, a total of about 131,000 ounces of gold and about 111,000 ounces of silver were produced by Lacana and Pegasus at Relief Canyon from 1984 through 1990; Wojcik (1996) and Fernette *et al.* (1996) both reported that production from the Relief Canyon mine in this period totaled about 131,000 ounces of gold.

J. D. Welsh and Associates ("Welsh") of Reno, Nevada, purchased the property from Pegasus in September 1993 and reportedly produced several thousand ounces of gold by continuing to rinse the heaps.

Newgold, Inc., which later changed its name to Firstgold Corp. in 2006 (collectively called "Firstgold" in this report), purchased the property from Welsh in January 1995 for $500,000. This acquisition originally included the unpatented claims, which were purchased from Welsh, and fee land that Welsh was subleasing from Santa Fe, for which Firstgold acquired an Assignment of Minerals Sublease. Nevada Land and Resource Company was the owner of the fee land, which was leased by Santa Fe and subleased by Firstgold (Newgold Inc., 1997).

Firstgold processed pregnant pond solution until July 1995. In addition, they acquired a drill-hole and assay data set with 400 drill holes and over 22,000 assays, and also acquired much of Lacana's metallurgical test data. Through April 1997, Firstgold drilled 73 reverse circulation holes totaling 43,220 feet, including 23 holes drilled on Santa Fe's ground that Firstgold was leasing at the time. The focus of Firstgold's initial drilling was just north of the North pit, west of

the pits, and southwest of the pits. A ground magnetic study was conducted in 1999, but no reports or data from the magnetic study are available.

Firstgold placed the property in closure in 1997, and from 1998 until late 2004, the property was maintained on a care and maintenance basis. The Firstgold fee land sublease was dropped at some time during the period of 1997 to 2004 (likely in 1997). Firstgold began preparations to resume exploration and development of the project in 2003 and reactivated the project in 2005. Through early 2007, Firstgold carried out the following activities:

1. Available data were assembled and, where possible, digitized;
2. The land status was researched, and Firstgold staked additional claims;
3. Surface and trench samples were taken on the existing heap leach piles and sent for analysis, including heap-leach column analysis, by an outside testing lab;
4. Aerial photography was flown to produce a topographic map of the property and surrounding area; and
5. The firm of Dyer and Associates was hired to bring the property into complete government compliance, to design new leach pads for re-processing of the existing heaps, and to expand capacity for processing.

In 2006, Zonge Geosciences, Inc. conducted a ground magnetic survey on the project. The following is Mears' (2007) description of the survey:

> *"From October 20th to October 25th 2006 Zonge Geosciences, Inc. performed a GPS-based ground magnetic survey on the Relief Canyon Gold Project. Ground Magnetic/GPS data were acquired on 29 lines oriented east-west and spaced approximately 90 meters apart, for a total of 40 line kilometers of data acquisition. Total magnetic field data were acquired with GEM Systems GSM-19 Overhausereffect magnetomers. The GSM-19 magnetometer has a resolution of 0.01 nT and an accuracy of 0.2 nT over the operating range. Positioning was made with a Trimble PRO-XRS GPS receiver. The GPS data were differentially corrected in real-time using OMNISTAR corrections. This system provides sub-meter accuracy under standard operating conditions."*

White (2008) reported on the interpretation of the ground magnetic data, noting that the data can be used to map near-surface mafic dikes or sills and possibly deeper, more felsic intrusions.

Firstgold resumed exploration drilling at Relief Canyon in 2007, initially focusing on the potential of the area between existing pits and then expanding to the north and northwest. A total of 92 reverse circulation holes were completed by May 2008 within and adjacent to the resource area, with an additional 13 reverse circulation holes drilled in the North Target area. Firstgold also completed four core holes in 2008, one within the resource area and three in the North Target area; one additional hole was abandoned before completion.

Following acquisition of the necessary permits, Firstgold invested approximately $30 million in redeveloping and reconstructing the Relief Canyon heap-leach processing facilities in 2007 and 2008. This redevelopment effort consisted of completely refurbishing the plant and building new leach pads designed to meet current regulatory requirements for engineering design and containment. The planned project at that time was to re-crush the leached ore on the old pads to minus one-half inch, agglomerate

the crushed ore, and use a conveyor to stack the crushed and agglomerated ore on the newly constructed leach pad.

Firstgold attempted to reprocess the existing heaps in late 2008 and early 2009. It operated the reprocessing project for a few months but experienced very low recoveries which were insufficient to cover operating costs. The project was soon shut down.

In January 2010, Firstgold filed for bankruptcy protection. Platinum Long Term Growth LLC acquired the Relief Canyon assets. Gold Acquisition Corp., a newly formed, wholly owned subsidiary of Sagebrush Gold, Ltd., acquired the Relief Canyon assets on August 30, 2011. On March 5, 2012, Sagebrush Gold, Ltd. changed its name to Pershing Gold Corporation. Exploration by Pershing Gold is described in Section 9.0.

6.2 Historical Mineral Inventory Estimates

All estimates described in this section were prepared prior to 2000 and are presented herein merely as an item of historical interest with respect to the exploration targets at Relief Canyon. The classification terminology are presented as described in the original references, but it is not known if they conform to the meanings ascribed to the Measured, Indicated, and Inferred mineral resource classifications or proven and probable reserve classifications by the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM Definition Standards). Accordingly, these estimates should not be relied upon. The authors have not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves, and Pershing Gold is not treating these historical estimates as current estimates. These historical mineral resource estimates are superseded by the current mineral resource estimate discussed in Section 14.0 of this report.

Duval's initial drilling of the Relief Canyon deposit in 1981-1982 identified "inferred geological reserves" ranging from 6 million tons at a grade of 0.06 oz Au/ton and a waste-to-ore stripping ratio of 3.0:1.0, to 10 million tons at a grade of 0.04 oz Au/ton and a 1.5:1.0 stripping ratio (Fiannaca and Easdon, 1984).

Following their bench-scale metallurgical test program in 1983, Lacana recalculated "inferred geological reserves" based on Duval's drilling, categorizing the reserves into three cases. The total "inferred contained gold" was about 460,000 ounces (Fiannaca and Easdon, 1984). Table 6.2 compares Lacana's results to those of Duval.

Table 6.2 Preliminary Calculations of "Inferred Geological Reserves" by Duval and Lacana
(From Fiannaca and Easdon, 1984)

Company	Case	Tonnage (million tons)	Grade (oz Au/ton)	Stripping Ratio
Duval	1	6	0.06	3.0:1.0
Duval	2	10	0.04	1.5:1.0
Lacana	1	2.1	0.04	2.1:1.0
Lacana	2	5.0	0.060	2.0:1.0
Lacana	3	10.4	0.044	1.2:1.0
		9.8*	0.042*	

* Recalculated following later drilling and heap-leach testing.

Subsequently, after two phases of reverse circulation drilling and pilot heap-leach testing, Lacana recalculated their "geological reserves" (Fiannaca and Easdon, 1984). They found that their third case of "inferred geological reserves" had decreased from 10.4 million tons at a grade of 0.044 oz Au/ton to 9.8 million tons at a grade of 0.042 oz Au/ton (Table 6.2).

As part of their final feasibility study in 1984, Lacana once again calculated the "mining reserves" and also constructed the pit plan by two methods. The first calculation was done entirely by hand. For confirmation, Pincock, Allen, and Holt ("PAH") of Tucson was commissioned to recalculate the "mining reserves" by kriging and to derive the pit and bench plans by the floating cone method. These reserves are shown in Table 6.3 and are based on a recovery factor of 70 percent, bench height of 15 feet, and pit slope of 50° (Fiannaca and Easdon, 1984). Santa Fe had drilled out a smaller volume of deeper mineralization on their own property that could perhaps be mined in the future, but these potential future reserves are not included in Table 6.3.

Table 6.3 Comparison of "Mineable Reserves" Calculations by Lacana and Pincock, Allen, and Holt
(From Fiannaca and Easdon, 1984)

Company	Au Price $ US/oz	Cut-off oz Au/ton	Mineable "Ore" (million tons)	Diluted Grade oz Au/ton	Waste: "Ore"
Lacana	400	0.02	7.250	0.036	2.8:1.0
Lacana	400	0.015 *	9.185	0.032	2.0:1.0
Lacana	400	0.010 *	11.403	0.028	1.4:1.0
PAH	400	0.02	7.793	0.035	1.49:1.0
PAH	400	0.010 *	10.972	0.029	0.77:1.0
PAH	500	0.02	9.175	0.034	1.87:1.0
PAH	500	0.010 *	14.391	0.027	0.94:1.0

* Internal to the pit based on the 0.02 cut-off

In 1986 while evaluating the Relief Canyon property under an option agreement with Lacana, Pegasus estimated the "mineable ore reserves" (Atiyeh, 1986). Pegasus used a statistical software package developed by Geostat Systems of Golden, CO that used the kriging method of grade interpolation. Drill-hole spacing was about 100 feet. "Total mineable reserves" were estimated to be 5,042,000 tons at an average grade of 0.030 oz Au/ton with a 0.015 oz Au/ton cutoff and a stripping ratio of 1.18:1. Compared to prior estimates of "reserves" by Lacana, Pegasus' estimate was lower due to elimination of deeper carbonaceous material, some limestone "ore," and a few outlying areas where Pegasus felt there were insufficient data. Pegasus' estimate used costs of $1.11/ton for mining and $3.60/ton for processing, a gold recovery of 70 percent, a density of 14.1 cubic feet/ton, and a gold price of $400/oz (Atiyeh, 1986). Table 6.4 shows "ore reserve" estimates from Lacana and Pegasus for 1985 mine-to-date, 1986 mine plan, and the ultimate pit. Table 6.5 shows the final "mineable ore reserve" estimates made by Pegasus in 1986.

Table 6.4 Comparison of 1985 and 1986 "Ore Reserve" Estimates of Lacana and Pegasus
(Modified from Atiyeh, 1986)

Project Stage	Company	Ore (tons)	Grade (oz Au/ton)	Total Ounces Au	Total Tons	Strip Ratio
1985 mine-to-date	Lacana	739,000	0.036	26,604	3,074,000	3.16:1
	Pegasus	652,000	0.036	23,472	2,310,000	2.54:1
1986 mine plan	Lacana	857,000	0.045	38,565	2,040,000	1.38:1
	Pegasus	1,372,000	0.033	45,276	2,789,000	1.03:1
Ultimate pit	Lacana	7,570,000	0.032	242,240	26,344,000	2.48:1
	Pegasus	8,775,000	0.028	245,700	27,804,000	2.17:1

Table 6.5 Relief Canyon "Total Mineable Reserves" Calculated by Pegasus in 1986
(Atiyeh, 1986)

Cutoff (oz Au/ton)	Ore (tons)	Grade (oz Au/ton)	Waste (tons)	Total Tons	Strip Ratio
Floating Cone Runs at $400/oz Au					
0.015	6,738,000	0.030	3,734,000	10,472,000	0.55:1
0.020	5,805,000	0.032	4,667,000	10,472,000	0.80:1
Hand-Design Pit					
0.015	5,042,000	0.030	5,923,000	10,965,000	1.18:1

As of December 1, 1986, "reserves" at Relief Canyon were said to be 5.3 million tons grading 0.03 oz Au/ton (Engineering and Mining Journal, June 1987, cited in Abbott *et al*., 1991).

Following acquisition of drill-hole data from the prior owner, Firstgold created a block model and estimated the tonnage and grade of the Relief Canyon deposit with Watts, Griffis and McOuat Limited ("WGM") reviewing Firstgold's methodology (Fernette *et al.*, 1996; Wojcik, 1996). A "resource and reserve" summary, believed to reflect this block model, was prepared by Kim Drossulis, Firstgold's mining engineer, and was based on 400 vertical reverse circulation drill holes with 22,188 assay intervals containing gold, silver, and rock codes (Drossulis, undated but presumed to be 1996). WGM reported that Firstgold's grade modeling approach was, in effect, a geologically constrained polygonal model. Using the inverse distance squared interpolation method and assigning a tonnage factor of 15 cubic feet/ton to all blocks in the model, Drossulis estimated a "geological resource" of 23,984,400 tons containing 0.017 oz Au/ton using a 0.004 oz Au/ton cutoff and digitizing the geopolygons in plan with 15-foot benches and section with 85-foot centers. Fernette *et al.* (1996) commented that "*The use of a single density value for all rock types and the lack of coding for alluvium and waste dumps could lead to overestimation of waste tonnage. Alternatively, the density of the Cane Spring limestone is probably greater than 15 cubic ft. per ton which would understate the tonnage of mineralized limestone and limestone waste blocks*." WGM concluded, "*Although the sample density on which the model is based is quite high, the criteria used to develop the grade and rock models, as noted above, are such that the estimated tonnage and grade for the Relief Canyon deposit meets the criteria for an 'Indicated Mineral Resource'*"

WGM used computerized floating cone methodology combined with the grade and rock model developed by Firstgold as described above to define the potential economic pit boundaries and make preliminary estimates of the minable portion of the Relief Canyon "indicated mineral resource" (Fernette *et al.*, 1996). Two floating-cone resource estimates at different cutoff grades were developed from the Firstgold deposit model by WGM. "*The estimates range from 5.6 million tons at 0.022 oz Au/ton to 8.2*

million tons at 0.020 oz Au/ton, with the contained ounces of gold ranging from 121,000 to 163,000" (Fernette *et al.*, 1996).

In 1997, Independent Mining Consultants, Inc. of Tucson, Arizona ("IMC") were commissioned to review the resource model developed by Firstgold's personnel (IMC, 1997). The IMC estimate was based on a total of 474 drill holes, including those from Falconi, Duval, Lacana, Santa Fe, Pegasus, and the first 73 holes drilled by Firstgold. All of these holes except the one drilled by Falconi were reverse circulation. Table 6.6 shows the estimates of "model contained resources" (mineral inventory or geologic resource) from IMC, and Table 6.7 compares the "model-contained resource" at cutoffs of 0.003 and 0.019 oz Au/ton from IMC's work with that at the same cutoffs calculated earlier by Firstgold. According to Firstgold's website (http://www.firstgoldcorp.com/our_story.asp, January 2, 2009), the IMC estimates were based on areas considered proximal to the North, South, and Light Bulb pits, and Firstgold controlled about 75 percent of the surface area considered in these estimates. IMC identified the following differences between their revised block model and the one developed by Firstgold:

- IMC used a 22° dip for the search ellipse operator instead of a flat search;
- IMC used ordinary kriging instead of the inverse-distance-squared method;
- The location of Hole 88-3 was corrected in the IMC study;
- The atomic absorption assays of the Pegasus holes from 1988 increased using a factor of 1.25 to approximate fire assays, as opposed to the 1.53 factor used by Firstgold; and
- Firstgold's reverse circulation holes through the end of 1996 were included in IMC's study.

Table 6.6 1997 Estimate of Relief Canyon "Model-Contained Resources" by IMC
(IMC, 1997)

Cut-off (oz Au/ton)	Tons (000's)	Grade (oz Au/ton)	Contained Au ounces
0.003	76,782	0.012	921,384
0.010	30,483	0.022	670,626
0.015	18,642	0.028	521,976
0.019	12,939	0.033	426,987
0.030	5,629	0.046	258,934
0.040	2,702	0.060	162,120
0.050	1,592	0.072	114,624

Table 6.7 Comparison of Firstgold 1996 and IMC 1997 Historical Estimates
(Modified from IMC, 1997)

	Cutoff Grade = 0.003 oz Au/ton			Cutoff Grade = 0.019 oz Au/ton		
	Tons (000's)	Grade (oz Au/ton)	Contained Au ounces	Tons (000's)	Grade (oz Au/ton)	Contained Au ounces
Firstgold 1996 Model	69,345	0.013	901,485	12,866	0.036	463,176
IMC 1997 Model	76,782	0.012	921,384	12,939	0.033	426,987
Variance	7,437	-0.001	19,899	73	-3	-36,189
% Variance	10.7%	-7.7%	2.2%	0.6%	-8.3%	-7.8%

IMC (1997) estimated the "approximate potential minable resources" for the Relief Canyon deposit using a floating cone on the IMC model, a gold price of $390 per ounce, and a 50° slope angle (Table 6.8).

Table 6.8 Potential "Minable Resources" for the Relief Canyon Deposit
(Modified from IMC, 1997)

Cut-Off (oz Au/ton)	Tons (000s)	Grade (oz Au/ton)	Contained Au ounces
0.050	486	0.065	31,590
0.040	958	0.055	52,690
0.030	1,792	0.045	80,640
0.019	3,697	0.034	125,698
0.015	5,061	0.029	146,769
0.010	7,708	0.023	177,284
0.003	10,870	0.018	195,660
The total material inside the floating cone geometry is 18,925,000 tons			

6.3 2010 Firstgold and 2013-2014 Pershing Gold Mineral Resource Estimates

MDA prepared a mineral resource estimate of the Relief Canyon deposit for the previous operator in 2010 (Gustin, 2010) that was the first estimate reported in accordance with NI 43-101 standards for disclosure at that time. After subsequent drilling and additions to the property that increased the reportable portion of the resource, updated mineral resource estimates were prepared by RPA Inc. in 2013 (Evans and Altman, 2013) and MDA in 2014 (Tietz and McPartland, 2014).

All three of these previous mineral resource estimates are superseded by the current estimate described in Section 14.0.

7.0 GEOLOGIC SETTING AND MINERALIZATION

7.1 Geologic Setting

7.1.1 Regional Geology

The Relief Canyon property is located in northwestern Nevada near the southern end of the Humboldt Range within the Basin and Range physiographic province. The geologic map of the Buffalo Mountain quadrangle (Wallace *et al.*, 1969) covers the project area. Johnson (1977) summarized the geology of Pershing County, from which much of the following discussion is taken, with additional information from Evans and Altman (2013) and Pershing Gold.

During Paleozoic time, western Nevada was the site of deep-water sedimentation and local marine volcanism, while to the east of Pershing County predominantly carbonate rocks were deposited on the continental shelf. East-directed compression transported rocks of the western, deep-water assemblages to the east on the Roberts Mountains thrust during the Late Devonian to Early Mississippian Antler Orogeny; evidence for the Antler Orogeny is seen east of the Humboldt Range but not within the Relief Canyon area. A second compressional episode known as the Early Triassic Sonoma Orogeny produced more east-directed transport on the Golconda thrust. The Golconda thrust lies to the west of the Roberts Mountains thrust.

The geologic environment changed in the Early Triassic with deposition of a thick sequence of rhyolitic and andesitic volcanic rocks over much of what is now Pershing County. While part of this deposition may have been in a non-marine environment, drilling at Relief Canyon has intersected interbedded limestone and rhyolitic pyroclastic rocks, indicating that at least part of the Early Triassic volcanic rocks were deposited in a marine environment. A long period of sedimentation began in the late Early Triassic and deposited lithologically-variable marine and non-marine sedimentary sequences at first, followed by more uniform carbonate deposits, including the the Smelser Pass Member of the Augusta Mountain Formation and the Cane Spring Formation (formerly the Natchez Pass Formation) in the Relief Canyon area. From Middle Triassic to Early Jurassic time, there were uplift and deposition of near-shore deltaic deposits of mudstone, shale, and sandstone that include the Grass Valley Formation in the Relief Canyon area.

A third episode of regional deformation occurred during the Jurassic and Cretaceous Nevadan Orogeny, during which time there were low-grade regional metamorphism, variably directed folding and thrust faulting, and extensive intrusion of granodiorite in the region, particularly within the Luning-Fencemaker fold and thrust belt.

Several episodes of plutonism are recorded in this region, ranging in age from Early Triassic to Tertiary. Early Triassic leucogranites and rhyolite porphyries were associated with contemporaneous volcanism. During the Middle Jurassic, gabbro was widely intruded as sills in the south-central part of the county, south and southwest of the Relief Canyon area. Late Cretaceous granitic stocks are present in the Humboldt Range along with some diabase dikes associated with these stocks. Other Cretaceous and Tertiary granodiorite plutons are exposed in the region.

During the Cenozoic, basaltic, andesitic, and rhyolitic flows, breccias, and tuffs with intercalated lacustrine deposits, fanglomerate, and fluvial sand and gravel were deposited across the county.

The structural regime changed dramatically to extensional events during the Neogene. High-angle normal faulting and tilting of Cenozoic units exemplify this period of regional extension that resulted in the present physiography of the Basin and Range Province.

During the Quaternary period, alluvial deposits accumulated in the structural basins between ranges in Pershing County and are also exposed on the flanks of the ranges.

The regional geology of the Humboldt Range and vicinity is shown in Figure 7.1. Also shown on Figure 7.1 are six gold and silver mines and deposits in the Humboldt and West Humboldt ranges, in addition to Relief Canyon. Those shown as red or blue dots are currently or have recently been active; numerous other historical prospects and mines are shown as small green dots. At the Coeur Rochester mine, about 6 miles north of Relief Canyon, silver and gold mineralization occurs in stacked, sub-parallel zones of quartz veins, veinlets, and stockworks hosted by folded and faulted volcanic rocks of the Lower Triassic Rochester and overlying Weaver formations (Evans and Altman, 2013). Mineralization occupies high- and low-angle, north- to northeast-trending fault systems (Robinson *et al.*, 2014). The Nevada Packard deposit is three miles south of the Rochester mine and contains mineralization similar to that at Rochester, with silver and gold occurring in vein arrays in northeast-trending, west-dipping faults (Robinson *et al.*, 2014). However, the Packard mineralization tends to have higher silver grades and lower gold grades than those at Rochester, and the mineralized zones at Packard are smaller than those at Rochester (Robinson *et al.*, 2014). Both Rochester and Nevada Packard are owned by Coeur Rochester, Inc., and details can be found at http://www.coeur.com/mines-projects/mines/rochester-nevada.

North-northeast of the Coeur Rochester mine is the Spring Valley project, a joint venture between Barrick Gold Corporation and Midway Gold Corp. Gold and base metal mineralization occurs in veins that are hosted by the Rochester and Limerick formations, which are part of the Permo-Triassic Koipato Group. The gold mineralization exhibits characteristics of orogenic (metamorphic) or reduced-type, intrusion-related origin (Crosby, 2012; 2015). Additional information on the Spring Valley project can be found at:

http://www.midwaygold.com/projects/spring_valley/ and

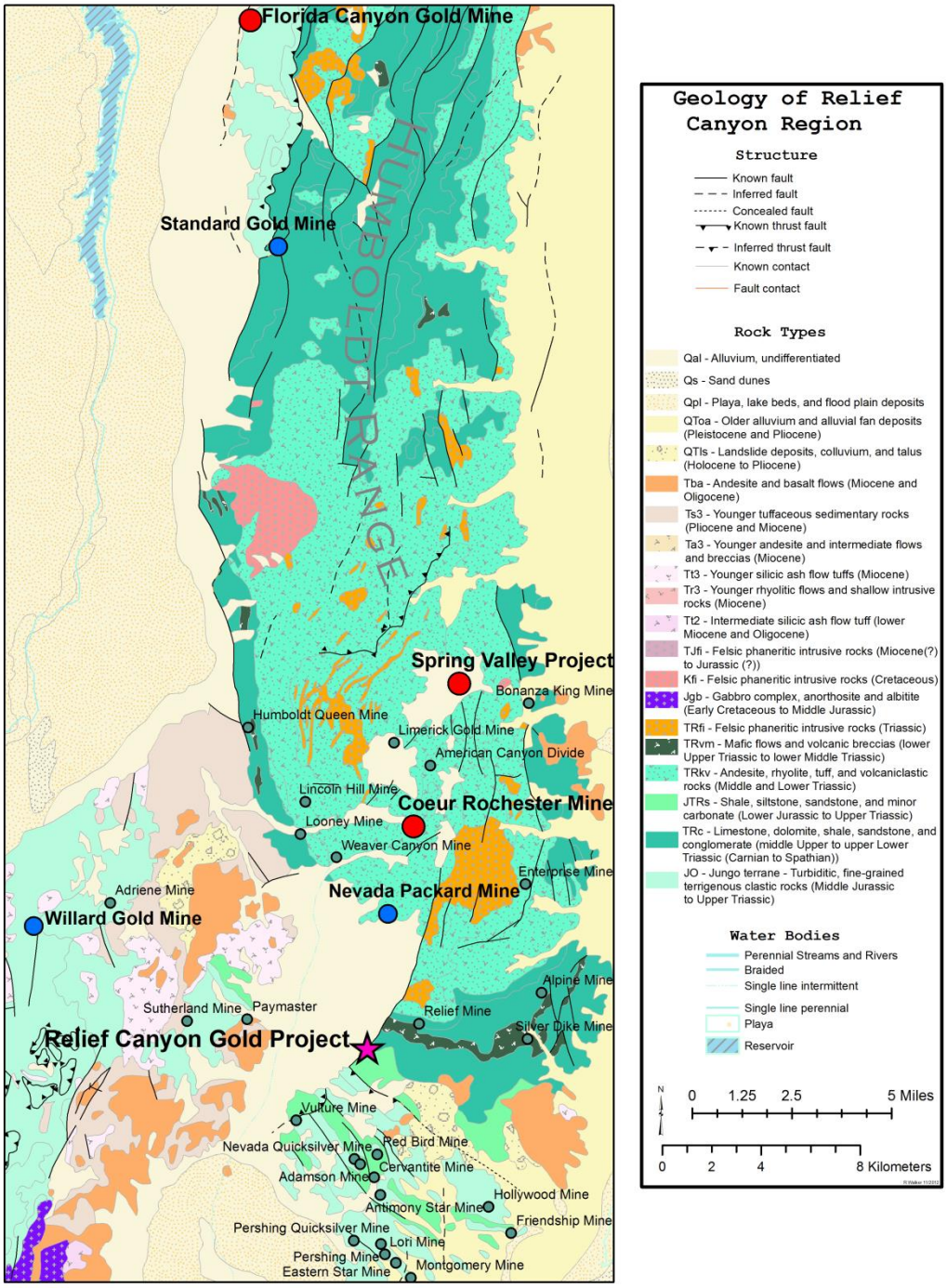
http://www.barrick.com/files/quarterly-reports/2014/Barrick-2014-Reserves-Resources.pdf.

On the northwest flank of the Humboldt Range about 25 miles north-northwest of Relief Canyon, is the past-producing Florida Canyon mine. Disseminated gold-silver mineralization is hosted in Late Triassic siliciclastic metasedimentary rocks of the Grass Valley Formation and is localized along and in the footwall of a north-trending range-front fault. From 1986 to 2008, the mine produced 3.18 million ounces of gold from 180.2 million tonnes at an average grade of 0.62g Au/t (Fifarek *et al.*, 2011, cited in Evans and Altman, 2013). The current owner, Jipangu International, is mining at the Standard mine, which is located approximately 5.6 miles south-southeast of the Florida Canyon mine (http://www.jipangu.co.jp/en/about_jipangu/jipangu_goldmine_01). At the Standard mine, low-grade gold mineralization is associated with jasperoid at the thrust contact of the Upper Triassic Grass Valley sandstone and siltstone overlying Middle to Upper Triassic Natchez Pass limestone (Evans and Altman, 2013). Mineralization at the Standard mine also occurs in collapse breccias that are proximal to steep

faults and close to altered gabbro in a setting similar to that found at Relief Canyon (D. Prihar, 2014, personal communication).

The Willard gold mine, located 8.75 miles west-northwest of Relief Canyon, near the western margin of the West Humboldt Range, is part of the Wilco project of Rye Patch Gold Corp. (http://www.ryepatchgold.com/projects/wilco/). Epithermal, low-sulfidation (quartz-calcite-adularia) gold mineralization occurs in two deposits at the Wilco project (Evans and Altman, 2013).

Figure 7.1 Regional Geologic Setting of the Relief Canyon Project
(from Pershing Gold, 2014)



7.1.2 Local Geology

The following information is taken from Fiannaca and McKee (1983), Fiannaca and Easdon (1984), Wallace (1989), Mears (2007), Evans and Altman (2013), and Fifarek et al (2015) with additional details provided by Pershing Gold or from other references as cited. It should be noted that various historical references differ in nomenclature for one of the major units at Relief Canyon. What was formerly called the Natchez Pass Formation was subsequently separated into the Augusta Mountain Formation and the lower part of the overlying Cane Spring Formation (Nichols and Silberling, 1977), with the Cane Spring Formation said by some authors to host or form the footwall for much of the gold mineralization at Relief Canyon. In this report, the stratigraphic terminology currently used by Pershing Gold are Cane Spring Formation, which overlies the Deformed Limestone unit (problematic stratigraphic assignment), and then the Footwall Volcanic Unit(Smelser Pass Member of the Augusta Mountain Formation).

The Relief Canyon property lies on the western flank of the southern Humboldt Range on the eastern side of Packard Wash. The Humboldt Range itself is the product of Cenozoic high-angle normal faulting and is one of the typical, generally north-trending fault-bounded ranges of the Basin and Range Province. According to Mears (2007), rocks within the range form a broad anticline with Cretaceous intrusions locally exposed in the central core. The oldest rocks exposed in the Humboldt Range are mafic and silicic volcanic rocks of the arc-related Lower Triassic Koipato Group, with silicic volcanic rocks predominating. The Limerick Canyon Greenstone, Rochester Rhyolite, and Weaver Rhyolite make up the Koipato Group in the southern Humboldt Range. Boron and fluorine-enriched leucogranite and rhyolite porphyry intrusions cut the upper part of the Koipato Group and are thought to be genetically related to the volcanic units. At the Rochester silver district, located about 5 miles north of Relief Canyon, low-grade disseminated and vein-controlled precious-metals mineralization has been mined from the Koipato Group. The Koipato Group is overlain by the Star Peak Group, with marine carbonate rocks that are interbedded with and overlie rhyolitic pyroclastic volcanic rocks. In Late Triassic and Early Jurassic time, a fluvial-deltaic system deposited predominantly fine-grained sediments of the Auld Lang Syne Group, which is composed of the basal Grass Valley Formation and the overlying Osobb, Dun Glenn, Winnemucca, Raspberry, O'Neill, Singas, Adorno, and Mullinix formations. There are varying descriptions in the literature of the nature of the contact between the Cane Spring Formation (formerly Natchez Pass) and the overlying Grass Valley Formation. At the Relief Canyon mine, the contact is not well defined because of collapse along it, in response to solution-related brecciation, where it is exposed in the pits and intersected in numerous core holes. Where exposed in the North pit, the contact is characterized by gently inclined to recumbent drag folds that formed in the Grass Valley units immediately above a thrust fault contact with the underlying Deformed Limestone Unit of Fifarek et al (2015).

Within the Humboldt Range between Middle Jurassic and Middle Cretaceous time, coeval basinal sedimentary rocks were folded and thrust southeastward over the older platform and deltaic rocks, and all the units were deformed and metamorphosed to at least greenschist facies. This was followed by Late Cretaceous emplacement of granitic intrusions.

There are two intersecting structural zones in the region that are Late Mesozoic to Late Cenozoic in age. Possibly the older is a major northwest-trending, right-lateral strike-slip system that forms a topographically pronounced linear fault belt at least 5 miles wide cutting the southernmost portion of the Humboldt Range and the northernmost portion of the West Humboldt Range. A northeast-trending fault

system cuts most of northern Nevada and forms the western margin of the West Humboldt Range. This fault system is Cretaceous or older in age, and the Black Ridge fault is a strand of this system.

Late Cenozoic volcanic rocks were deposited, but largely eroded, during Miocene and younger uplift of the range. There are isolated remnants of Miocene basaltic and rhyolitic volcanic rocks in the southern part of the Humboldt Range. In addition, in the southern part of the range, there are gabbro or weathered mafic dikes of unknown, but older age that were deformed in the Late Mesozoic Luning-Fencemaker fold and thrust belt.

7.1.3 Property Geology

The information in this subsection has been provided by Pershing Gold.

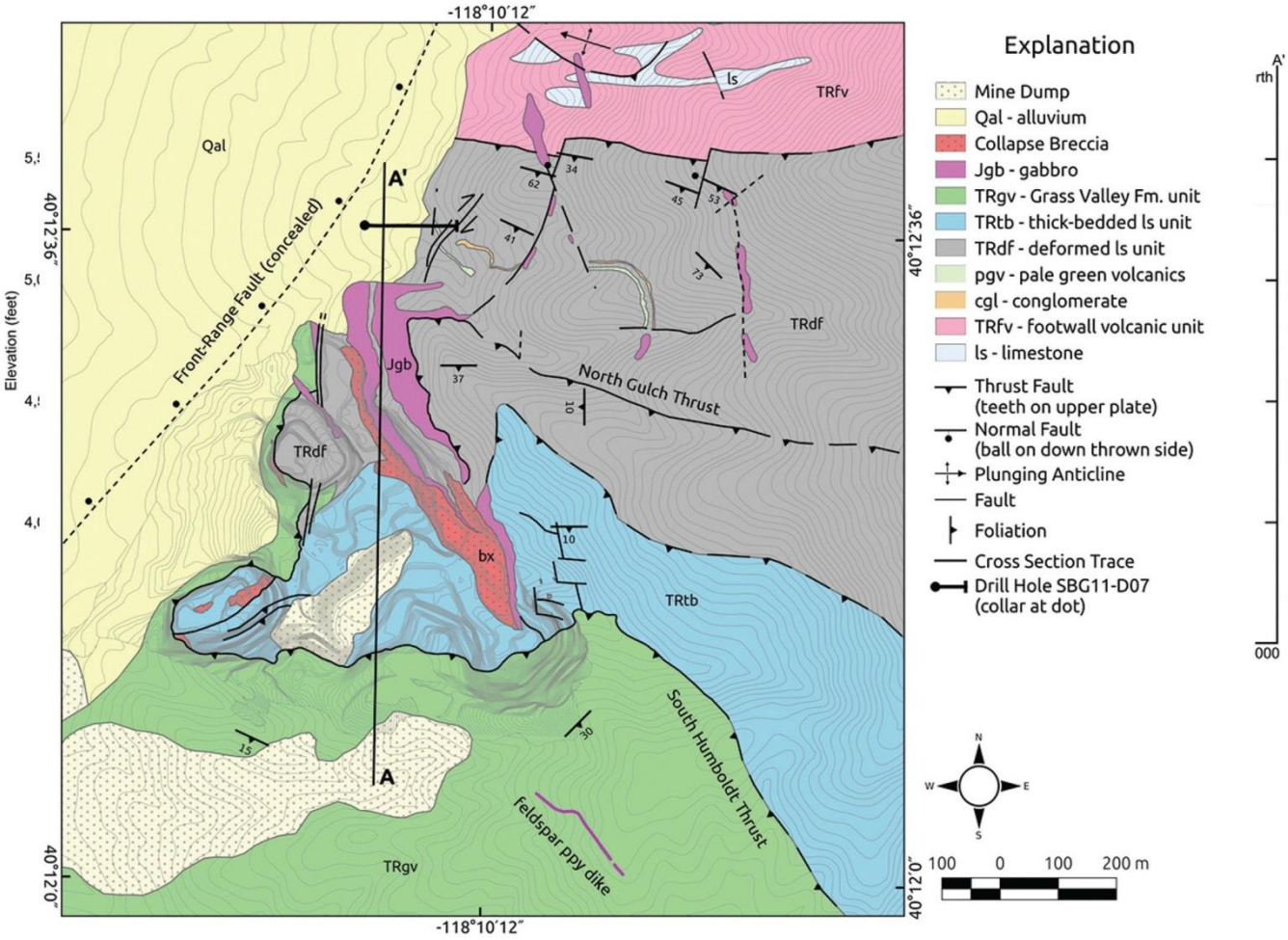
Mesozoic tectonostratigraphy in the vicinity of the Relief Canyon mine consists chiefly of a metamorphosed footwall mafic volcanic package (Smelser Pass Member of the Augusta Mountain Formation); a metamorphosed, foliated, and highly deformed carbonate-dominant package with intercalations of conglomerate and mafic volcanic rocks (Deformed Limestone Unit); a tectonically thickened, thick-bedded to massive limestone unit (Cane Spring Formation); and a tectonically thickened package of siliclastic rocks of the Late Triassic Grass Valley Formation. These units were all deeply buried sometime during the Jurassic Nevadan Orogeny and display moderate- to well-developed penetrative fabric that was generated by significant shortening during emplacement of the Luning Fencemaker fold and thrust belt (Oldow, 1984; Elison and Speed, 1989). Prior studies emphasized that Mesozoic deformation in northwestern Nevada occurred primarily in lower Mesozoic sedimentary strata deposited in a deep marine back-arc basin between a volcanic arc to the west and the continental shelf to the east (Speed, 1978 and Wyld, 2000). However, these authors did not recognize that metamorphism and development of penetrative fabric also affected continental shelf deposits, as demonstrated in the Relief Canyon mine area, that includes the lower to middle Triassic Shelf Sequence of Silberling and Wallace (1969). Development of penetrative fabric well east of the limit normally described for the Luning Fencemaker fold and thrust belt by Ellison and Speed (1989) and Wyld et al. (2003) was identified by Vikre (2014), but Vikre suggested rocks in the Relief Canyon mine area exhibit little deformation and no penetrative fabric. Field mapping and petrographic studies by Pershing Gold geologists document pervasive metamorphism and penetrative fabric in the Relief Canyon mine area. The eastern limit of the currently accepted Luning Fencemaker fold and thrust belt requires modification.

Figure 7.2 shows the generalized geology in the vicinity of the Relief Canyon mine.

A southerly dipping, fault-bounded package of schistose intermediate to mafic metavolcanic rocks, including lenses or boudins of mafic meta-tuff breccia, forms the footwall to gold mineralization at the Relief Canyon mine. This metavolcanic unit ("TRfv – footwall volcanic unit" in Figure 7.2), crops out northeast of the Relief Canyon mine and is the basal unit encountered in drilling. These metavolcanic rocks possibly correlate with the Smelser Pass Member of the Augusta Mountain Formation (Nichols and Silberling, 1977) and were formerly termed the Lower Member volcanic and limestone units of the Natchez Pass Formation of Silberling and Wallace (1969) and Wallace et al. (1969b). These footwall units are host to fracture- and fault-filled quartz-tourmaline-Fe-carbonate-leucoxene veins with local formation of tourmaline and carbonatization of wall rocks adjacent to the veins. Pyrite, pyrrhotite, and arsenopyrite are usually found in these veins along with anomalous values of Ag, As (-W-Mo). Local

values of silver greater than 1.0 oz Ag/ton, or gold greater than 0.200 oz Au/ton can occur within the veins. These quartz-tourmaline-sulfide veins formed during a period of hydrothermal activity preceding the epithermal gold mineralization that generated the gold resource described in this report.

Figure 7.2 Generalized Geology of the Relief Canyon Mine Area
(From Pershing Gold, 2015)



All of the area covered by this figure lies on land controlled by Pershing Gold.

Overlying the basal metavolcanic unit is a deformed and metamorphosed carbonate package with tectonically intercalated stretched-pebble conglomerate and mafic metavolcanic and intrusive rocks. On Figure 7.2, this unit is shown as "TRdf – deformed ls unit", for the Deformed Limestone Unit. The deformed and metamorphosed carbonate package was assigned by previous workers to the Upper Member of the Natchez Pass Formation (Silberling and Wallace, 1969; Wallace and others, 1969b). Stratigraphic assignment is problematical because limy ductile tectonites and calcareous mudstones to silty limestones are intercalated with schistose meta-tuff, stretched-pebble conglomerate, and a distinctive thin, pale green metavolcanic unit. These rocks host much of the gold mineralization in the Jasperoid and Lower zones and a minor amount of gold mineralization in the Main Zone; these mineral zones are described in Section 7.2. This deformed and metamorphosed carbonate package is distinguished by foliation that is subparallel to bedding as well as younger, steep axial plane foliation.

Folding at various scales is common. Carbonate, quartz, and carbonate-quartz veins occur in this package but typically do not carry detectable gold or silver. The green metavolcanic unit hosts quartz-tourmaline-sulfide veins carrying trace amounts of gold. These veins are similar in style and interpreted age of emplacement as the veins within the footwall volcanic unit.

A tectonically thickened package of thick- to very thick-bedded limestone overlies the "Deformed Limestone Unit". The thick-bedded limestone package, assigned to the Cane Spring Formation (Nichols and Silberling, 1977; Fianacca, 1984; Wallace, 1989), was previous described as constituting the Upper Member of the Natchez Pass Formation (Silberling and Wallace, 1969; Wallace and others, 1969a). On Figure 7.2, this unit is identified as "TRtb thick-bedded ls", and is shown in Figure 7.3 as the "Massive Limestone" unit. Thick-bedded limestone is best observed in the pit walls of the Light Bulb and South pits at the Relief Canyon mine. Descriptions that follow are based on observations made at the outcrop and in drill core or have been modified from Wallace (1989). Thick-bedded limestone is predominantly micrite to fossiliferous micrite with interbedded silty micrite and biosparite (Wallace, 1989). Bedding-parallel stylolitic layers are common. The thick-bedded limestone package has a thickness of greater than 200 feet that is the product of imbricate stacking of thick to massive beds along low-angle thrust faults. The thick-bedded limestone package was subjected to significant carbonate dissolution through reaction with weakly acidic meteoric waters (Wallace, 1989) and/or weakly acidic hydrothermal fluids. Carbonate dissolution cavities up to 10 feet in length are visible in benches in the Light Bulb Pit. Cavities are locally occupied by stratified cave-fill material, coarse white calcite that probably precipitated from lower-temperature hydrothermal fluids, or drusy calcite that is probably forming today from alkaline meteoric water percolating through the area. The thick-bedded limestone package, especially where there has been extensive karsting, is host to the bulk of the Main Zone current and historical gold resources at Relief Canyon.

The overlying Grass Valley Formation is comprised of a tectonically thickened package of siltstone and argillite with intercalated sandstone. The Grass Valley Formation was emplaced by the South Humboldt thrust over the underlying thick-bedded limestone package or the deformed and metamorphosed carbonate package of the Cane Spring Formation (formerly assigned to the Natchez Pass Formation). The South Humboldt thrust cuts down the tectonostratigraphic section along the northwest portion of the Relief Canyon mine North pit, where it juxtaposes Grass Valley Formation over the deformed and metamorphosed carbonate package without any of the intervening thick-bedded limestone package. The overall package of siliclastic rocks of the Grass Valley Formation is highly deformed and exhibits foliation, intersection lineations, mullions, and multiple sets of folds similar to those in the underlying metamorphosed and deformed carbonate package.

Various types of intrusive rocks have been identified in the Relief Canyon mine area. Dikes of altered feldspar porphyry have only been found cutting the Grass Valley Formation and are therefore late Triassic or younger in age. A swarm of mafic intrusions that vary from sill-like to dike-like are found throughout the southern Humboldt Range. A similar swarm of mafic dikes was described in the northern Humboldt Range by Wallace and others (1969b) and was also mentioned by Wallace (1989). Gabbro is especially prominent in the north highwall of the Relief Canyon mine North and Light Bulb pits, where bodies of gabbro vary in width from a few inches to greater than 100 feet. Gabbro locally shows chilled border phases against limestone and against earlier bodies of gabbro. Gabbro in the Relief Canyon mine area is ubiquitously metamorphosed and/or hydrothermally altered. Penetrative fabric is observed in the majority of gabbro bodies in outcrop and in drill core. A few of the gabbro bodies do not possess

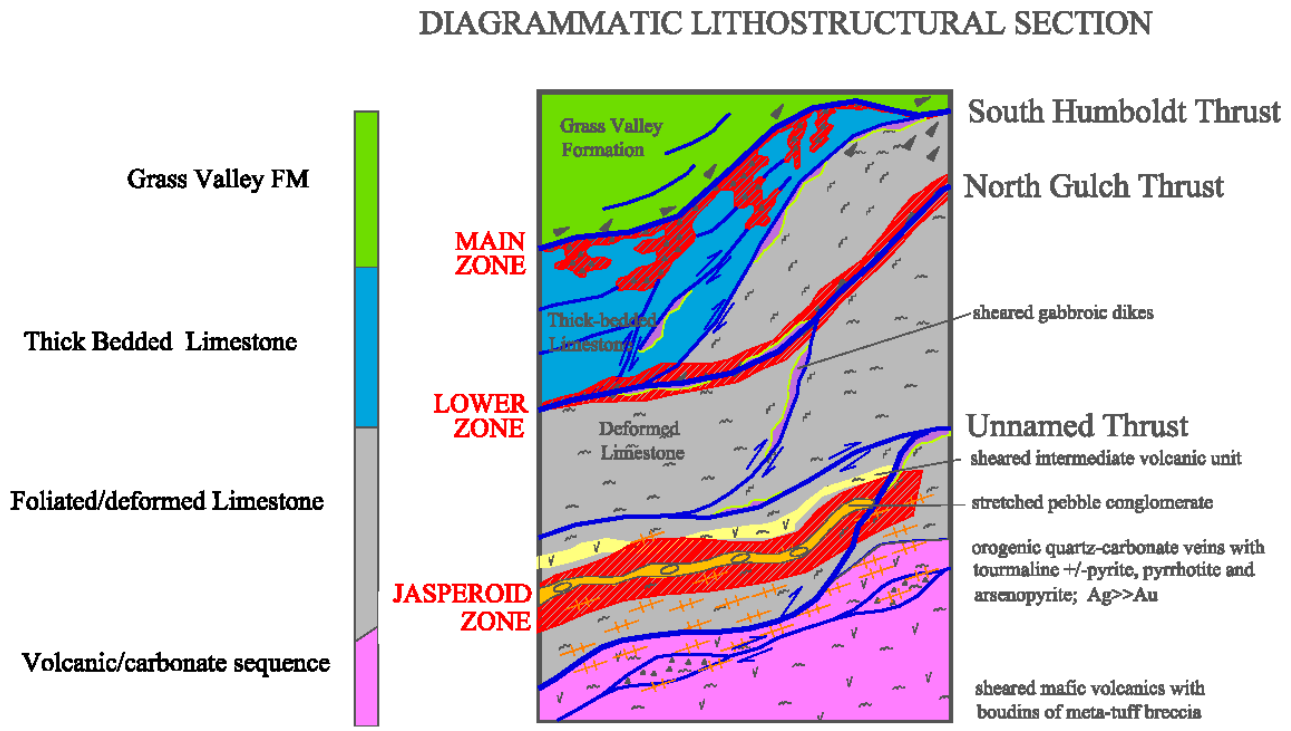
penetrative fabric but look similar in hand specimen to those with penetrative fabric. It is unclear if there was more than one pulse of mafic magmatism that emplaced dikes and/or sills in the southern Humboldt Range. Gabbro in the north highwall area locally is attenuated and forms meso- to mega-scale boudinage. The assumption is that the gabbro intrusions were emplaced after deposition of the mid- to late-Triassic sedimentary rocks and were then deformed sometime during the Jurassic Nevadan orogeny.

Gabbro shows a strong spatial correlation with gold. Post-emplacement movement along gabbro contacts served to channel hydrothermal solutions. In addition, gabbro in the Relief Canyon area is iron-rich and may have acted as a reductant that reacted with gold-bearing fluids. Locally, gabbro hosts economic grades of gold, chiefly along narrow 1- to 10-foot wide zones adjacent to the contact with mineralized limestone or in rare localities where quartz-calcite-adularia veins are found.

7.2 Mineralization

Gold mineralization at the Relief Canyon mine is primarily found in three zones that are structurally controlled and characterized by distinctive host rocks. From structurally lowest to highest, the zones are the Jasperoid Zone, the Lower Zone, and the Main Zone. The Main Zone hosts the bulk of the current and historical gold resources at Relief Canyon, while the Lower and Jasperoid zones are newly discovered mineral zones encountered below the Main Zone in the North Target area (see Figure 5.1 for location of the North Target area) during the recent Pershing Gold drill programs. Figure 7.3 shows a diagrammatic lithostructural section of the Relief Canyon mine area along with the mineral zone locations.

Figure 7.3 Diagrammatic Lithostructural Section of the Relief Canyon Mine Area
(From Pershing Gold, 2015)



The Jasperoid Zone gold mineralization is hosted within the Deformed Limestone package in a sequence of limey ductile tectonites with local stretched and boudinaged quartz veins, stretched-quartz-pebble conglomerate/sandstone, folded and foliated limestone, and altered gabbro, all of which have been replaced by dark-colored quartz. Silicification is also found in a set of sheeted, N30-35°E-striking, steep fractures that may be extensional in origin. In addition, auriferous fluids were localized by brecciation along contacts between lithologies of contrasting competency, such as between the stretched-pebble conglomerate and carbonate units, or less commonly, between pale green schistose volcanic and carbonate horizons. Locally, collapse breccia is also a site of gold deposition in the Jasperoid Zone.

Gold in the Jasperoid Zone shows a strong spatial correlation with silicification, fluorite, and white clay that is comprised of chiefly illite with trace kaolinite. Fine-grained disseminations of pyrite and coarse euhedral pyrite of metamorphic origin are also present. Silver is generally more abundant (> 10 g/t) in this zone than in the Lower or Main zones.

Lower Zone gold mineralization displays a strong spatial association with gabbro sills and/or transposed dikes (i.e., dikes in which progressive ductile deformation has transposed originally discordant contacts into contacts subparallel to foliation, giving the dikes a sill-like appearance). Mineralization is hosted in, or is proximal to, complex tectonic breccias that show multiple generations of structural reactivation and/or shearing, decalcification, locally superimposed carbonate-dissolution collapse breccia, and the presence of white clay (illite and/or kaolinite), sulfides iron-oxides and fluorite. Host rocks for mineralization in the Lower Zone include:

- a sheared, protomylonitic to mylonitic, jasperoidal limestone cut by quartz veinlets that are parallel to foliation;
- a carbonate-dissolution collapse breccia comprised of rotated limestone fragments supported by a quartz-chlorite-sulfide matrix that lies beneath the North Pit; and
- a complex mixture of tectonic and collapse breccia that lies under much of the North Target area.

The tectonic breccia was generated by multiple (minimum of two) episodes of movement in the North Target area. The latest movement was likely normal-fault offset in response to Tertiary extension. The principal clasts in the tectonic breccia comprise dark grey foliated limestone, jasperoid, and quartz. Fine-grained gouge material is chiefly composed of quartz flour and kaolinite.

Sheared, strongly foliated and crenulated, dark gray calcareous mudstones also host gold mineralization in the footwall of tectonic breccia in the North Target area. Locally, gabbro hosts gold mineralization along its contacts, especially where post-emplacement movement occurred. Two distinct hydrothermal pulses cut the gabbro. Proximal to a mineralized fault zone along the footwall contact seen in drill hole SBG11-D07, the gabbro is brecciated and completely altered to a very fine-grained assemblage of quartz-illite-kaolinite-sulfides (5-50 volume percent). This breccia is cut by fluorite-illite-kaolinite-sulfide veins that represent one of the hydrothermal pulses. Slightly farther from the faulted contact similar breccia clasts comprised of fine-grained granular quartz-illite are cemented by quartz-illite-sulfides-kaolinite and are crosscut by late calcite veinlets. A second distinct gold-bearing alteration assemblage more distal from the mineralized fault contact is composed of chlorite and clays that are cut by quartz-calcite-adularia veins. No cross-cutting relationships have been seen to date that suggest the relative ages of the two hydrothermal phases.

The Main Zone was the source of the historical gold production from the Relief Canyon mine. Gold in the Main Zone is found in a quartz-illite±fluorite-cemented, polyphase, dissolution collapse breccia with cave-fill sedimentary rocks. This collapse breccia formed along and just beneath the South Humboldt thrust which emplaced the siltstones, argillite, and sandstones of the Grass Valley Formation over the "Massive Limestone" unit within the Relief Canyon mine area and over the "Deformed Limestone" unit at depth in the North Target area. The siliclastics of the Grass Valley Formation are believed to have acted as a barrier to fluid movement.

Quartz-illite±fluorite±kaolinite alteration at the Relief Canyon mine is associated with gold mineralization in all three of the mineral zones described above. This assemblage is interpreted to have formed from a weakly acidic hydrothermal fluid. A relatively small volume of the gold resource is hosted by gabbro that is cut by quartz-calcite-adularia veins. This is a low-sulfidation assemblage that typically forms from slightly alkaline solutions that boiled at shallow crustal levels.

Anomalous amounts of arsenic, antimony, molybdenum, tungsten, chromium, mercury, and thallium are associated with gold at Relief Canyon, but some gold-mineralized intervals show distinctly low amounts of arsenic with only anomalous molybdenum and tungsten, which is similar to the geochemical signature of orogenic veins. Gold mineralization associated with quartz-calcite-adularia veins is characterized by relatively low amounts of arsenic (< 100 ppm), molybdenum, and tungsten.

At Relief Canyon, mineralization is controlled by low-angle thrust faults, the most important of which, the South Humboldt Thrust, hosts the Main Zone breccia that occurs at the contact between the Grass Valley and the Cane Spring Formations. This thrust contact has undergone significant post-thrust alteration as there is a variety of breccia types (jasperoid, clay matrix, and limestone) along the contact. Mineralization is often associated with a rubbly mixed breccia, which may represent slumping into elongate cavities or chimneys formed by karsting of the limestone along joints and fractures.

Detailed mapping also shows the presence of additional mineralized thrust faults below the lower Grass Valley contact within the thick-bedded limestone package and the underlying deformed and metamorphosed carbonate package. Locally, these faults are believed to be part of a series of stacked low-angle fault zones, and at Relief Canyon, these faults are believed to be the principal control for Lower Zone and Jasperoid Zone gold mineralization. These stacked zones are cut by faults and fractures that trend north-northeast to northeast and also west-northwest. Some geologists at the project believe a series of northeast- or north-northwest-trending sub-vertical faults could exist below the mineralized stacked thrust faults and may have acted as hydrothermal fluid conduits for the Main Zone and Lower Zone mineralization. Relatively deep drilling of almost 40 holes, from >1,000 feet in depth to >1,800 feet beneath the deposit, has not identified the hypothesized sub-vertical feeder structures. Rather, the shallow southerly plunging, tabular form of the Main, Lower and Jasperoid zones strongly suggests lateral flow of hydrothermal fluids.

8.0 DEPOSIT TYPE

The following discussion is taken from Evans and Altman (2013) and Fifarek etal (2015), with additional information from MDA and Pershing Gold.

Gold and silver mineralization at Relief Canyon is believed to be largely epithermal in origin, but the deposit also exhibits similarities to Carlin-type deposits (Fifarek et al, 2015) and to orogenic vein deposits as mentioned in Section 7.2.

Gold-bearing jasperoid breccias as well as a suite of trace elements associated with the precious metal mineralization, such as mercury, antimony, and arsenic, are two of the more important similarities between the mineralization at Relief Canyon and Carlin-type gold deposits. Another characteristic of a Carlin-type system is the preferential weathering of the jasperoid material. The jasperoid breccias at Relief Canyon are brittle and highly fractured, which enhances permeability. In many places, they are weathered and oxidized to great depths, whereas surrounding rocks are generally oxidized to shallower depths. A single crystal of euhedral pyrite with a later overgrowth of pyrite has been described in a petrographic study of material from the Jasperoid Zone. Similar arsenic-rich pyrite overgrowths are typical of Carlin-type deposits. It has yet to be determined if the overgrowth in the Jasperoid Zone is arsenic-rich.

As discussed in Section 7.0, there is evidence at Relief Canyon for gold-bearing mineralization of three different styles representing possibly three different ages. The quartz-illite±fluorite±kaolinite alteration associated with gold occurs in all three mineralized zones – Jasperoid Zone, Lower Zone, and Main Zone – and is the most important type of alteration. This assemblage is believed to have formed by weakly acidic hydrothermal fluids. Illite from the quartz-illite±fluorite±kaolinite alteration assemblage has been dated with $^{40}Ar/^{39}Ar$ methods at 23.51±0.11 Ma (Fifarek et al, 2015). Low-sulfidation quartz-calcite-adularia veins with associated gold are hosted by gabbro and constitute a relatively small volume of the mineral resource. This assemblage typically forms from slightly alkaline solutions. Adularia from this assemblage has been dated at 14.92±0.05 Ma with 40Ar/39Ar methods (Fifarek et al, 2015). The presence of orogenic vein mineralization is indicated by the alteration mineral assemblage of quartz-carbonate-tourmaline-leucoxene, in which some gold-mineralized intervals are associated with low amounts of arsenic, but with anomalous molybdenum and tungsten.

9.0 EXPLORATION

Since acquiring the Relief Canyon project in August 2011, Pershing Gold has conducted additional core and reverse circulation drilling in order to expand the resource and has also conducted drilling for some target development and testing away from the pits. Pershing Gold's drilling is discussed in Section 10.0.

Pershing Gold has also conducted geophysical surveying, geologic mapping, and rock and soil sampling around the mine and within the district. A program of 10 east-trending Controlled Source Audio Magneto-Telluric ("CSAMT") lines totaling 23.54 miles was completed across the Packard Flat alluvial sediments. Two additional CSAMT lines totaling 2.92 miles and oriented N30°E were completed south of Packard Flat, in the northwest corner of the Pershing Pass area. Two IP-resistivity lines totaling 3.48 miles were completed in an east-west orientation across the north edge of Packard Flat, just south of Coeur d'Alene Mines Corp.'s Nevada Packard open-pit mine.

Three geophysical anomalies beyond the resource area were tested with four exploration drill holes totaling approximately 2,800 feet.

Pershing Gold undertook detailed mapping in the pits and adjacent areas in 2012 to collect structural data that would help refine understanding of the complex geology at Relief Canyon and to identify additional drill targets. They have also collected surface rock-chip samples for geochemical analyses.

MDA has not analyzed the sampling methods, quality, and representativity of surface sampling on the Relief Canyon property because drilling results form the basis for the mineral resource estimate described in Section 14.0.

10.0 DRILLING

10.1 Summary

The mineral resources discussed in this report were estimated using the data provided by reverse circulation and core drilling completed by Duval, Lacana, Santa Fe, Pegasus, Firstgold, and Pershing Gold.

The Relief Canyon drilling has defined a zone of gold mineralization within the jasperoidal-clay breccia lying immediately below the Grass Valley Formation. This Main Zone mineralization was exploited by past mining activity. Recent drilling by Pershing Gold to the north of the area of past mining activity ("North area") has encountered structurally controlled mineralization in the Lower Zones and Jasperoid Zone at depth beneath the Main Zone.

The project database used to estimate the mineral resources has a total of 895 drill holes for 375,447 feet of drilling: 219 core holes for 137,045feet and 676 reverse circulation holes for 238,402 feet. This total includes drilling by Pershing Gold through February, 2015. Table 10.1 is a summary of the drilling included in the project database. The database does not include the hole drilled by Falconi in 1978, and it is likely missing some holes drilled by some of the companies listed in Table 10.1, as well. As noted in Section 6.0 and discussed further below, there are a number of discrepancies in the total numbers of holes drilled by the various companies in reports reviewed by MDA. Figure 10.1 shows the location of the drill holes.

The Main Zone breccia that hosts most of the Relief Canyon mineralization modeled by MDA forms a broad antiform. Much of the crest of the antiform is subhorizontal to shallowly plunging, while the limbs generally dip at angles less than 30°. Although only 205 of the 895 holes in the database were drilled at an angle, the vertical holes are generally well oriented with respect to the Main Zone breccia-hosted mineralization. The majority of the angle holes were core holes drilled by Pershing Gold targeting North area structurally controlled Lower Zone and Jasperoid Zone mineralization beneath the Main Zone breccia.

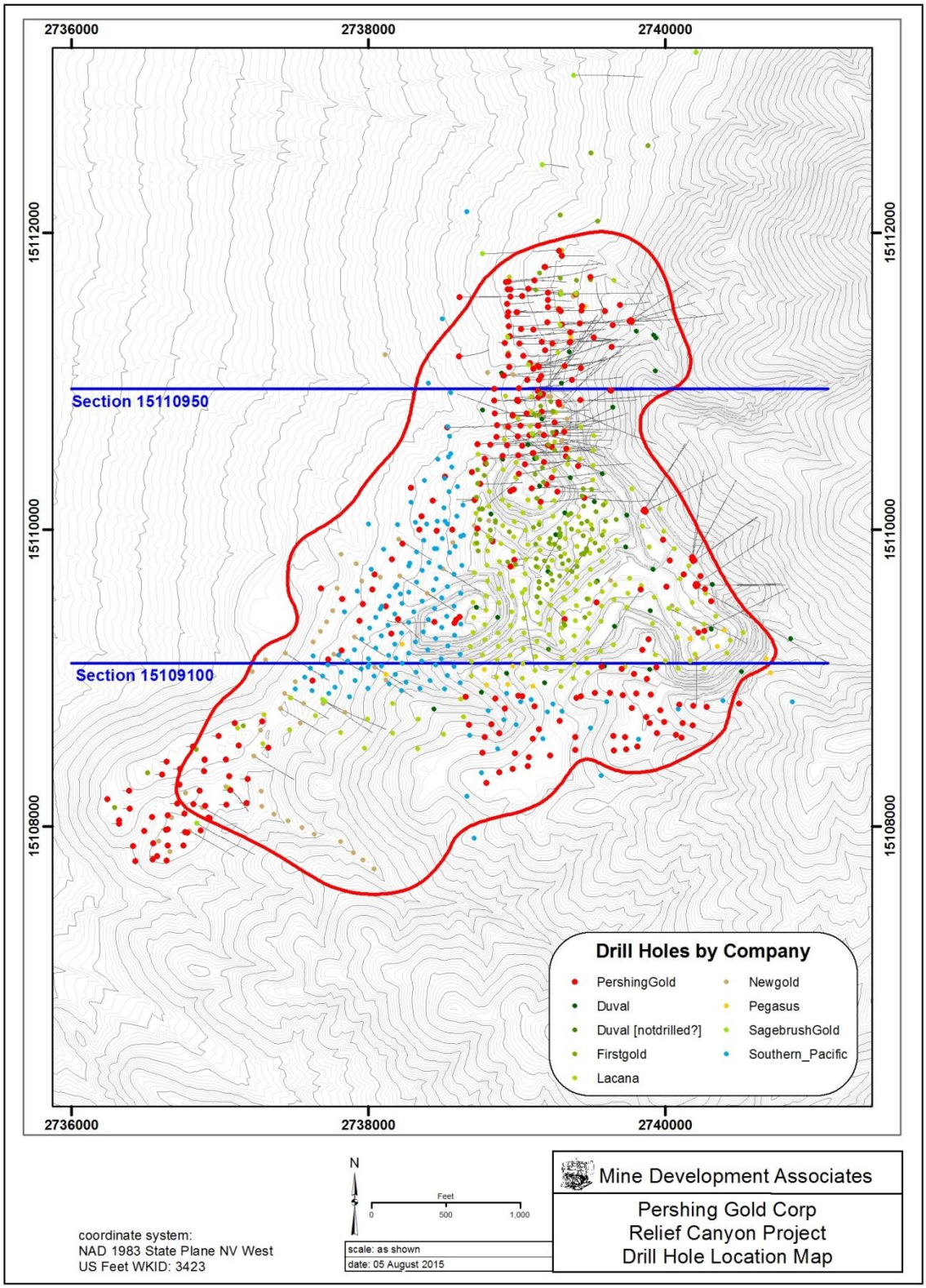
The project database also includes 20 excavator trenches within the dump/stockpile area located west-southwest from the historical mined South pit. The trenches were dug by Pershing Gold in 2014 and 2015 to provide additional confidence in the mineralization previously defined by shallow core and RC drilling. Each trench is about 50ft long and 15ft deep and samples were collected from the excavated material along the length of the trenches (Casaceli, 2015). These trenches are not included in the Table 10.1 drill summary.

Table 10.1 Relief Canyon Mineral Resource Drill Database Summary

Company	Period	Hole Numbers	Core		Reverse Circulation		Total	
			No.	Feet	No.	Feet	No.	Feet
Duval	1981-1982	DVR1 - 45[1] (excludes 27, 39-41)			41	13,663	41	13,663
Lacana	1982-1983	LRC1 - LRC203 (includes two re-drilled holes[2])			205	50,453	205	50,453
Santa Fe	1983-1984?	SPRC1 – 148[3] (excludes 80,114-119,129) (includes six "A" holes)			146	47,688	146	47,688
Pegasus	1987-1988	PRC87-02, 03, 06 - 15[4] (excludes 04, 05) PRC88-1 through 5			17	5,100	17	5,100
Firstgold (Identified as Newgold holes on Figure 10.1)	1996-1997	9601-9640 (excludes 07, 14, 16, 22-24, 39) 9702-9743 (excludes 18, 41)			73	50,420	73	50,420
Firstgold	2007-2008	RCM07-01 - 75[5] RCM08-01 – 19 RC - D1 NT07-01, NT08-01 – 10 NT08-D01, 03, 04	4	4,578	105	39,113	109	43,691
Pershing Gold	2011-2013	SGB11-D01 – D03, D05 – D08 SBG11-RC01 – RC05 SGB12-D01 - D07 RC12-008 – 030 RC12-031R – 114R RC13-115 – 121, 122M – 126M, 127-129, 129A, 130 – 148, 148A, 149-152	77	53,827	89	31,965	166[6]	85,792
Pershing Gold	2014-2015	RC14-158 – 262 RC15-263 – 285 RC15-286M – 288M[7]	138[8]	78,640			138	78,640
TOTAL			*219*	*137,045*	*676*	*238,402*	*895*	*375,447*

[1]DVR42 - 45 may have been drilled by conventional rotary
[2]In cases of original and re-drilled hole sets, assay data available for re-drilled holes only
[3]Assay data unavailable for 13 holes
[4]Assay data unavailable for PRC87-03
[5]Assay data unavailable for RCM07-24
[6]Total does not include four piezometer holes (RC13-153 – 156) and one monitor well (MW13-01)
[7]Metallurgical holes; assay data not available
[8]Includes seven holes re-drilled due to poor recovery in original holes

Figure 10.1 Relief Canyon Drill-Hole Location Map



10.2 Historical Drilling

10.2.1 Falconi

While exploring the property for high-purity limestone, Falconi drilled a single core hole to a depth of 745 feet (Fiannaca and Easdon, 1984). MDA has no further information on this drilling, and no information from this hole is included in the database.

10.2.2 Duval

According to Fiannaca and Easdon (1984), Duval Corporation drilled 40 reverse circulation holes on the property in 1981-1982 for a total of 13,148 feet. Fiannaca and McKee (1983) had previously reported that Duval drilled 38 reverse circulation holes in 1981-1982. Mears (2007) reported that Duval drilled 44 holes totaling 15,080 feet. However, the database used by MDA contains 41 holes totaling 13,663 feet. The author cannot account for these discrepancies. MDA has no information on the drill contractor or type of equipment used for Duval's drilling.

Drill logs indicate that the Duval reverse circulation holes drilled in 1981 were drilled dry until encountering the water table.

10.2.3 Lacana

Upon exercising its option and acquiring Relief Canyon, Lacana drilled 48 reverse circulation percussion holes totaling 12,610 feet in a first phase of drilling to provide details on the deposit as defined by Duval. The following information on Lacana's drilling is taken from Fiannaca and Easdon (1984) and Fiannaca and McKee (1983).

Lacana's holes were drilled on 200-foot centers such that the holes fell at the apices of a series of contiguous equilateral triangles. This pattern was chosen to eliminate directional bias in the grid and to permit construction of cross sections from three directions. Eklund Drilling Company of Elko, Nevada, was the drill contractor for these 48 holes. Data in the drill-hole database indicate that Eklund used a TH-60 rig for these holes, although for the last few holes the database indicates that LL Enterprises Eklund was the contractor using a TD-105 or TD-100 rig.

Nearly all of the samples collected in the breccia unit were dry. Apparently some wet conditions were encountered in other units.

Results of this drilling led to Lacana's constructing a pilot heap-leaching facility, during which each of four potential mining sites were drilled by reverse circulation methods on 25-foot centers. After two sites were selected for the pilot test, 140 blastholes were drilled on four- to six-foot centers. MDA has no details on this drilling except that all blasthole cuttings were fire assayed for head-grade control. The blastholes are not included in the database used by MDA.

While the pilot test was underway, Lacana began a second phase of reverse circulation drilling to sample the main zone of mineralization on 100-foot centers. A total of 99 reverse circulation holes were drilled during this phase for a total of 24,038 feet. A third phase of drilling was then undertaken to better define

the pit perimeter and to condemn waste dump sites; this phase consisted of 57 reverse circulation holes totaling 13,715 feet. The total of the three phases of drilling is 204 holes, although the drill-hole database used by MDA shows 205 Lacana holes with a total of 50,453 feet of drilling; MDA cannot account for the discrepancy, although it may involve counting of holes that were started and then re-drilled.

MDA has few details concerning the drilling contractors, rigs, or drilling conditions for the second and third phase of Lacana's drilling. Where a drill contractor is shown in the database, it is listed as Eklund using a TH-60 or TH-100 rig.

10.2.4 Santa Fe

In the 1980s, Santa Fe owned property adjacent to Lacana's property and drilled 147 reverse circulation holes to test for continuation of mineralization onto their property, according to Fiannaca and Easdon (1984). A total of 146 of these holes are included in the drill-hole database with a total of 47,688 feet drilled; MDA cannot account for the difference. MDA has no information on the drilling contractor or type of rig used for Santa Fe's drilling.

Santa Fe drilled the portion of the Relief Canyon deposit under their control in Sections 17 and 21, which consists primarily of the northwest-dipping limb of the antiformal mineralized breccia horizon. Most Santa Fe holes were therefore drilled deeper than the Lacana holes and encountered considerably more groundwater, which caused sampling problems. Drill logs indicate that Santa Fe drilled their holes dry until the water table was intersected.

10.2.5 Pegasus

According to Mears (2007), Pegasus drilled 11 reverse circulation holes totaling 3,545 feet on the property, but the drill-hole database used by MDA contains 17 holes totaling 5,100 feet; MDA cannot account for the difference. According to the database, these holes were drilled in 1987 and 1988. The five holes shown as drilled in 1988 appear from the database either to have been drilled by Eklund Drilling or with equipment leased from Eklund. Drill logs indicate that these five holes were drilled dry until either drilling conditions required the injection of water or formational water was intersected.

MDA has no further information on drilling equipment or procedures.

10.2.6 Firstgold

The only drilling by Firstgold described in this section was for exploration and identification of remaining and potential new resources. Firstgold also investigated the potential for reprocessing heaps remaining from previous mining, including drilling of the heaps, but this drilling program is not discussed in this section.

From its acquisition of the property in 1995 through April 1997, Firstgold drilled 73 reverse circulation drill holes that were 6.5 inches in diameter (Mears, 2007). These holes are shown as having been drilled by Newgold on Figure 10.1; Newgold changed its name to Firstgold in 2006. Based on the database used by MDA in 2010, this drilling totaled 50,420 feet; however, according to Mears (2007), the 73

holes totaled 43,220 feet. MDA cannot account for the differences in total length drilled between the database and that reported by Mears (2007). The focus of this drilling was just north of the North pit, west of the pits, and southwest of the pits (Mears, 2007). MDA has no details on the drilling contractor or type of rig used except for an entry in the database for the first hole drilled in 1996 that indicates Five-O was the drilling contractor.

In 2007, Firstgold again began exploration drilling at Relief Canyon, initially focused on the area of the existing pits from prior mining operations (Firstgold, 2007e). Their drilling included shallow twin holes and infill drilling to confirm grade and continuity of the gold mineralization (Firstgold, 2007d). Later drilling tested deeper targets within the pit and outside it to the northwest in the pediment area, between the North and South pits, and in the North Target (Firstgold, 2008a, 2008c, 2008d). In 2007 and 2008, Firstgold drilled four core holes totaling 4,578 feet and 105 reverse circulation holes totaling 39,113 feet, based on the database used for the resource estimate.

The information that follows was provided by Firstgold to MDA in 2010.

Firstgold drilled these holes using their own crew and equipment. Reverse circulation holes RCM07-1 through RCM07-72 were drilled with an MPD 1000 rig using a 5 1/8-inch diameter hammer bit, with the exception of holes RCM07-24, RCM07-29, RCM07-31, and RCM07-38, which used a 4 ¾-inch rock bit. Holes RCM07-73 through RCM07-75 and holes RCM08-1 through RCM08-16 were drilled with an IR TH-75E rig; most used a 5 ¾-inch hammer bit, except for holes RCM08-15 and RCM08-16, which used 5 3/8-inch rock bits and hole RCM07-73, which used a 5 ¾-inch hammer and 5 ½-inch and 5 ¼-inch rock bits. Holes RCM08-18 and RCM08-19 were drilled with a Schram 685 rig using a 6-inch hammer bit. Additional holes were numbered NT07-1 and NT08-1 through NT08-10. All except NT07-01, NT08-01, and NT08-03 were drilled with a Schram 685, while the remaining holes were drilled with an IR TH-75E rig. The bits were either rock or hammer and ranged from 5 3/8-inch to 6-inch in diameter.

Water was encountered at depths of between 120 and 460 feet in 33 of the reverse circulation holes.

For its core drilling, Firstgold drilled one core hole between the pits (RC-D1) and four core holes in the North Target (NT08-D1 through NT08-D4), of which one was abandoned. The core holes were drilled with a UDR 200DLS rig using HQ bits.

10.3 Pershing Gold

From 2011 through March 2015, Pershing Gold drilled 215 core holes and 89 reverse circulation holes. Information on the rig types was taken from the current database and information provided by Pershing Gold.

The initial drilling in 2011 and early 2012 consisted of 14 core holes and five reverse circulation holes testing targets north of, and at depth below, the previous resource estimate. Carpenter Drilling of Benton City, Washington, was the drill contractor for the 2011 and early 2012 core holes (SBG11-D01 – D03, D05-D08; SBG12-D01-D07), using an LH 90D rig. O'Keefe Drilling Company drilled the 2011 reverse circulation holes (SBG11-RC01 – RC05).

The 2012 drilling consisted of 30 core holes and 84 reverse circulation holes. Boart Longyear drilled 13 of the 2012 core holes using a BL28 rig (RC12-08, 10, 12, 14, 16, 18, 20, 22, 24-26, 29-30). Ruen Drilling Inc. drilled 10 of the 2012 core holes (RC12-09, 11, 13, 15, 17, 19, 21, 23, 27, and 28), using a track-mounted LF 90 rig. The core drilling primarily focused on extending mineralization on the west side of the historical pits. The 2012 reverse circulation holes were drilled by National Exploration, Wells and Pumps using a 178 rig (RC12-031-114R). The reverse circulation drilling targeted the southern extension of the Main Breccia Zone and evaluated the gold mineralization within the waste-rock dump.

In 2013, West-Core Drilling, LLC ("West-Core") of Elko, Nevada, drilled 40 core holes, using a rubber-track-mounted Atlas Copco CS-14-1 rig (RC13-115-121, 122M-126M, 127-129, 129A, 130-148, 148A, 149-152). The 2013 core drilling primarily targeted structurally controlled mineralization at depth north of the previous resource estimate. The five metallurgical holes (RC13-122M-126M) were drilled within the Main Breccia Zone

In 2014 and through February, 2015, West-Core completed 99 core holes using an Atlas Copco CS-14 rig. Timberline Drilling, Inc. of Hayden Lake, Idaho, completed 39 of the holes in 2014 using a modified Sandvik DE130 (formerly Hagby) drill. Primary goals of this drill program were to extend and confirm high-grade zones in the Lower and Jasperoid zones, as well as systematically replace much of the North area reverse circulation drill data, due to possible down-hole contamination in the reverse circulation holes, and thereby increase confidence in the Lower Zone and Jasperoid Zone gold resource.

10.4 Drill-Hole Collar and Down-Hole Surveys

Uncertainties with respect to collar elevations and x-y positions in several historical holes remain, although these are not likely to be material to the resource modeling discussed in Section 14.0.

For Pershing Gold's 2011-2012 drill program, collars were staked with hand-held GPS and marked with a temporary hole identification. Final collar locations were then surveyed by an in-house surveyor with a Trimble GPS and uploaded directly to the database (Evans and Altman, 2013). Similar collar location and survey procedures were used for Pershing Gold's 2013 through early 2015 drilling. A re-survey in late 2013 of approximately 20 Pershing Gold drill holes by a third-party surveyor using a sub-meter-accuracy Trimble indicated that the 84 reverse circulation drill holes completed in 2012 (RC12-031R thru RC12-114R) had a consistent 32-foot shift in the Northing coordinate. The collar locations for these reverse circulation holes were corrected based on the third-party surveys. A material shift in drill-hole coordinates was not recognized in the other drill campaigns.

No down-hole survey data are available for any of the historical drill holes in the database, so all of these holes are assumed to have constant dip angles. This assumption is likely to introduce increasing error with increasing depth of the drill holes, although the shallow nature of most of the modeled mineralization and the prevalence of vertical holes (only 31 of the 591 historical holes in the database were drilled at an angle) likely minimizes any impacts in the resource modeling.

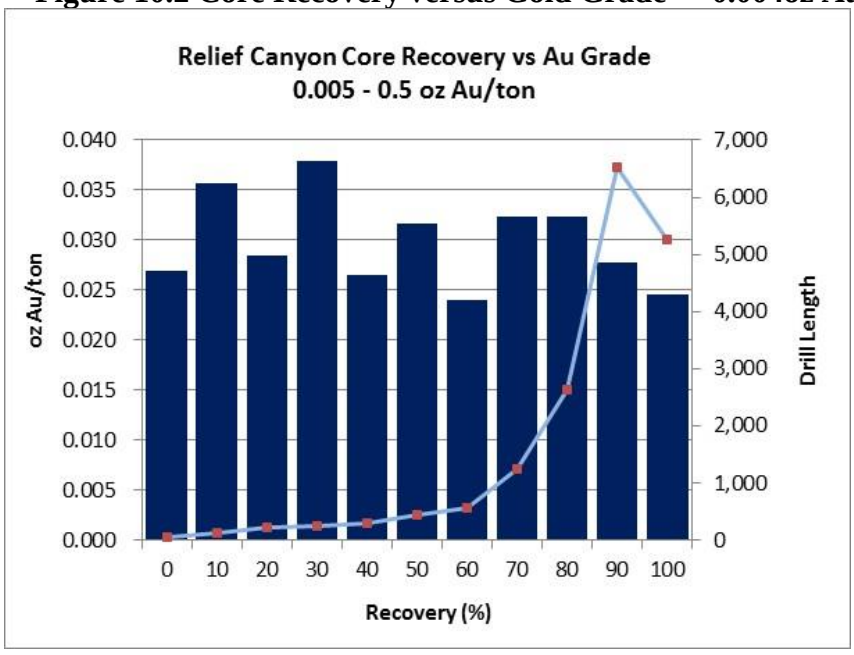
For Pershing Gold's drilling, the drillers performed down-hole surveys using a Reflex tool on 207 of the 215 core holes and five of the 89 reverse circulation holes. The 84 unsurveyed reverse circulation holes were shallow vertical holes, which likely minimizes any impacts on the resource.

10.5 Core Recovery

Average core recovery for all Pershing Gold sample intervals is 90 percent, while average core recovery for those intervals assaying over 0.004 oz Au/ton is 88 percent. The core is generally highly fractured within the mineralized horizons, and RQD measurements are typically low, averaging about 10-20 percent.

Poor core recovery may have an impact on grade assessment. MDA analyzed the drill data to determine if there was a deposit-wide relationship between poor recovery intervals and gold grades. Figure 10.2 shows the gold grades (blue vertical bars) and the number "Count" of intervals (light blue line with orange data points) plotted in the vertical axis, while core recovery is plotted along the horizontal axis. The figure includes those mineralized intervals assaying 0.005 oz Au/ton or greater, with the very high-grade (>0.5 oz Au/ton) intercepts excluded due to their tendency to skew the statistics. The core-recovery data have been separated into distinct bins for each 10 percent increase in recovery. So the "70" value in the horizontal axis contains all data points which have core recovery values between 70 and 79 percent. The "100 percent" core recovery bin includes all drill intercepts with 100 percent or greater core recovery. Approximately 2 percent of the these drill intercepts have calculated core recovery values greater than 100 percent. These infrequent intercepts are the result of core re-drill or minor footage measurement errors.

Figure 10.2 Core Recovery versus Gold Grade - >0.004oz Au/ton

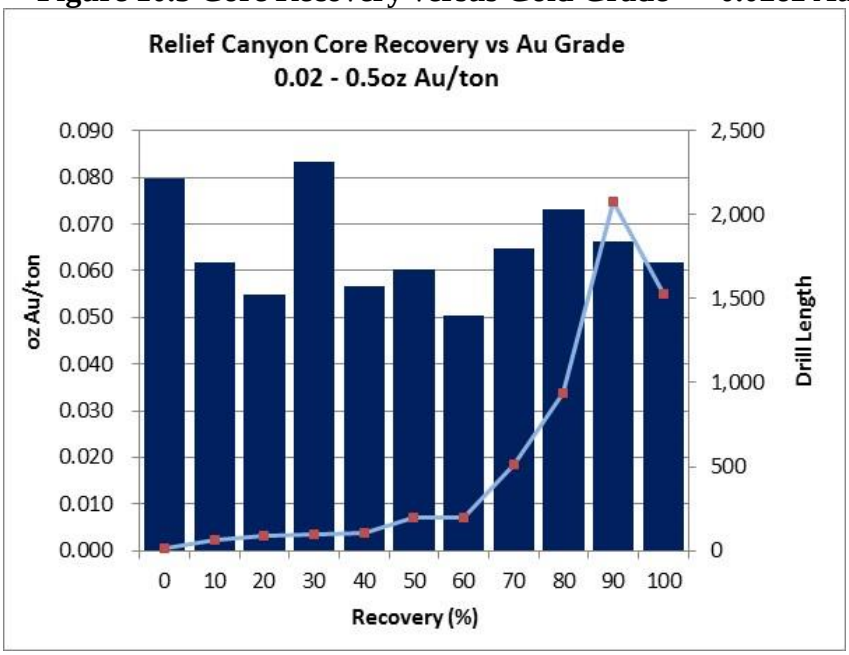


There is an increase in gold grade of about 20 to 25 percent associated with decreasing core recoveries down to about 70 percent recovery. Below 70 percent, gold grades become more erratic and can be significantly higher or approximately the same as the gold grades for those intervals with no or very limited core loss. The drill intervals having less than 70 percent core recovery represent approximately

10 percent of the total mineralized core intervals. The variability of grade within these intervals represents a minor risk to the total global resource.

MDA reviewed the drill data using 0.02oz Au/ton lower cut-off grade for the data set to see whether the increase in gold grades in the 70 to 90 percent recovery ranges is observed within the higher-grade drill intercepts (Figure 10.3). The grade increase is still observed, though the increase is now approximately 5 to 10 percent. There is also the same erratic gold grades below 70 percent, though the gold grades are now both higher and lower than those intervals with minimal core loss. The observed increase in gold grades for those intervals with 70 to 90 percent core recovery are considered a low to moderate risk to the current resource estimate.

Figure 10.3 Core Recovery versus Gold Grade – >0.02oz Au/ton



11.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

The Relief Canyon database includes assay data from reverse circulation and core drill holes. While it is likely that down-hole contamination presents a sample integrity issue in some reverse circulation holes below the water table, MDA believes techniques employed during the resource modeling have limited the problem, as discussed below, and any potential remaining issues are appropriately reflected in the resource classification.

The preponderance of samples for all drill programs of all operators were taken at five-foot intervals, as is customary for reverse circulation drilling, and which is significantly less than the thickness of the bulk-tonnage style of mineralization at Relief Canyon. Each drill sample interval is, therefore, a fraction of the true thickness of the mineralized zones.

11.1 Falconi

Fiannaca and Easdon (1984) state that although the single Falconi core hole was drilled through mineralized breccia into the Natchez Pass Formation limestone, the core was not assayed for gold.

11.2 Duval

MDA has no information on the sampling methods used by Duval during their drilling at Relief Canyon, other than some data regarding wet or dry sampling (see Section 10.2.2). The only information MDA has on Duval's analyses is that pulps were assayed by ½-assay-ton fire assays (Fiannaca, 1982; Fiannaca and Easdon, 1984).

11.3 Lacana

The following information is taken from Fiannaca and Easdon (1984).

Lacana took the following measures to mitigate and quantify any effects of down-hole contamination in their reverse circulation drilling program:

- Lacana personnel were used for sample collection;
- Holes were air-cleaned at the bottom of each five-foot interval;
- Water and/or stabilizers were injected to minimize caving as needed;
- The sample-collection cyclone and splitter were continuously cleaned; and
- When drilling below the water table, contamination samples were collected while the drill continued to circulate for three-minute intervals.

Nearly all of the samples that Lacana collected in the mineralized breccia unit were dry. Each five-foot interval in the breccia was collected and assayed. When drilling in dry conditions, each sample was collected in a cylindrical cyclone device equipped with a 10 foot-high baffled stack to minimize the loss of fines. The dry samples were dumped into a 42-inch Jones-type splitter, and both splits were remixed and re-split twice to insure homogeneity of the final split. During drilling of the 48 holes of the phase-one program, three identical, equal-volume samples of each drill interval were collected by designing inserts for the splitter pans which contained exactly 1/3 the volume of each pan. All samples of the first

split were sent to the primary assay laboratory; every fifth sample of the second split was sent to a secondary assay laboratory for check; and all the samples of the third split were stored for future metallurgical testing.

All samples were collected in pre-labeled polyethylene sample bags and marked with identification tags placed into each bag. Sample weights commonly varied between 10 pounds and 15 pounds, and the drill-sample recovery was stated to be "generally excellent".

When drilling in wet conditions, each sample was discharged through the opened cyclone onto either a single-deck or a triple-deck Jones splitter, and the water-rock mixture was collected in 40-gallon plastic cans. The mixture was allowed to settle, and CaCl was added to rapidly enhance flocculation of the slimes. Clarified water was removed by siphon, with care taken to prevent remixing of the sample slurry. The sample was removed from the plastic can and was shipped to the laboratory either in pre-labeled, double-lined polyethylene bags or in plastic metallurgical sample buckets. At the laboratory, the wet samples of a given interval were mixed and thoroughly dried together in drying sheds. The laboratory handled the final mixing and splitting of the dried sample.

During the drilling of Lacana's second phase, in which 99 reverse circulation holes were drilled, the same sampling procedures were followed, except that only two sample splits were collected instead of three; the metallurgical sample split was omitted. MDA has no specific details about the sampling in Lacana's third phase of 57 reverse circulation holes.

Samples from the 48 reverse circulation holes drilled by Lacana in their first phase of drilling and the 99 reverse circulation holes drilled in their second phase underwent sample preparation at the assay laboratory and then were analyzed by one-assay-ton fire assay. Sample preparation consisted of crushing the entire sample to 85% -10 mesh. A 7-ounce to 12-ounce split was taken and pulverized to 80% -200 mesh. The pulverized samples were rolled 30 times before selecting a 1.03 ounce split for fusion. The pulverizer was routinely cleaned with compressed air, and every fourth sample pulverized was barren silica sand. MDA has no information on sample preparation during Lacana's third phase of drilling.

The only information available to MDA on the laboratories used by Lacana for analysis is in the drill-hole database. For many holes, no laboratory is listed. Those holes from the first phase of drilling that do show a laboratory indicate that Monitor Geochemical Laboratory, Inc. ("Monitor") of Elko, Nevada was the laboratory used. For the second phase of drilling, some holes list Shasta Analytical Geochemistry Laboratory ("Shasta"); others list both Shasta and Monitor; and later holes list Shasta and Hunter Mining Laboratory, Inc. ("Hunter"). For the third phase of drilling, Shasta, Legend Metallurgical Laboratory Inc. ("Legend"), or both are listed.

11.4 Santa Fe

According to Wittkopp *et al.* (1984) and Parratt *et al.* (1987), early sampling procedures used by Santa Fe allowed fine, clay-sized material to overflow the sample bucket when heavy water flows were encountered at the upper contact of the mineralized breccia unit, which resulted in sufficient loss of sample to raise concerns. Assays of grab samples of the overflow indicated gold values up to five times those returned from assaying of the primary samples from the bucket. Two previously drilled holes were

offset about 16 feet and re-drilled. During re-drilling, material from the cyclone was passed through a riffle splitter, taking a 50-50 split. On one split, the bucket was allowed to overflow, losing the fines. On the second split, the entire five-foot sample, including the water, was recovered in several buckets. Flocculent was added to each bucket and the water decanted over a 24-hour period. Assay comparisons of the two types of sampling procedures showed average increases of eight percent to 19 percent in the gold values for intervals for which the fines were caught.

While not stated explicitly, it appears that Santa Fe did not allow overflow of the sample buckets following this exercise.

Assuming the results from the re-drilling exercise are generally applicable to the early Santa Fe holes, and perhaps some holes by other operators as well, some portion of the drill-hole database may have grades that understate the true grades drilled. This potential understatement of grade would result in the resource being locally conservative adjacent to some of the historical drilling.

MDA has no information on sample preparation, analysis, or security used by Santa Fe during their drilling programs at Relief Canyon. Section 10.2.4 discusses groundwater issues with respect to Santa Fe's drilling.

11.5 Pegasus

As part of a review of Firstgold's resource model, Independent Mining Consultants, Inc. ("IMC") found that the drill samples for the five holes drilled by Pegasus in 1988 were analyzed only by AA methods, which could understate the gold contents yielded from fire assaying (IMC, 1997). The five reverse circulation holes are shallow holes drilled in the North area and are included within the mineral domains modeled by MDA. The effect of these holes on the resource estimate is considered minimal due to the close proximity of Pershing Gold drill holes.

MDA has no further information regarding the sample preparation, analysis, and security procedures implemented during the Pegasus drilling programs.

11.6 Firstgold

With very few exceptions, all Firstgold reverse circulation samples were collected at five-foot intervals. Review of drill-hole logs indicates that all 1996 and 1997 reverse circulation holes were drilled dry until the water table was encountered, while at least some, and perhaps all, of the later reverse circulation Firstgold holes were drilled similarly.

The following description of Firstgold's sampling methods during the 1996 and 1997 reverse circulation drill program is taken from Ball (1997). Each five-foot sample to be sent for laboratory analysis was collected by the drill crew, while chips for logging and petrologic samples (samples of the cuttings that are sufficiently representative of the rock to be adequate for petrologic studies) were usually collected by Firstgold geologists. The primary samples were collected in 10 x 17-inch olefin sample bags, labeled by the geologists with the hole number and footage interval, after passing through a rotary wet splitter. The split sample was either directly captured into the sample bag or into a five-gallon bucket from one of the splitter discharge outlets. The splitter was regulated to emit just enough sample to fill the sample bags.

Chip samples for geological reference were collected from each five-foot interval from a different sample discharge of the splitter than the primary samples for analysis and stored in plastic chip trays for later examination and lithologic logging.

An undated Firstgold protocol reviewed by MDA described the proposed sampling procedures for reverse circulation and core sampling of Firstgold projects for 2007 and beyond. MDA cannot verify to what extent this protocol was followed for the drilling at Relief Canyon. According to the Firstgold protocol, reverse circulation samples were to be collected with a rotating wet pie splitter attached to the drill rig. Samples were to be collected in five-gallon buckets, with the pie splitter to be rinsed with water after each five-gallon sample was collected. A flocculent was to be added to the finished sample, and the entire sample was to be agitated. The water was to be decanted and the sample poured into an 11-inch by 17-inch cloth sample bag; the entire sample was to be placed in the bag. Samples were either to be air dried or dried in a drying oven at Firstgold's preparation laboratory facility. Once dried, the samples were to be crushed using a jaw crusher, and a 1,000-gram (2.2 pounds) split, made with a riffle splitter, was to be placed in a paper envelope for transport to ALS Chemex (now ALS; "ALS"). Rejects were to be stored at Firstgold's warehouse.

According to Firstgold's protocol, core samples were to be a maximum length of five feet unless conditions dictated an extension to no greater than 10 feet. Unless dictated otherwise by the situation, the smallest core sample length was to be 2.5 feet. Changes in the minimum or maximum lengths might be warranted because of alteration, poor recovery, or changes in lithology. Core samples were to be cut in half using a diamond-blade rock saw. The Firstgold preparation laboratory would then crush the samples using a jaw crusher and take a 1,000 gram (2.2 pounds) sample split using a riffle splitter. The sample splits would be put into paper sample envelopes. Samples would either be delivered to the laboratory by ALS staff or by Firstgold employees.

For the 1995-1997 drilling, the Firstgold reverse circulation samples were ordered sequentially on the ground at the drill site while each hole was being drilled. Personnel from the laboratory picked up the samples two to three days after the holes were drilled. Pick-up days, times, and laboratory personnel were recorded by Firstgold geologists (Ball, 1997). According to Mears (2007), Firstgold ran 32-element ICP (inductively coupled plasma) analyses on several of the reverse circulation drill holes from their 1995-1997 drilling program; four standards identified as "standard C2" were apparently included and reported in the results.

For their drilling program from 1995 through 1997, Firstgold used ALS and American Assay Laboratories ("American Assay") for analysis. Both are currently ISO-rated laboratories. According to Mears (2007), for samples submitted to ALS, "*Chemex picked up the lab bag samples at each drill site pad and transported them directly to its sample preparation facility in Sparks, Nevada, using chain-of-custody identification and tracking procedures. Chemex prepared the samples for assay and geochemical analysis. If the samples were wet, they were dried in low temperature ovens. Then, depending on the type of analysis requested, the samples were split, sieved, crushed, and pulverized. Finally, Chemex shipped the pulps to its laboratory in Vancouver, British Columbia for final chemical analysis, maintaining custody of the samples the entire time.*" For samples submitted to American Assay, the same procedures were used except that the final analysis was performed in Sparks, Nevada (Mears, 2007).

Mears (2007) reported that for Firstgold's 1995 to 1997 programs, samples were protected from contamination or disturbance from third parties by storage away from other activity at the drill site. Only drillers or laboratory pick-up personnel handled the sample bags. Exploration personnel were present seven days a week, and at night the access gate was locked.

According to Mears (2007), for its subsequent drilling Firstgold used protocols for handling, bagging, transportation, security, preparation and analysis as defined in an internal memorandum by B. Ball in 1997. MDA has reviewed that report as well as a copy of an undated Firstgold protocol for sampling and QA/QC that was developed for their 2007 and subsequent drilling. MDA cannot verify that the procedures in the undated protocol were followed in practice.

According to the Firstgold protocols, the following QA/QC program was developed:

1. Duplicate samples of reverse circulation chips were collected after initial assay results were received. Duplicates for core were taken from coarse rejects. Duplicates were to be submitted at a rate of one for every 40 samples submitted, with a second duplicate to be sent to a second laboratory at a rate of one for every 80 samples.
2. Commercial standards of medium and low-grade oxide gold from Rocklabs of New Zealand were to be inserted into the sample stream prior to assaying at the rate of one standard for every 20 samples. Any standard that differed from the expected results by +/- 10 percent was to be reported to the assay laboratory, which was to run their own checks on the particular batch of samples containing the anomalous results. If the laboratory reported problems with the batch, they would perform re-runs at their cost on all of the samples contained within that batch.
3. One blank composed of cuttings with known assays of less than 0.005ppm will be submitted for every 100 samples.
4. Internal QA/QC procedures from ALS and American Assay will also be used.

For its 2007 and 2008 drilling, Firstgold continued to use ALS and American Assay for sample preparation and assaying (Mears, 2007), with ALS as the primary laboratory (Firstgold, 2007d, 2007e). All assays for their 2007 drilling were fire assays with an atomic absorption ("AA") finish on either a 30 gram or 50-gram charge (Firstgold, 2007d). Pulps and coarse rejects were returned to Firstgold from American Assay on a quarterly basis and were stored at Relief Canyon (Mears, 2007). Firstgold reports that in the pit areas, samples from reverse circulation hole RCM08-19 and core hole RC-D1 were assayed by Firstgold's in-house laboratory, but most of the intervals were then assayed by ALS to check the values. All of the assaying of the North Target holes was done in Firstgold's in-house laboratory, but these holes lie outside of the mineral resource modeling. No assay data from the Firstgold in-house laboratory were used in grade interpolation related to the resource estimation.

The sampling and QA/QC protocols for Firstgold stipulated that no samples would be collected or handled by officers or directors of the company or any associate of the issuer prior to the reporting of final analytical results. Samples were to be picked up on site by ALS personnel and delivered to the ALS preparation laboratory in Winnemucca or Elko, Nevada. Following preparation, the pulps were trucked to Reno by ALS staff for assaying or shipment to their Vancouver assay laboratory.

Mears (2007) reported that most of the stored reverse circulation cuttings from the various drilling programs at Relief Canyon were destroyed or lost.

11.7 Pershing Gold

The following information is taken from Evans and Altman (2013) with additional information provided by Pershing Gold. MD has verified much of the core sampling/assaying procedures during two site visits.

Drill core was boxed and sealed at the drill rig, then moved to the Relief Canyon logging and sample preparation facilities in Lovelock, Nevada by trained personnel. Pershing Gold sampled core in variable lengths up to a maximum of about five feet. Sample lengths were based on lithology or the presence of mineralization. For the first three drill programs, generally the entire length of the hole was sampled, although in some instances, sampling was limited to known gold-bearing lithologies. Core was split down the center using a table-fed circular rock saw. One-half of the core was sent for assay, while the remaining half was returned to the core box and stored at Relief Canyon in a secure, fenced-off area. Reverse circulation chips were split at the drill rig with approximately 3 to 6 kg of cuttings saved for assay from each five-foot sample (Pershing Gold news release, December 4, 2012). Core density measurements were completed in-house using the wax-coated water-immersion method.

Core and reverse circulation samples were stored in a fenced area until picked up by the laboratory (Pershing Gold news release, December 4, 2012).

For the five reverse circulation holes completed in 2011 and the 35 core holes completed in 2011 and 2012, ALS was the principal laboratory. For the remaining 84 reverse circulation holes completed in 2012, and 26 of the core holes completed in 2013, Inspectorate America Corp. ("Inspectorate", now part of Buerau Veritas) in Sparks, Nevada, was used for assaying. The five metallurgical core holes in 2013 were assayed at McClelland Laboratories ("McClelland") in Sparks, Nevada while the remaining nine 2013 core holes were sent for analyses to Skyline Assayers and Laboratories ("Skyline") in Sparks, Nevada. Both Skyline and Inspectorate were used for the 2014 and 2015 core drill program. Sample preparation was performed by the assay laboratories. ALS analyzed for gold by fire assay on a 30g sample with an atomic absorption finish (their code Au-AA23). Inspectorate performed one-assay-ton fire assays with an atomic absorption finish (their code AU-1AT-AA). Skyline analyzed for gold by fire assay on a 30g sample with an atomic absorption finish (their code FA-1,) while over-limits (>3ppm) were analyzed by gravimetric assay (code FA-2). McClelland analyzed for gold by fire assay with an atomic absorption finish (their code FA-AAS).

For the 2011 and 2012 Quality Assurance/Quality Control ("QA/QC") programs, 12 different certified standards were inserted into the sample stream at a rate of one standard for every 25 samples. The certified standards were purchased from CDN Laboratories of British Columbia and an independent sample preparation laboratory in Reno, Shea Clark Smith MEG ("MEG"). A total of 163 blanks were inserted into the drill samples at a rate of one blank in 75 samples (slightly more than one percent of the total number of samples). Blank samples consisted of landscape rock (scoria) purchased from a local hardware store. In addition, the primary sample stream also included replicate analyses of 455 pulp within the original sample stream at a rate of one in 25 samples, representing 3.6 percent of the total number of samples analyzed. Field duplicates were also used at a rate of one in 200 samples. For core

samples, the field duplicate consisted of a quarter cut of the remaining core; for reverse circulation samples, the field duplicate consisted of all the cuttings from the reject pipe of the revolving splitter. A total of 84 second-laboratory check assays were performed by Inspectorate on pulps used for the original ALS assays.

The 2013 drill program followed the same QA/QC protocol for blanks, standards, and replicate pulps as in 2011-2012. A total of 77 blanks and 266 standards were submitted to the primary laboratory (Inspectorate or Skyline). Blank samples consisted of landscape rock (scoria), while the certified standards were purchased from CDN Laboratories. The primary sample stream also included replicate analyses of 68 pulps in the original laboratory batches. The 2013 QA/QC program did not include any coarse reject pulp duplicate or field duplicate samples nor were any check samples sent to a second umpire laboratory.

The 2014-2015 drill program followed the same QA/QC protocol as in 2013. A total of 270 blanks and 813 standards were submitted to the primary laboratory (Inspectorate or Skyline). Blank samples consisted of landscape rock (scoria), while the certified standards were purchased from CDN Laboratories. The QA/QC program also included quarter-core field duplicates, replicate pulp analyses and second laboratory check assays.

11.8 Reverse-Circulation Sample Contamination

Due to the nature of reverse circulation drilling, the possibility of contamination of drill cuttings from intervals higher in the hole is a concern, especially when groundwater is encountered or fluids are added during drilling. A number of holes at Relief Canyon intersected groundwater. Wittkopp *et al.* (1984) report that *"most [Santa Fe] drill holes hit a heavy flow of water at the point where they hit the [mineralized] breccia units."* In addition, based on comments recorded in drill logs, MDA was able to document that a significant number of holes in the database encountered water while drilling.

Evidence for down-hole contamination can be documented in some of the historical reverse circulation holes drilled below the water table in the North area. When compared with nearby core holes, the reverse circulation drill holes have long continuous runs of mineralization, while mineralization within the adjacent core holes occurs within discrete horizons. Within the core holes, the contact between the mineralized interval and the weakly anomalous wallrock is typically very sharp, while the reverse circulation holes show continuous mineralization below the first significant gold intercept.

In recognition of the strong evidence of down-hole contamination in at least some reverse circulation holes, the mineral-domain modeling and the gold assays used in the resource estimation described in Section 14.0, have excluded the suspect mineralized reverse circulation samples. A total of 2,914 sample intervals from all or part of 31 reverse circulation holes have been removed from use in the geologic model and resource estimate. Most of these removed intervals have been "replaced" in the drill database by nearby core holes recently drilled by Pershing Gold.

11.9 Historical Density Data

There are very limited historical rock density data available to MDA. Atiyeh (1986) reports that Pegasus used tonnage factors of 15.25 ft^3/ton for mineralized and unmineralized breccia and 12.39 ft^3/ton for

unmineralized Grass Valley Formation in a 1986 estimation. Firstgold used tonnage factors of 15 (Fernette *et al.*, 1996) and 18 (Drossulis, undated) for internal estimations.

The only documented density measurements that pre-date work by Pershing Gold, and that are known to MDA, are reported by Hopkins (1985), who summarized tests completed by Lacana's Engineering Department of the Relief Canyon mine. A blast-hole air-track rig was used to drill 50 four-inch-diameter holes to depths of 5.5 to 14 feet. Cuttings from each hole were "meticulously" collected to prevent loss; the wet and dry weights of the cuttings were determined; the hole depth was measured; and the hole was immediately filled by weighed amounts of screened flux sand of known density (to determine hole volume). Using these data, the density of the material was determined for each of 48 holes (two holes were discarded from the study; Table 11.1).

Table 11.1 Lacana Density Study

Rock Type	Tonnage Factor (ft^3/ton)	Specific Gravity	No. of Holes
Breccia	15.19	2.11	40
Limestone	12.99	2.47	5
Shale	14.29	2.24	3

Mears (2007) summarized a density study by Pegasus in 1987; MDA does not have further documentation of this study, and Mears states that little is known of the methods used in the density determinations. The weighted average (using "percent tonnage") of the Pegasus breccia tonnage factors is 14.3 (Table 11.2).

Table 11.2 Pegasus Density Study
(Walker *et al.*, 1987 as reported in Mears, 2007)

Item	Grass Valley Formation	Dike	Limestone	High-Clay Limestone Breccia	Limestone Breccia	Siliceous Breccia
Tonnage Factor (ft^3/ton)	13.25	11.30	12.27	14.60	13.70	14.93
Specific Gravity	2.42	2.83	2.61	2.19	2.34	2.15
Percent Tonnage	15	9	8	31	25	12
Number of Samples	23	14	12	59	42	24
oz Au/ton	0.011	0.013	0.011	0.017	0.011	0.012

Using the above historical data, the tonnage factors MDA chose to use in the 2010 resource model are shown in Table 11.3. These historical data were not used for the current resource model as discussed in Section 14.5.

Table 11.3 Tonnage Factors Applied to MDA's 2010 Resource Model

Unit	Tonnage Factor (ft^3/ton)	Specific Gravity
Mine Dump	20	1.60
Alluvium	18	1.78
Grass Valley Formation	14	2.29
Mineralization (Breccia)	15	2.14
Natchez Pass Formation	13	2.46

11.10 Comments

While documentation of sample preparation, analysis, and security for the various companies that operated at Relief Canyon prior to Firstgold is incomplete, all of the companies were reputable, well-known mining or exploration companies that likely followed accepted industry practices.

All of the laboratories discussed above are, or were, well-known commercial analytical laboratories. Only the drill samples of Firstgold and Pershing Gold were assayed in a laboratory with present-day certification (ALS, ISO 9001:2000; American Assay, ISO/IEC 17025; Inspectorate ISO 9001:2000); all other assaying was completed prior to the institution of formal certifications.

MDA believes the sample preparation, security, and analytical procedures used by Pershing Gold and prior operators were acceptable procedures and the resulting analytical data are of sufficient quality for use in the resource estimation.

12.0 DATA VERIFICATION

MDA conducted an audit of the Relief Canyon project database and compiled and analyzed available quality control/quality assurance ("QA/QC") data collected by Lacana, Firstgold, and Pershing Gold; no QA/QC data collected by Duval, Pegasus, or Santa Fe are available. In addition to a review of the database auditing and available QA/QC data, a comparison of the drill data by company is also discussed, as is a sample-pair analysis of closely spaced drill intervals from adjacent holes.

12.1 Database Audit

The project database includes information derived from 895 drill holes. For this resource estimate, MDA completed a full audit of the Pershing Gold 2014-2015 drill data (138 drill holes). The earlier Pershing Gold and historical data had previously been audited by MDA in 2014.

12.1.1 MDA 2010 Audit of Historical Data

The following text is taken from MDA's previous report on the Relief Canyon project (Gustin, 2010).

Using various digital survey files provided by Firstgold, MDA validated the collar locations of 540 holes, found discrepancies of two feet or less in 23 holes, and found significant discrepancies in the collar coordinates of 16 holes, only some of which could be resolved (11 of the 16 holes provide data to the resource estimation). After fixing the collar locations to the extent possible, MDA still noted several holes lying significantly above or below the ground surface, which indicate errors in the x, y, and/or z coordinates, or whose mineralized intervals seemed out of place in context with surrounding holes. These database uncertainties, in conjunction with other factors, led to the lack of resources classified as Measured resources in MDA's 2010 estimate. No records of down-hole survey data were found that could be used to validate the database.

The pre-2007 assay database was audited using original or photocopied assay certificates and typed or handwritten assays on drill logs. A total of 3,997 sample intervals out of 31,579 (~13 percent) were audited. A total of 62 audited sample intervals had substantive errors ($\geq$0.007 oz Au/ton), 40 had marginally significant errors ($\geq$0.003 to 0.006 oz Au/ton), and 106 had insignificant errors. All errors found were corrected.

The audit revealed problems in conversions of gold values from ppb to oz/ton and *vice versa*, as well as assigned values for less-than-detection limit and trace assays, all of which MDA corrected to the extent possible. A minor amount of original and check assay data were added to the project database by MDA.

There are 6,914 sample intervals from the Firstgold 2007 and 2008 drill holes with assays from independent laboratories in the database. Using original digital copies of the assay certificates received directly from the analytical laboratories, MDA was able to check 6,890 of the intervals. A total of eight errors were found and corrected, two of which were substantive.

12.1.2 MDA 2014 Audit

MDA validated the collar locations of the 2011 through 2013 holes drilled by Pershing Gold against the original in-house and third-party survey data. MDA revised the collar locations for the 2012 reverse circulation drill holes to incorporate the 32-foot shift in Northing coordinate as discussed in Section 10.4. No other changes were made to the collar survey data.

The Pershing Gold down-hole survey data were checked against the drill-log data and the available original survey card data. In reviewing the data, it was observed that the Pershing Gold database contained down-hole azimuth readings for the 2012 core holes (RC12-008 thru RC12-030) that matched the original Reflex survey data. But these data had not been adjusted for declination, so the MDA database was revised to account for a -13.5 degree declination similar to that used in the 2013 drill campaign.

MDA made some other minor changes to the survey database, including removing the unsurveyed "0" depth collar set-up orientation for those holes that have down-hole survey data.

Following up on MDA's 2010 assay audit, approximately 8,800 pre-2007 assay intervals (one fourth of the total data set) were checked against copies of the original handwritten drill logs and assay sheets. The audit primarily focused on less-than-detection limit and trace assay conversion values. Besides the occasional random error, there were over 200 Lacana drill intervals with 0.005 oz Au/ton values in the database that in the original assay sheets were noted as "<0.005". These data were corrected to the <0.005 value.

All of the 2007-2008 assay data were checked against the original digital laboratory certificates. Only three significant errors were noted, and these were corrected. There were many insignificant "rounding" errors, and these were also corrected.

MDA audited all Pershing Gold assay data against original digital data downloaded from the assay laboratories. A total of 177 errors were noted, though 161 were less than detection or trace value errors and are considered insignificant. Material errors were just 0.1 percent of the database. All errors were corrected.

12.1.3 MDA 2015 Audit

MDA validated the collar locations of the 2014 through February 2015 holes drilled by Pershing Gold against the original in-house and third-party survey data. One small error of less than one foot discrepancy was noted and the database was changed to match the original collar survey data.

The Pershing Gold down-hole survey data were checked against the drill-log data, along with the available original survey card and spreadsheet data. Working with Pershing Gold, MDA made some minor changes to the survey database including removing bad readings due to an abnormal local magnetic field, adding survey data at the hole TD, and removing the unsurveyed "0" depth collar set-up orientation for those holes that have nearby down-hole survey data.

MDA audited all Pershing Gold assay data against original digital data downloaded from the assay laboratories. A total of 443 errors were noted, though 387 were less than detection or trace value errors and are considered insignificant. Only 30 errors were considered material (samples with greater than 0.005oz Au/ton difference) which totaled just 0.2percent of the database. All errors were corrected.

MDA believes the corrected MDA database is of sufficient quality to be used for the resource estimation at Relief Canyon.

12.2 Site Visit

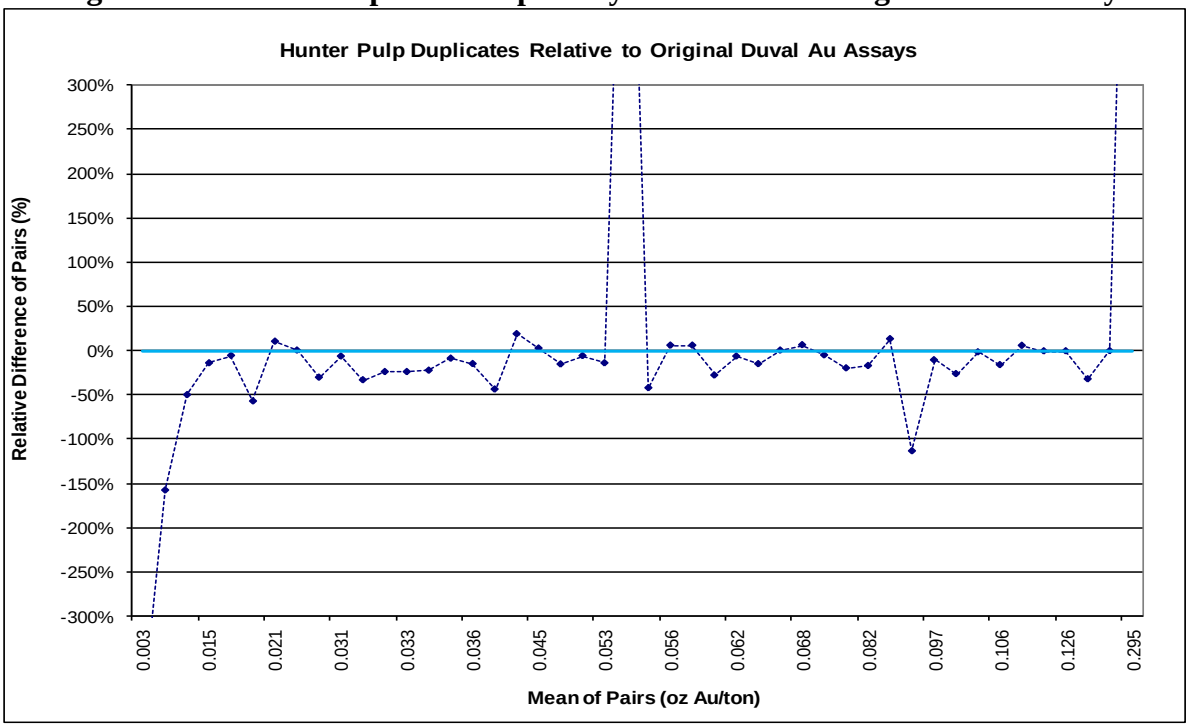
The author visited the Relief Canyon project office and field site on October 17 and 18, 2013 and January 15, 2015. The project geology was reviewed, which included: a) a field tour of the deposit area; b) visual inspection of core holes; and c) a thorough review of the southern area geology cross-sections prepared by Pershing Gold. Drill site and mineralization verification procedures were conducted, and core drilling/sampling procedures were appraised. The result of the site visits is that MDA has no significant concerns with the project procedures.

12.3 Lacana QA/QC Data

The following information is derived from Fiannaca (1982) and Fiannaca and Easdon (1984). Upon optioning the Relief Canyon property from Duval, Lacana undertook a program in 1982 to verify the Duval assay database. Lacana submitted 46 coarse-reject splits from original Duval drill samples to Hunter Laboratories, who prepared duplicate pulps from the rejects and analyzed the new pulps by one-assay-ton fire assays; the Duval drill samples were originally analyzed by fire assaying of ½-assay-ton charges.

MDA compiled the Lacana duplicate-assay data from tables and a copy of an original Monitor assay certificate provided by Fiannaca (1982). The Hunter duplicate-pulp analyses are compared to the original Duval assays in Figure 12.1, which is a graph showing the relative difference, plotted on the y-axis, between each original assay and the pulp-duplicate assay. The x-axis plots the means of the paired data, with each pair consisting of an original assay and the pulp-duplicate assay.

Figure 12.1 Hunter Duplicate-Pulp Analyses Relative to Original Duval Assays

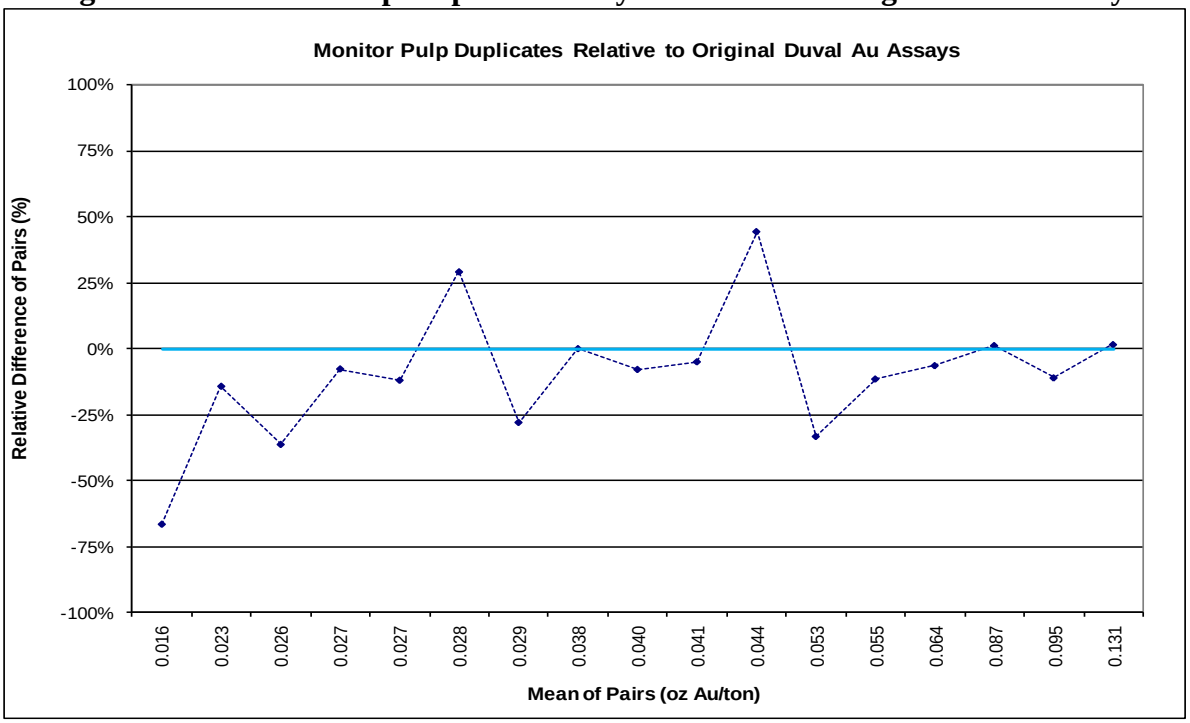


Although the mean of the Lacana duplicate pulps assayed at Hunter (0.068 oz Au/ton) is nine percent higher than the mean of the original Duval analyses (0.062 oz Au/ton), the graph shows that the Hunter duplicate assays are actually systematically lower than the Duval assays (the difference in the mean lowers to -8 percent if the highest-grade pair is removed).

As an additional check, Lacana submitted "*selected sample intervals of the pulps which Hunter had earlier analyzed*" to Monitor. While this explanation does not clarify the type of sample Monitor analyzed, handwritten notes on the original Monitor assay certificate suggest that Monitor prepared a new pulp from the coarse rejects. These samples were selected as a subset of 76 Duval sample intervals analyzed by cyanide leach by Hunter. Monitor analyzed these samples by both one-assay-ton fire assay and hot cyanide extraction-AA finish. MDA compiled the one-assay-ton fire-assay check data and compared it to the original ½-assay-ton fire assays of Duval (Figure 12.2).

The mean of the Monitor analyses of the Duval pulp duplicates (0.047 oz Au/ton) is 5% lower than the original Duval results, which is supported by the low bias evident in the relative difference graph.

Figure 12.2 Monitor Pulp-Duplicate Analyses Relative to Original Duval Assays



Lacana collected field duplicate samples at the rig during the drilling of their three-phase, 203-hole drilling program. These field duplicates consisted of secondary splits of the drill cuttings when the drilling was dry; no field duplicates were collected when the drilling was wet. While MDA does not have the field-duplicate data, Fiannaca and Easdon (1984) report that comparisons of the field duplicates to the primary assay samples for each of the three drill phases yield differences in the means of -1.4 percent to +7.3 percent for all 1,463 field-duplicate/primary sample pairs and -3.8 percent to +10.4 percent for sample pairs with primary assays >0.010 oz Au/ton (608 pairs); it is not clear if the stated percentages are based on the field duplicates relative to the primary samples or *vice versa*.

Lacana also inserted one standard for every nine primary samples, at least for the first phase of drilling (Fiannaca and Easdon, 1984); MDA does not have the results of the standard analyses.

12.4 Firstgold QA/QC Data

Other than check assaying of petrological samples from hole DH-9723 by a third-party, MDA has no QA/QC data from the Firstgold 1996-1997 drilling programs. The petrological samples were washed of fines, represent only a small, hand-selected portion of the sample interval, and therefore are not useful for the purposes of a QA/QC analysis.

Firstgold instituted a formal QA/QC program in 2007, described in an undated and anonymous QA/QC protocol document, that included the insertion of analytical standards and blanks into the primary sample stream, as well as the analysis of field-duplicate samples that were submitted after the primary sample assays were received. MDA compiled and analyzed the resultant QA/QC data provided by Firstgold.

12.4.1 Firstgold Analytical Standards

Standards are used to evaluate the analytical accuracy and precision of the assay laboratory during the time the primary drill samples were analyzed.

MDA was provided with 287 standard results from the 2007 and 2008 drilling programs. Samples from 18 of the 109 holes drilled do not have accompanying standard analyses; 13 of the 18 holes without standards contribute samples to the resource estimation. The insertion ratio implied by the number of standards and the total gold analyses for these holes in the database is one standard for every 17 drill samples. The drill samples and associated standards were analyzed by ALS.

MDA does not have any documentation of the 13 standards used by Firstgold, nor was the name (the standards are simply numbered 1 through 13) or source of the standards provided, although the QA/QC protocol document states that standards were to be acquired from Rocklabs of New Zealand. The expected values were provided by Firstgold without standard deviation data.

The standard results are summarized in Table 12.1 (samples with insufficient material for analysis and two results that were likely to actually be from blank samples were excluded). The means of the standard analyses are quite close to the expected values for most of the standards, although they tend to be lower than the expected values of the standards in 2007. A low bias in the ALS analyses might be present in both 2007 and 2008, however, as evidenced by the higher number of analyses below the expected value than above. A more comprehensive review of the data would require full documentation of the standards.

Table 12.1 Summary of Results of Firstgold Analytical Standards

Drill Hole Series	Standard	Expected Value	No. of Analyses	Mean	Percent Diff.	Min.	Max.	No. Below Exp. Value	No. Above Exp. Value
2007 holes	1	0.012	26	0.012	0.0%	0.011	0.013	7	2
2007 holes	2	0.030	28	0.029	-3.3%	0.025	0.033	18	6
2007 holes	3	0.054	27	0.052	-3.7%	0.046	0.058	19	5
2007 holes	4	0.012	14	0.011	-8.3%	0.009	0.013	5	3
2007 holes	5	0.030	17	0.029	-3.3%	0.024	0.032	9	5
2007 holes	6	0.054	12	0.051	-5.6%	0.045	0.056	10	1
2008 holes + NT07-01	7	0.012	24	0.011	-8.3%	0.009	0.013	11	4
2008 holes + NT07-01	8	0.030	26	0.030	0.0%	0.027	0.032	7	8
2008 holes	9	0.053	10	0.054	1.9%	0.049	0.062	7	3
2008 holes + NT07-01	10	0.012	29	0.012	0.0%	0.009	0.013	13	3
2008 holes + NT07-01	11	0.030	21	0.030	0.0%	0.027	0.032	8	5
2008 holes + NT07-01	12	0.053	13	0.052	-1.9%	0.049	0.055	8	3
2008 holes	13	0.012	6	0.012	0.0%	0.011	0.013	1	1

12.4.2 Firstgold Check Assays

MDA has nine American Assay check assays of original ALS pulps, with one check each of nine holes within the sequence RCM07-01 to 19. The American Assay and ALS means are identical (0.032 oz Au/ton).

12.4.3 Firstgold Preparation Blanks

The Firstgold QA/QC protocol document states that blank material was to be prepared from approximately 100 kilograms (220 pounds) of drill cuttings with assay results of less than 0.005 g Au/t (0.0001 oz Au/ton). The samples were to be thoroughly mixed and split into one kilogram (2.2 pounds) packets for insertion into the sample stream.

Preparation blanks are used to test for cross contamination between drill samples in the analytical laboratory, which is most common during sample-preparation stages. In order for the blanks to accomplish this, they must be sufficiently coarse to require the same crushing stages as the drill samples. It is also important for blanks to be placed in the sample stream immediately after mineralized samples (which would be the source of most cross-contamination issues). Blank results that are greater than five times the detection limit are typically considered failures that require further investigation and possible re-assay of associated drill samples.

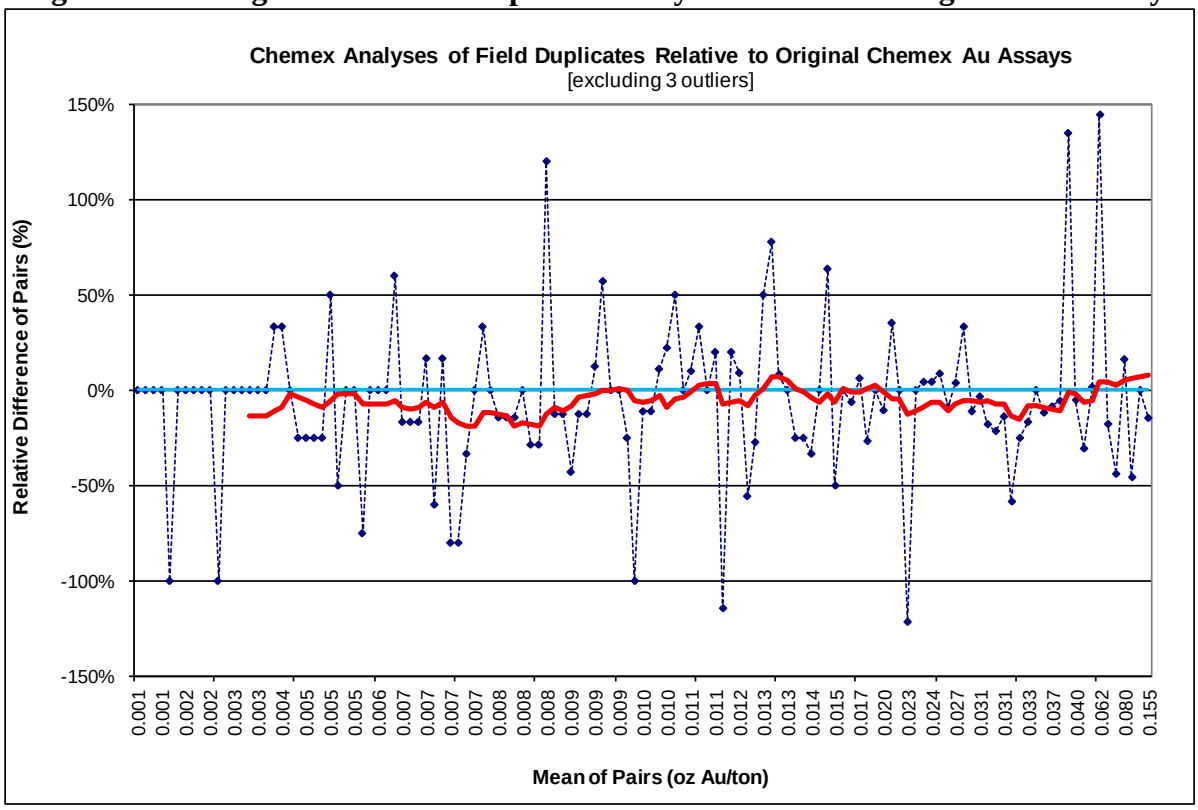
MDA has the results of 24 blanks inserted into the sample stream of 18 holes drilled in 2008; the gold values from the previous sample are not known. Twelve of the blanks have values less than the detection limit (<0.0001 oz Au/ton), 10 lie between 0.0001 and 0.0004, and two have anomalously high results (0.0062 and 0.013 oz Au/ton).

12.4.4 Firstgold Field Duplicates

The Firstgold reverse circulation field duplicates are secondary splits of the drill cuttings collected at the rig at the same time as the primary samples. Field duplicates are mainly used to assess inherent geologic variability and sampling variance.

MDA was provided with 131 field-duplicate analyses by ALS that can be compared to the original ALS analyses. The field duplicates are from 66 reverse circulation holes, including RCM07-01 through 75, RCM08-01 through 19, and NT07-01. The number of duplicates relative to the associated primary assays implies an analytical rate of one field duplicate for every 32 primary samples. The field-duplicate analyses are compared to the primary assays in Figure 12.3, with three outlier pairs excluded.

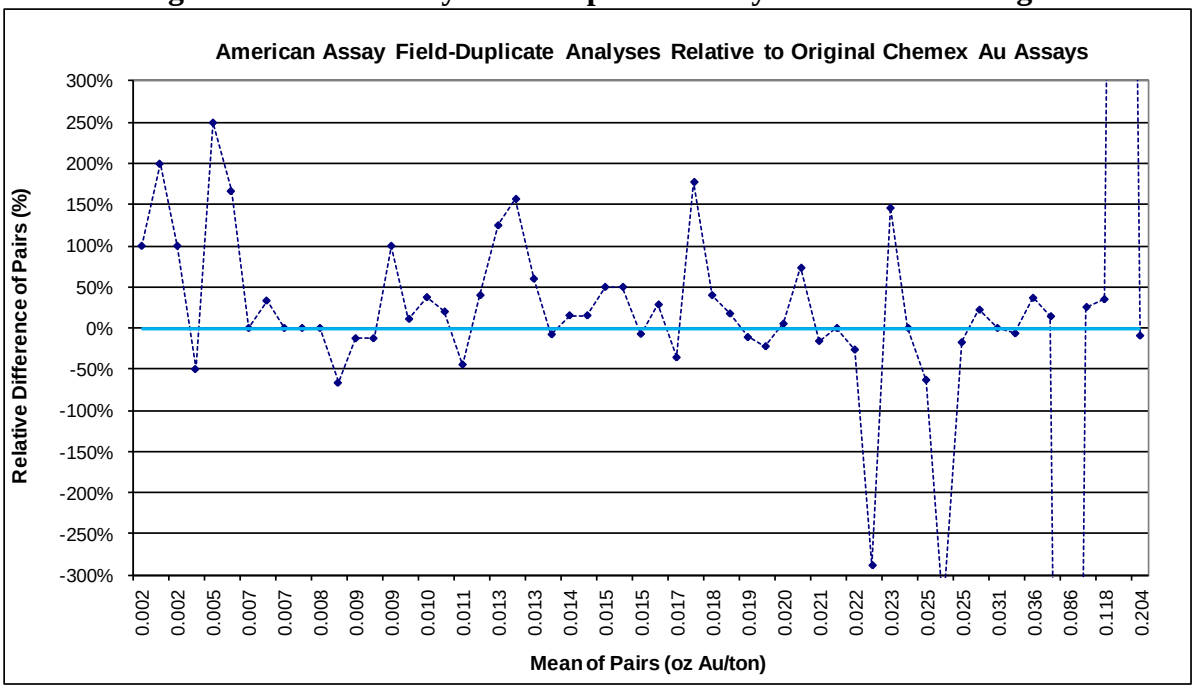
Figure 12.3 Firstgold ALS Field-Duplicate Analyses Relative to Original ALS Assays



A very slight low bias in the field-duplicate analyses relative to the original assays may be evident in the graph, but the means of the two sets of data are identical (0.017 oz Au/ton). Additional data are needed to prove the existence of a low bias. The absolute value of the relative differences between the sample pairs averages 25 percent.

There are an additional 57 field-duplicate samples analyzed by American Assay that can be compared to the original samples, which were assayed by ALS, although the differing laboratories lead to additional factors when analyzing the data statistically. These reverse circulation field duplicates are from 27 reverse circulation holes, including NT08-03 and 26 holes in the sequence of RCM07-20 through 75, with an implied analytical rate of one duplicate for every 33 primary samples. The field-duplicate results are compared to the original ALS assays in Figure 12.4.

Figure 12.4 Firstgold American Assay Field-Duplicate Analyses Relative to Original ALS Assays



The relative difference plot shows that the field duplicates tend to be higher grade than the original samples, and the mean of the duplicates (0.027 oz Au/ton) is higher than the original samples (0.024 oz Au/ton). The variability indicated by the relative differences in the paired data exceeds that seen in Figure 12.3. More data are required before definitive conclusions can be reached, however.

12.5 Pershing Gold 2011-2012 QA/QC Data

A detailed evaluation of Pershing Gold's 2011-2012 QA/QC program was provided in Evans and Altman (2013). MDA has reviewed these data and has summarized the results in the following sections. Refer to Evans and Altman (2013) for additional details.

12.5.1 Pershing Gold Preparation Blanks 2011-2012

A total of 163 blanks were inserted into the primary sample stream at a rate of one blank in 75 samples (slightly more than one percent of the total number of samples). Blank samples consisted of landscape rock (scoria) purchased from a local hardware store. No evidence of gold contamination was observed in any of the blank samples.

12.5.2 Pershing Gold Standards 2011-2012

Twelve different certified standards were inserted into the sample stream at a rate of one standard for every 25 samples. The certified standards were purchased from CDN Laboratories of British Columbia and an independent sample preparation laboratory in Reno, Shea Clark Smith MEG ("MEG"). Samples

were considered failures if they assayed more than three standard deviations above or below the expected mean value. The average failure rate for these standards was about three percent. One of the standards had a high failure rate of 17 percent. Evans and Altman (2013) state that the sample batch was re-run whenever a standard was considered to have failed. This procedure has not been verified by MDA.

12.5.3 Pershing Gold Pulp Duplicates 2011-2012

A total of 455 pulp duplicate analyses were completed at a rate of one in 25 samples, representing 3.6 percent of the total number of samples analyzed. In general, the pulps produced good reproducibility with only a 2.2 percent difference between the sample pair means. The data set included seven sample pairs having very high variability, which resulted in a high 36 percent average variability between sample pairs. MDA believes these outliers do not appear to be representative of the sample population as a whole and likely should have been excluded from the analyses.

12.5.4 Pershing Gold Field Duplicates 2011-2012

Thirty-two field duplicates were analyzed at a rate of one in 200 samples. For core samples, the field duplicate consisted of a quarter cut of the remaining core; for reverse circulation samples, the field duplicate consisted of all the cuttings from the reject pipe of the revolving splitter. The results indicated a less than one percent difference in the mean of the sample pairs and a six percent relative standard deviation between pairs.

12.5.5 Pershing Gold Check Analyses 2011-2012

A total of 84 check assays were analyzed by Inspectorate of ALS original assays. The check assay consisted of a duplicate analysis of the same pulp shipped from ALS to Inspectorate. The second laboratory mean sample value for the Inspectorate analyses is about three percent lower than the original ALS mean value. The correlation coefficient between data sets is 0.993 indicating very good reproducibility.

12.6 Pershing Gold 2013 QA/QC Data

The 2013 drill program followed the same QA/QC protocol for blanks and standards as in 2011-2012. A total of 77 blanks and 266 standards were inserted into the primary sample stream submitted to the primary laboratory (Inspectorate or Skyline). Also included in the primary sample stream were 68 pulp replicate analyses that consisted of a second analysis of the original pulp done in the same laboratory run as the original analyses. The 2013 QA/QC program did not include any pulp duplicate or field duplicate samples nor were any check samples sent to a second umpire laboratory.

12.6.1 Pershing Gold Preparation Blanks 2013

A total of 77 blanks were inserted into the primary sample stream at a rate of one blank in 75 samples. Blank samples consisted of landscape rock (scoria) purchased from a local hardware store. Elevated gold values were found in three samples though the anomalous values were still very low (<0.002 oz Au/ton). Any contamination at this grade is not considered material to the resource estimate.

12.6.2 Pershing Gold Standards 2013

Four different certified standards were inserted into the sample stream at a rate of one standard for every 25 samples. The certified standards were purchased from CDN Laboratories of British Columbia. Samples were considered failures if they assayed more than three standard deviations above or below the expected mean value. The standard results are summarized in Table 12.2. Three outlier samples were removed from the standard data set due to extreme differences with the expected value. MDA has no explanation for these extreme differences though it is likely due to clerical error.

Table 12.2 Summary of Results of Pershing Gold Analytical Standards

Standard	Lab	Expected Value	Std Dev	No. of Analyses	Mean	Percent Diff.	Min	Max.	Low Failures	High Failures	% Failures
CDN-GS-1K	Inspectorate	0.867	0.098	38	0.818	-5.7%	0.619	0.966	1	0	3%
CDN-GS-1K	Skyline	0.867	0.098	9	0.780	-10.1%	0.663	0.920	2	0	22%
CDN-GS-P3C	Inspectorate	0.263	0.02	46	0.265	0.6%	0.231	0.328	1	6	15%
CDN-GS-P3C	Skyline	0.263	0.02	17	0.249	-5.3%	0.233	0.275	1	0	6%
CDN-GS-P6	Inspectorate	0.626	0.074	63	0.627	0.1%	0.397	0.747	2	2	6%
CDN-GS-P6	Skyline	0.626	0.074	38	0.602	-3.8%	0.403	0.705	1	0	3%
CDN-GS-P7H	Inspectorate	0.799	0.05	37	0.796	-0.3%	0.709	0.972	1	4	14%
CDN-GS-P7H	Skyline	0.799	0.05	4	0.768	-3.9%	0.735	0.825	0	0	0%
All	Inspectorate			184					5	12	9%
All	Skyline			68					4	0	6%

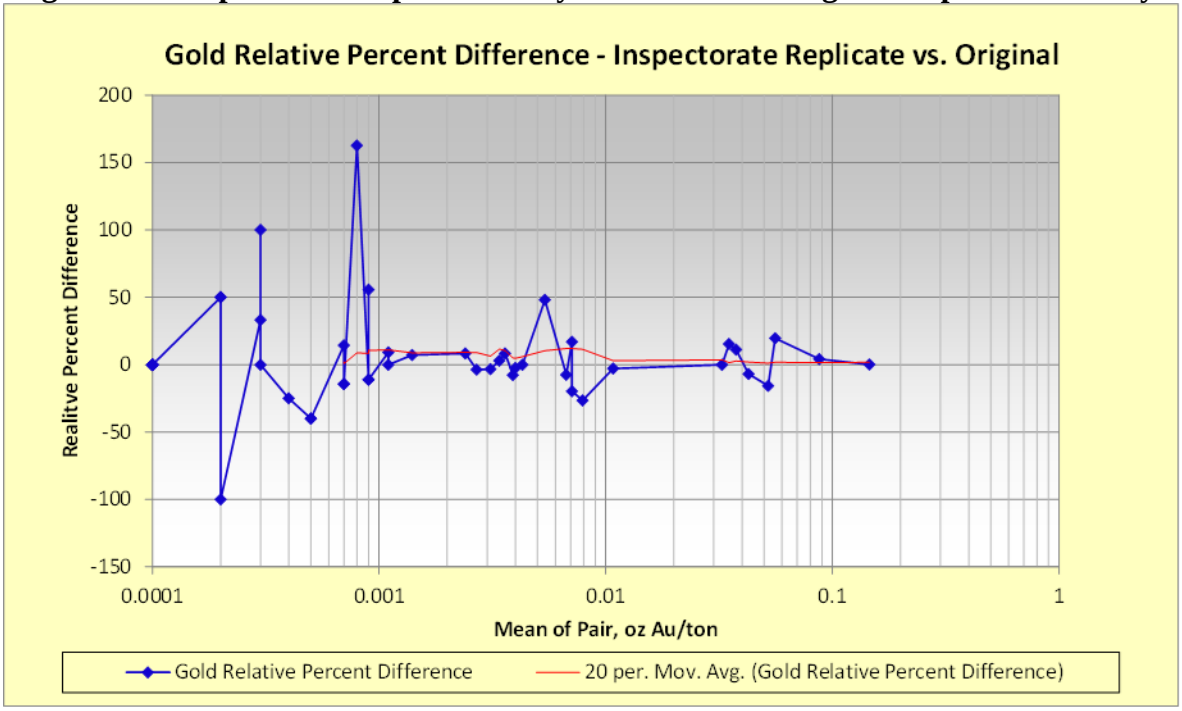
The average failure rate for all Inspectorate standards was nine percent, while the Skyline standards had an average failure rate of six percent. All of the high failures were within the Inspectorate analyses. Except for the first standard (CDN-GS-1K), where both laboratories are biased low versus the standard's expected value, Inspectorate's mean value is very similar to the expected values, while Skyline has a low bias of three percent to six percent below the expected values.

12.6.3 Pershing Gold Pulp Replicates 2013

Replicate analyses on a total of 68 pulp samples were completed by Inspectorate and Skyline. The replicate data are two analyses of the same pulp created in the original laboratory and reported on the same original laboratory certificate. Since the same original pulp is used in the second analysis, the replicate data provides information on sample variability only at the final laboratory analytical stage.

The Inspectorate replicate analyses are compared to the original assays in Figure 12.5. There is just a minor high bias (three percent) in the replicate mean grade as compared to the original analyses. Above a 0.001 oz Au/ton grade, the average relative difference between sample pairs also shows a minor three percent high bias in the replicate data. The average variability (absolute value of the relative difference between sample pairs) at gold grades above 0.001 oz Au/ton is 10 percent, which is an acceptable value for replicate pairs.

Figure 12.5 Inspectorate Replicate Analyses Relative to Original Inspectorate Assays



There are 17 Skyline replicate analyses, though only four sample pairs have mean gold grades greater than 0.001 oz Au/ton. One sample pair has high (90 percent) variability, but the data are too few to allow a meaningful evaluation.

12.7 Pershing Gold 2014 - 2015 QA/QC Data

The 2014-2015 drill program followed the same QA/QC protocol for blanks and standards as in 2011, 2012 and 2013. A total of 270 blanks and 813 standards were inserted into the primary sample stream submitted to the primary laboratories (Inspectorate and Skyline). The 2014-2015 QA/QC program also included a limited set of 60 quarter-core field duplicates, 251 same-laboratory replicate pulps, and 68 second laboratory check assays on original pulps ("replicate pulp analyses").

12.7.1 Pershing Gold Preparation Blanks 2014 - 2015

A total of 270 blanks were inserted into the primary sample stream at a rate of about one blank in 75 samples. Blank samples consisted of landscape rock (scoria) purchased from a local hardware store. Elevated gold values were found in two samples though the anomalous values were still very low (<0.002 oz Au/ton). Any contamination at this low grade is not considered material to the resource estimate.

12.7.2 Pershing Gold Standards 2014 - 2015

Nine different certified standards were inserted into the sample stream at a rate of one standard for every 25 samples. The certified standards were purchased from CDN Laboratories of British Columbia. Samples were considered failures if they assayed more than three standard deviations above or below the expected mean value. The standard results are summarized in Table 12.3. Two outlier samples were removed from the standard data set due to extreme differences with the expected value. MDA has no explanation for these extreme differences though it is likely due to clerical error.

Table 12.3 Summary of Results of Pershing Gold Analytical Standards

Standard	Lab	Expected Value	Expected Std Dev	No. of Analyses	Analyses Mean	Percent Diff.	Min	Max.	Low Failures	High Failures	% Failures
CDN-GS-P4B	Inspectorate	0.417	0.023	28	0.408	-2.2%	0.335	0.472	2	0	7%
CDN-GS-P4B	Skyline	0.417	0.023	183	0.430	3.1%	0.218	0.633	1	11	7%
CDN-GS-1K	Skyline	0.867	0.049	31	0.844	-2.7%	0.755	1.090	0	1	3%
CDN-GS-P3C	Skyline	0.263	0.01	3	0.254	-3.4%	0.238	0.269	0	0	0%
CDN-GS-P6	Skyline	0.626	0.037	9	0.646	3.2%	0.605	0.687	0	0	0%
CDN-GS-P7H	Inspectorate	0.799	0.025	44	0.810	1.4%	0.725	0.860	1	0	2%
CDN-GS-P7H	Skyline	0.799	0.025	185	0.818	2.4%	0.664	0.943	4	10	8%
CDN-GS-1L	Inspectorate	1.16	0.05	9	1.170	0.9%	1.082	1.226	0	0	0%
CDN-GS-1L	Skyline	1.16	0.05	91	1.180	1.7%	1.035	1.328	1	1	2%
CDN-GS-P8C	Inspectorate	0.784	0.028	13	0.792	1.0%	0.74	0.822	0	0	0%
CDN-GS-P8C	Skyline	0.784	0.028	92	0.817	4.2%	0.607	0.896	4	14	20%
CDN-GS-P5C	Inspectorate	0.571	0.024	30	0.559	-2.1%	0.467	0.653	3	2	17%
CDN-GS-P5C	Skyline	0.571	0.024	53	0.588	3.0%	0.417	0.818	2	8	19%
CDN-GS-P4C	Inspectorate	0.362	0.018	14	0.388	7.2%	0.307	0.534	1	3	29%
CDN-GS-P4C	Skyline	0.362	0.018	26	0.368	1.7%	0.34	0.428	0	1	4%
All	Inspectorate			138		0.4%			7	5	9%
All	Skyline			673		2.5%			12	46	9%

The average failure rate for both Inspectorate and Skyline standards was nine percent. The Inspectorate failures were split relatively evenly beween low and high failures while about 80% of the Skyline failures were high failures. Except for standard CDN-GS-P4C, where the Inspectorate analyses are biased high by 7.2 percent, the average difference between the total population of standards and Inspectorate analyses is less than one percent. There is no significant bias in the Skyline analyses for any of the individual standards though the Skyline analyses for the total standards population has a 2.5 percent positive bias. This bias is not considered significant but does introduce a low risk to the current resource estimate.

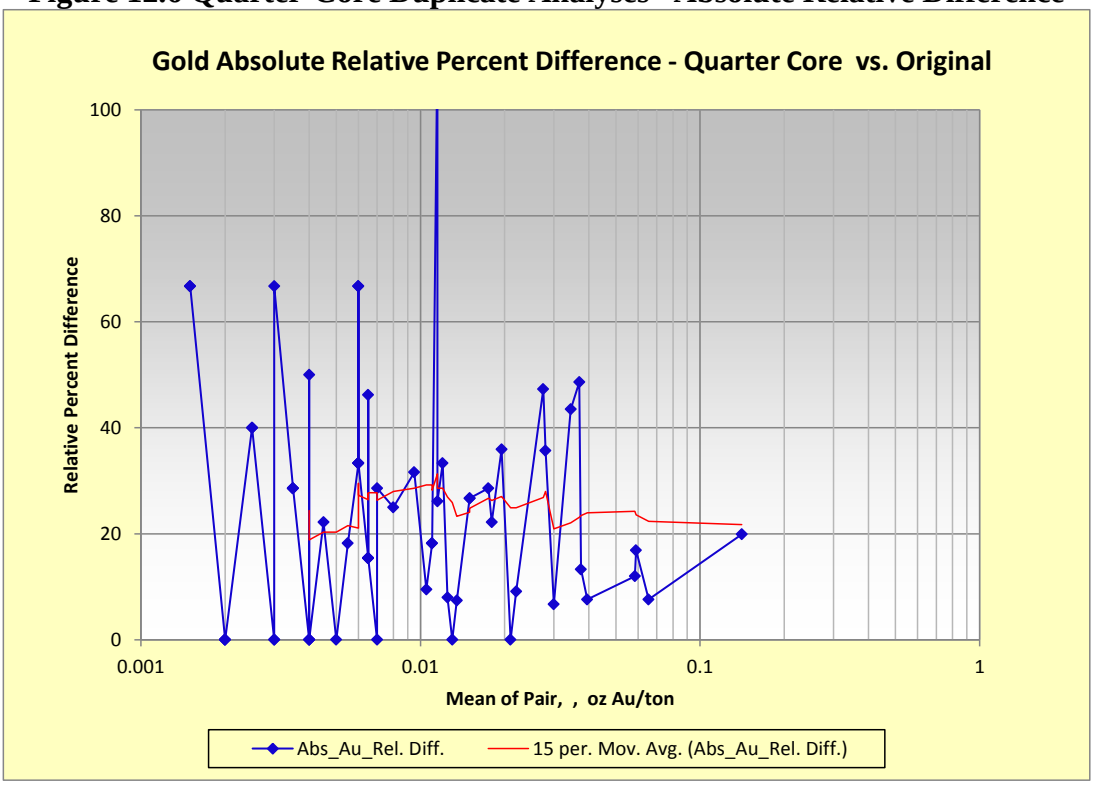
12.7.3 Pershing Gold Quarter-Core Field Duplicates 2014 - 2015

Duplicate analyses on a total of 60 quarter-core samples were completed by Skyline.

The quarter-core analyses are compared to the original assays in Figure 12.6. The average variability (absolute value of the relative difference between sample pairs) at gold grades above 0.005 oz Au/ton is

about 25 percent, which is an acceptable value for quarter-core duplicate pairs. There is just a minor 4 percent low bias in the duplicate mean grade as compared to the original analyses.

Figure 12.6 Quarter-Core Duplicate Analyses– Absolute Relative Difference

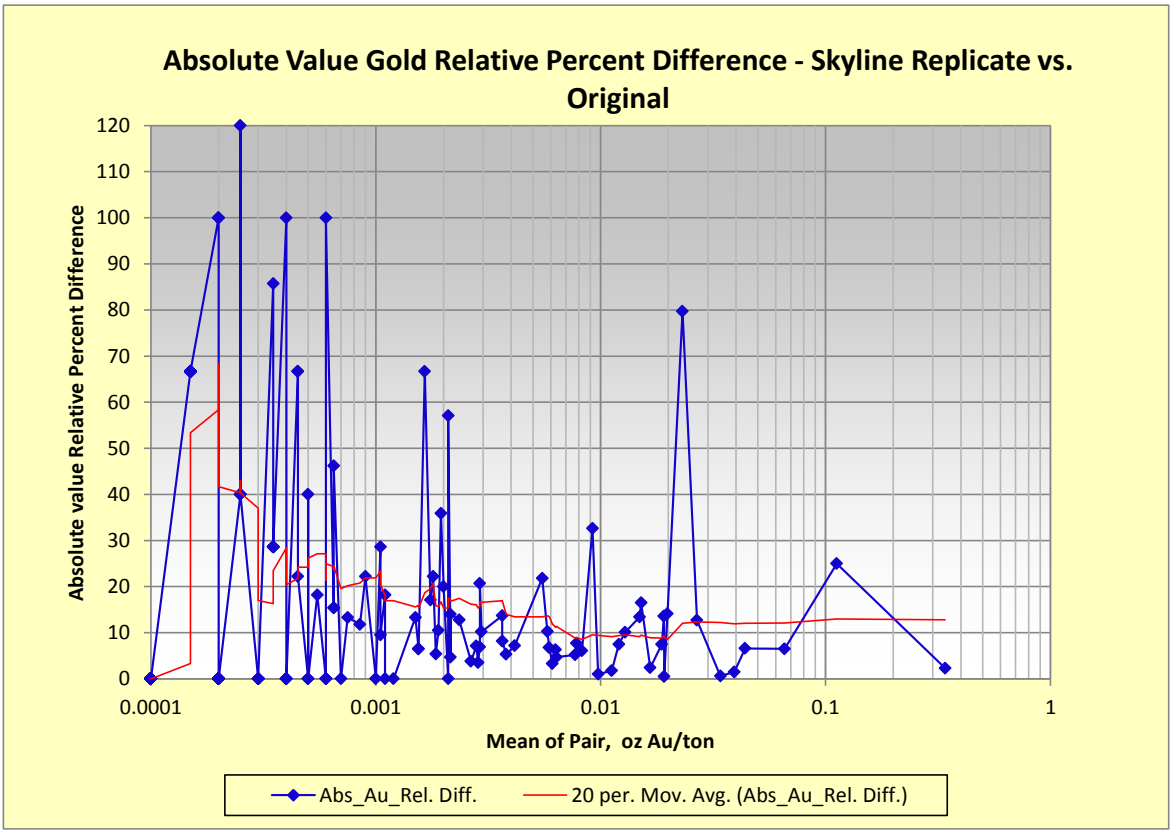


12.7.4 Pershing Gold Same-Laboratory Replicate Pulps 2014 – 2015

Replicate pulp analyses on a total of 251 samples were completed by Skyline and Inspectorate. The replicate data are two analyses of the same pulp created in the original laboratory and reported on the same original laboratory certificate. Since the same original pulp is used in the second analysis, the replicate data provides information on sample variability only at the final laboratory analytical stage.

The absolute value of the relative difference between the Skyline replicate pulp analyses and the original assays (which indicates variability between analyses) is shown in Figure 12.7 The average variability at gold grades above 0.005 oz Au/ton is 12 percent, which is an acceptable value for replicate pairs. There is just a minor high bias (5 percent) in the replicate mean grade as compared to the original analyses for samples at gold grades above 0.005oz Au/ton

Figure 12.7 Skyline Replicate Pulp Analyses– Absolute Relative Difference



There are 37 Inspectorate replicate analyses, though only four sample pairs have mean gold grades greater than 0.001 oz Au/ton. No meaningful analyses of these data can be conducted.

12.7.5 Pershing Gold Check Assays 2014 - 2015

A total of 68 original pulps were assayed at a second and third laboratory as a check on the original laboratory analyses. Inspectorate completed the check analyses if the orignal laboratory was Skyline while Skyline was the check laboratory for the Inspectorate original pulps. ALS Minerals (Reno, Nevada) was the third umpire laboratory for all 68 samples.

In this round-robin testing, the ALS analyses were on average three percent higher than Inspectorate and six percent lower than Skyline for those sample pairs with mean grades greater than 0.005oz Au/ton. If these relationships occur within the larger project data set, the Skyline assay data, and the resource model estimate associated with the Skyline data, would show a potential nine percent increase in gold grade as compared to the Inspectorate assay data and associated block model estimate, solely from the change in laboratory alone. The risk to the over-all deposit resource is considered low because the drill holes with samples sent to the two laboratorys are spatially mixed primarily within the North target area. Additional check analyses are warranted to confirm these initial results.

12.8 Discussion of QA/QC Results

Based on their duplicate-pulp check assaying of original Duval results, Lacana concluded that their one-assay-ton fire assays were uniformly slightly lower than the original ½-assay-ton fire assays of Duval. While the two sets of Lacana duplicate-pulp data are indeed systematically lower-grade than the original Duval assays, the discrepancy could also be due to heterogeneities in the coarsely crushed samples, which could lead to sub-samples of the coarse material having varying gold contents. Another possibility is there were problems in the sub-sampling itself that caused the bias.

The ALS analyses of the Firstgold reverse circulation field duplicates show no significant issues with respect to sample bias caused by splitting at the drill rig or in the variability of the data. The remaining Firstgold QA/QC data are either insufficiently documented or too few to allow for meaningful conclusions.

The Pershing Gold QA/QC data show no significant issues with sample contamination and no evidence of analytical bias in the ALS or Inspectorate standard analyses. The Skyline standard analyses show more variable results with a three percent to six percent low bias in the 2013 data set but a low two percent to three percent high bias in the 2014-2015 data set. The 2011-2012 field and pulp duplicates, and the second-laboratory check analyses, show no material sampling or analytical bias, and there is a good correlation between sample pairs. The 2013 pulp replicate data are limited, though no material issues were noted. The 2014-2015 quarter core and pulp replicate data show no material biases or higher than expected variability. The 2014-2015 second laboratory check analyses did indicate a possible high bias in the Skyline data, though the relatively small 68 sample data set indicates that additional analyses be conducted. This bias is not considered significant but does introduce a low risk to the current resource estimate.

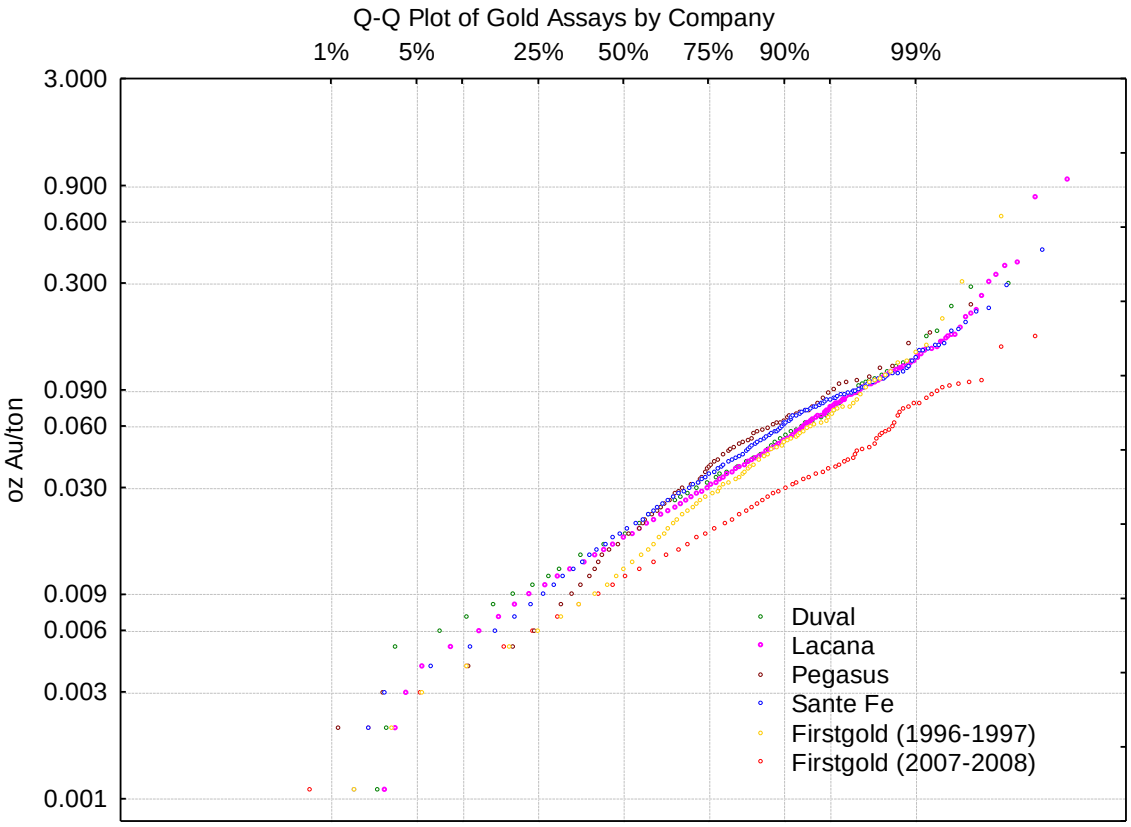
While the QA/QC data are limited for much of the historical drilling, no significant issues were noted that would prohibit the use of these data in the current resource estimate. The uncertainty with these data though has contributed to a reduction in classification for those portions of the resource which rely solely on these data. No material issues were noted with the Pershing Gold data, and these data are suitable for use in the resource estimation.

12.9 Comparison of Drill Programs

As Firstgold's 2007 and 2008 drilling programs were the best documented prior to Pershing Gold's drilling, used up-to-date reverse circulation drilling equipment, and implemented the most QA/QC protocols to that time, statistical comparisons were completed by MDA in 2010 that compared the results from Firstgold's programs targeting the Main Zone mineralization to those of other companies, including the older Firstgold drilling.

Figure 12.8 is a quantile-quantile plot that compares the assay populations of the various historical operators at Relief Canyon. The graph shows the 2007-2008 Firstgold drill data to be significantly lower grade than the assay data from other operators; the Firstgold 1996-1997 gold assay population is also lower grade, although less so.

Figure 12.8 Q-Q Plot of Gold Assays by Company



There are problems with these comparisons, however, due to spatial biases. The Firstgold holes were drilled on post-mining topography, so that many holes are collared in the footwall of significant mineralization and therefore drilled proportionally less mineralized material; this is especially true of the 2007-2008 Firstgold holes. Historical land constraints prohibit meaningful comparisons involving Santa Fe holes (Figure 10.1), and Pegasus had too few holes for meaningful comparisons.

The most meaningful comparisons can be made using Lacana and Duval holes. These two populations are seen to be reasonably close on Figure 12.8, and their mean and median gold values compare well (0.025 and 0.017 oz Au/ton for Lacana *vs.* 0.026 and 0.018 oz Au/ton for Duval, respectively).

A 2013 review of the Pershing Gold assay data indicates lower mean and median grade gold values as compared to the historical drill data shown in
Figure 12.8. There is a definite spatial bias with the Pershing Gold data since the drilling is predominantly peripheral to the Main Zone with a significant proportion of the Pershing Gold drilling targeting the separate North area mineralization.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

This section was prepared by Jack McPartland, Vice President of Operations for McClelland Laboratories, Inc.

The word "ore" is used in this section in the metallurgical sense and is not meant to imply that economic analyses have been completed on the resource described in this report.

13.1 Introduction

The Relief Canyon project contains a predominantly oxidized to partially oxidized gold mineral resource that metallurgical testing and historic commercial mining experience indicate is amenable to heap-leach cyanidation processing. Multiple reviews of operational experience and metallurgical testing for Relief Canyon were available to the author of this section for review. These included reviews done for previous NI 43-101 technical reports (Gustin, 2010, and Altman, 2013), as well as a more recent review done for Pershing Gold (Janke, 2013). In most cases, the original reports concerning previous operational experience and early (before 2006) metallurgical testing were not available to this author. In those cases, this author relied on the above-referenced reviews as sources of information concerning the earlier experience and test work. It is believed by this author that those reviews provide reliable representations of the earlier work. In the cases of the more recent metallurgical testing, original laboratory reports generally were available to this author for review.

A large number of metallurgical testing programs were conducted on samples from Relief Canyon before and during the initial development of the property between 1982 and 1990. The project was operated commercially by Lacana in 1984 and 1985 and by Pegasus between 1987 and 1990. Subsequently, Newgold commissioned additional metallurgical testing in 2006, which was used to evaluate redevelopment of the project in 2007 and 2008. Those operations consisted of reprocessing (recrushing and heap leaching) approximately 250,000 tons of historic heap tailings. Additional testing was conducted by Firstgold (formerly Newgold) in 2008 and 2009 and by Pershing Gold in 2011 through 2015. The 2014 and ongoing 2015 metallurgical testing by Pershing Gold is considered in more detail in this section, as the samples tested were selected to represent material from the current resource.

13.2 Metallurgical Testing

A summary of historical metallurgical testing data generated between 1982 and 1987 was compiled by combining summary tables contained in technical reports prepared by Gustin (2010) and Altman (2013). That summary is shown in Table 13.1.

Table 13.1 Summary of Historic Metallurgical Testing Data, Relief Canyon Mine, 1982 - 1987

Process	Feed Size	Au Extraction	Description of Source
48-hour Agitated Leach Tests on Crushed and Agglomerated Ore	-3/4"	40.7 - 69.6%	Dawson, Salisbury, 1982
Crushed & Agglomerated Ore	-1/2"	78 - 87%	KCA, 1983 Fernette et el., 1996
Barrel Leach Tests	-3/4"	62 - 68%	Dawson, Salisbury, 1983a
Column Leach Tests	-1/4"	80%	Dawson, Salisbury, 1983b
48-hour agitated leach tests	-3/4" to -3/8"	65 - 71%	Dawson, Salisbury, 1983c
ROM Pilot Heap	ROM	70% - 72%	Mine & Mill Engineering (1983) & Fiannaca & Easdon (1984)
Crushed ore Pilot Heap	-3/4"	80%	
Screen/CN Soluble vs. Fire Assay	N/A	3 samples Avg 73%; 1 sample 42%	Pegasus 1987

The test work presented in Table 13.1 was used before and during the commercial development of the Relief Canyon mine by Lacana (1984 - 1985) and Pegasus (1987 - 1988). None of the original reports concerning those testing programs or commercial operations were available for review by this author. The references provided in were taken from the reviews described above. The summary descriptions of those programs that follow were based on those same reviews.

Subsequent to the Lacana and Pegasus operations, a number of testing programs were conducted in support of the Newgold (later Firstgold) reprocessing operations, between 2006 and 2008. This work included agglomeration and column leach testing on bulk and sonic drill samples to evaluate the potential for reprocessing (recrushing and heap leaching) of the spent heap material. This work was conducted by both McClelland Laboratories Inc. (McPartland, 2007) and by Kappes, Cassiday & Associates ("KCA") (KCA, 2008).

In 2009, Firstgold commissioned testing on bulk samples taken from the bottom of the existing Relief Canyon North Pit. That work was conducted by KCA (KCA, 2010).

During 2011 and 2012, Pershing Gold conducted fire assay with comparative cyanide soluble gold analyses on exploration drill-core samples, which provided information on cyanide amenability of the material. That work was reviewed by Janke (2013). Original reports concerning that work were not available to this author for review.

During 2012, Pershing Gold conducted bottle roll tests at KCA on bulk samples generated from pit exposures or drill-hole samples (KCA, 2012). This work was done to quantify probable mercury liberation levels to allow process mercury abatement design and costing.

In 2014, Pershing Gold conducted column leach tests on five PQ drill core composites at McClelland Laboratories, Inc. ("MLI") (Olson, 2014a). Also in 2014, Pershing Gold submitted three exploration samples, representing jasperoid material, for bottle roll testing at MLI (Olson, 2014b).

In 2015, Pershing Gold undertook a metallurgical testing program on four drill core composites from the lower and jasperoid zones of the Relief Canyon project, and on a single bulk surface sample. The testing program remains in progress, at MLI, on the effective date of this technical report. Results from bottle roll testing conducted on the five samples were summarized in an MLI report (Olson, 2015). Column leach testing remains ongoing, and will be reported separately, at a later date.

13.2.1 Lacana Laboratory Testing - 1982 to 1983

A detailed description of the multiple testing programs commissioned by Lacana and conducted by KCA and Dawson Metallurgical Laboratories ("Dawson") was provided by Gustin (2010). The samples tested included coarse rejects from drill-hole samples and bulk samples collected by bulldozer trenching of the three most abundant mineralization types at Relief Canyon. In some cases, sample descriptions included drill hole and depth. In some cases, descriptions of the mineralization type were provided. In others, there was less detail available. It was unclear what relationship these samples may have had to the current resource.

Drill cuttings were subjected to either cyanide solubility analyses or bottle roll or agitated leach cyanidation tests. The bulk samples from the trenching program were subjected to cyanide bottle roll, column leach, barrel leach, and gravity concentration testing.

Summary conclusions based on results from this testing, which were referenced by Gustin (2010) and attributed to other reviewers, included:

- The project could be considered a candidate for heap leaching.
- The expected range of gold recoveries for heap leaching at Relief Canyon was around 60 percent to 80 percent, as provided by multiple reviewers referenced by Gustin (2010).
- The ore was not particularly sensitive to crush size with respect to recoveries.
- Cyanide leachability varied directly with degree of oxidation and indirectly with carbon content.
- Agglomeration pretreatment would probably be required for heap leaching, based on plugging problems that were encountered during laboratory column testing.
- No problems were expected with "coarse gold".

13.2.1.1 Kappes, Cassiday and Associates – 1983

Four of the bulk samples from the Lacana trenching program were sent to KCA for testing. Testing included bottle roll cyanidation tests and column leach tests. A summary table provided by Gustin (2010) showed gold recoveries ranging from 78 percent to 87 percent for column leach tests on four agglomerated bulk samples. Feed sizes for the tests ranged from 5/8 inch to 3/8 inch.

13.2.1.2 Dawson Metallurgical Labs – 1982 to 1983

Multiple testing programs conducted at Dawson during 1982 and 1983 were described by Gustin (2010). These included testing on bulk trench samples and drill-hole composites. Testing conducted included bottle roll tests, agitated leach tests, some limited gravity concentration testing, some barrel leach tests, and at least one column leach test on -1/4-inch feed. Results were varied. It was noted that there were some questions related to assay agreement between the various assay labs that were used for assaying related to this testing.

13.2.2 Lacana Pilot Heap-Leach Test Work

Lacana conducted pilot-scale heap-leach test work in the fall of 1983, following the initial bench-scale testing discussed above (Gustin, 2010). No original reports concerning this work were available to this author for review. Two 5,000-ton bulk samples were tested. One of the samples was crushed and agglomerated (crush size was not referenced). The other sample was leached at a run-of-mine feed size. Gold recoveries for the crushed/agglomerated and run-of-mine pilot heaps were estimated at >80 percent and 70.5 percent, respectively. Reagent consumptions were described as very low. Percolation characteristics were described as excellent.

13.2.3 Pegasus Jasperoid Study – 1987

Gustin (2010) reviewed a limited amount of information concerning results from part of a metallurgical testing program undertaken by Pegasus in 1987. No original reports concerning this work were available to this author for review. The testing was conducted to evaluate metallurgy of jasperoids from the north and mid-section pits of the Relief Canyon mine. This work included determination of "a pure AA:Fire ratio" for size fractions generated by screening four 50-pound samples of "normal jasperoids." Three of the four samples gave an average extraction of 73 percent. The fourth sample had a 42 percent extraction.

Gustin (2010) also referenced a Pegasus summary that concluded that the high-clay ore could be successfully leached if it was crushed and agglomerated prior to being placed on heaps by conveyor and stacker. The Pegasus summary was not available for review by this author.

13.2.4 Newgold Testing – 2006

In 2006, two samples of heap-leach residue from the historic Relief Canyon heaps were taken by Newgold and submitted to MLI for column leach testing (McPartland, 2007). The purpose for the tests was to evaluate reprocessing of the historical heaps by crushing and heap leaching. One of the samples was described as a coarse sample, from which fines had been removed by screening before the sample was shipped to MLI. The second sample was described as a fines sample, which included coarse and fines material from the historic Relief Canyon heaps.

The coarse and fines samples contained 0.016 and 0.018 oz Au/ton, respectively. A wet screen analysis conducted on the fines sample, before crushing, showed that the sample contained 41% +3/4-inch material, and 59%-3/4-inch material. A similar analysis was not conducted on the coarse sample. Both samples were crushed to 80%-3/4 inch (100%-1 inch) for column leach testing.

Column leach tests were conducted on both samples at the 80%-3/4-inch feed size. Gold recoveries obtained from the coarse and fines samples were 53.3 percent in 125 days and 26.3 percent in 75 days, respectively. Causes for the low gold recovery obtained from the fines sample were not clear. The fines sample was agglomerated, using 4 lb/ton lime, before leaching. The coarse sample did not require agglomeration. No physical/percolation problems were encountered during leaching of either sample.

Results from this testing appeared to be the basis to justify Newgold's (subsequently Firstgold's) redevelopment of the Relief Canyon project (Janke, 2013).

13.2.5 Firstgold Testing - 2008 to 2009

13.2.5.1 Firstgold 2008

In 2008, Firstgold conducted drilling of the historical heaps to generate samples for metallurgical testing (Janke, 2013). This work involved sonic drilling of "leach pad 4 (the last Pegasus pad)." The samples were submitted to KCA for testing (KCA, 2008). KCA received 74 drill-hole-interval samples from seven drill holes. Those samples were combined into two composites, which were each tested at -1-inch (80%-0.41 inch) and -1/2-inch (80%-0.27 inch) feed sizes (P_{80} values are averages). Average grade of the composites was 0.012 oz Au/ton.

Agglomeration testing was conducted to optimize heap-leach binder additions for the recrushed heap material. Based on those test results, a cement binder addition of 8 lb/ton was selected for column testing.

Column leach tests (four total) were conducted on each of the two composites at the two feed sizes. The feeds were agglomerated with cement (8 lb/ton). Gold recoveries obtained from the four tests ranged from 13 percent to 18 percent in 42 days of leaching.

Gold recoveries obtained by releaching the historic heap material during this testing program were substantially lower than those obtained during the 2006 testing at MLI (McPartland, 2007). Those comparative results and the experience of Newgold/Firstgold during commercial reprocessing of approximately 250,000 tons of the historical heap material indicate that the samples tested at MLI in 2006 were probably not representative of the material that was reprocessed commercially.

13.2.5.2 Firstgold – 2009

In 2009, Firstgold had two column leach tests conducted at KCA (KCA, 2010) on two bulk samples of mineralized material taken from the bottom of the Relief Canyon North Pit. Sampling procedures were described in an internal Firstgold memorandum (Beck, 2010). One sample was designated as clay-matrix limestone breccia. The other was designated as jasperoid hosted. The samples had assayed head grades of 0.016 and 0.017 oz Au/ton, respectively. The samples were crushed to minus ¾-inch before shipment to KCA. Agglomeration testing on the samples indicated that no cement agglomeration would be required, but that a cement addition of 3 lb/ton ore would be sufficient for the purposes of maintaining alkalinity during leaching. Gold recoveries from the clay-matrix limestone breccia and jasperoid-hosted samples were 83 percent and 85 percent, respectively. Respective silver recoveries were 29 percent and

four percent. Cyanide consumptions were low (0.58 and 0.47 lb NaCN/ton). The 3 lb/ton cement added to the -3/4-inch feeds during agglomeration pretreatment was sufficient for maintaining alkalinity during leaching.

13.2.6 Pershing Gold Testing – 2011 to 2014

13.2.6.1 Pershing Gold - 2011 to 2012

Pershing Gold conducted fire assays on exploration drill-core samples with comparative cyanide soluble gold analysis on "ore grade" intervals (Janke, 2013). No information was referenced concerning the drill holes tested. Data were analyzed with respect to oxidation category (oxide, mixed oxide, and sulfide) and according to depth below surface. It was noted that the oxidation levels were assigned by visual logging of the drill samples. The data analysis indicated average gold recoveries (cyanide soluble versus fire assay) for the oxide, mixed oxide, and sulfide sample types of 82 percent, 76 percent, and 34 percent, respectively. There was a significant range of recoveries for the oxide and mixed oxide sample types, but no strong trends with respect to sample depth. It was concluded by Janke (2013) that within the oxide and mixed oxide zones "*there should be no decrease in recovery performance with depth or below the water table. The sulfide zone material is not included in the resource planned for treatment*."

During 2012, Pershing Gold submitted eight samples to KCA for testing (KCA, 2012) to estimate mercury liberation during leaching for mercury emission control equipment sizing (Janke, 2013). The samples were described as either generated from pit exposures or made up from drill-hole samples and were intended to represent three host-rock types and three areas from the current resource. As part of this testing, bottle roll tests were conducted on the samples at a 100%-10 mesh feed size. Gold and silver extraction was measured during this testing. Summary results from those tests are shown in Table 13.2.

Table 13.2 Bottle Test Results, 100%-10M Feed Size, KCA-2012

Sample	Au Extracted %	Calc'd. Head ozAu/ton	NaCN Consumed lb/ton	Lime Added lb/ton
LPC MBX-A1	23	0.0227	1.16	8.00
NPC MBX-A1	62	0.0296	0.25	3.00
SPC MBX-A1	81	0.0096	0.58	2.00
SPJ BX-A1	73	0.0494	0.21	1.00
SPLS BX-A1	0	0.0011	0.28	1.00
NPJ BX-A1	78	0.0372	0.40	1.00
MBS-1 Comp.	66	0.0259	0.24	1.00
MBS-2 Comp.	1	0.0134	0.24	2.00

Gold recoveries from five of the eight samples ranged from 62 percent to 81 percent and averaged 72 percent. One of the three remaining samples contained only trace levels of gold. The two other samples gave gold recoveries of 23 percent and 0 percent. Ore-type descriptions and possible causes for the lower gold recoveries were not discussed. Silver recoveries ranged from 10 percent to 71 percent and

averaged 28 percent. Cyanide consumptions generally ranged from 0.24 to 0.58 lb NaCN/ton and averaged 0.42 lb NaCN/ton. Lime additions generally ranged from 1.0 to 3.0 lb/ton and averaged 1.6 lb/ton. One sample gave elevated cyanide consumption (1.16 lb NaCN/ton) and lime addition (8.0 lb/ton).

13.2.6.2 Pershing Gold – 2014

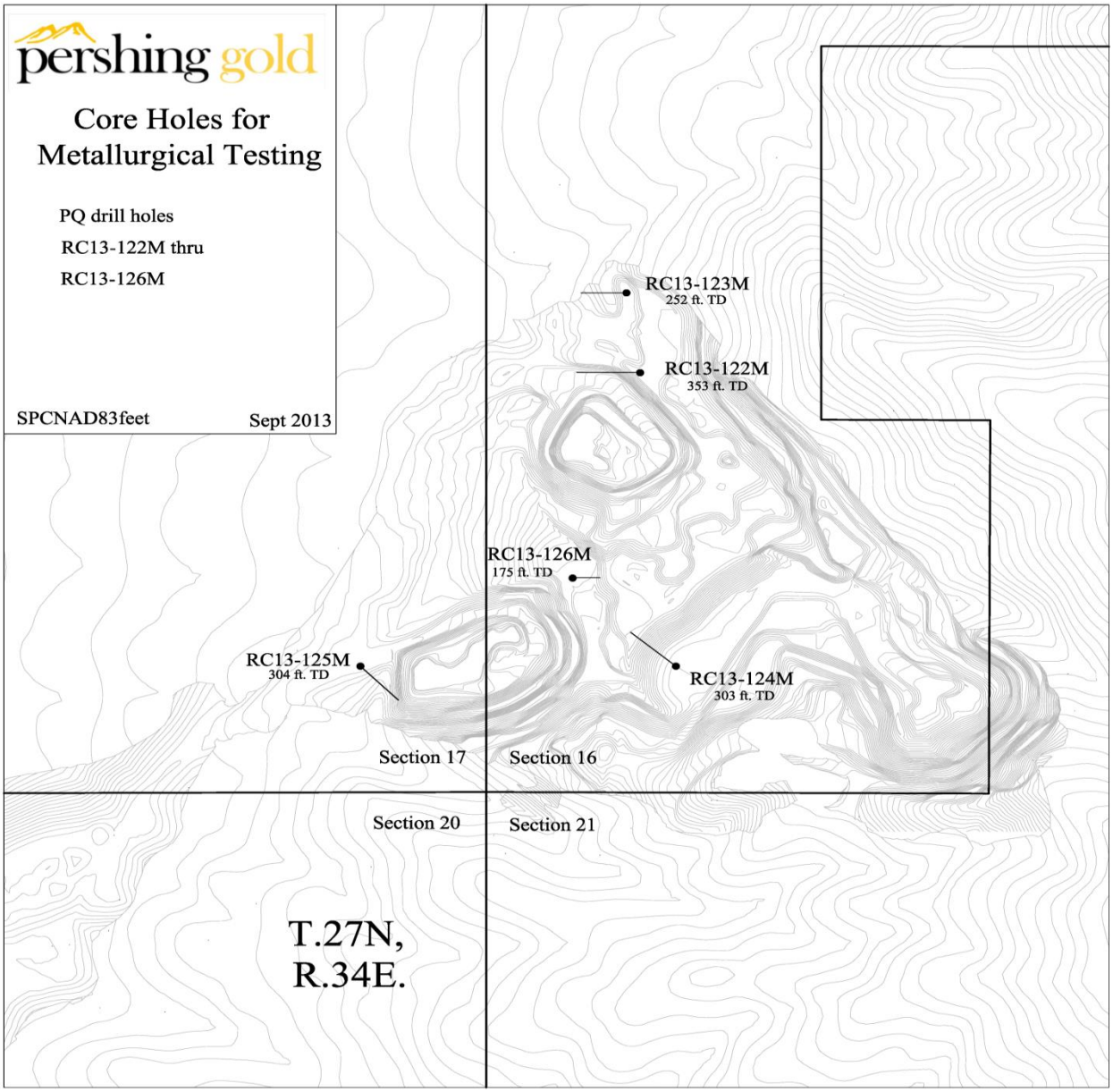
In September 2013, a total of 276 drill-core interval samples from five drill holes were submitted by Pershing Gold to MLI for metallurgical testing. Results from that testing were described in an MLI report (Olson. 2014a).

A detailed description of the sampling program used to generate the drill core for the MLI testing was prepared by the Gold Acquisition Corp. exploration staff (GAC memo, Sept. 10, 2013). Five PQ holes (RC13-122M to 126M) were completed for a total of 1,388 feet. The samples "*were designed to intercept significant intervals of gold mineralization in the block model throughout the pit area as well as above and below the water table*." It was also noted that "*this drilling only tested the Main zone, other mineral zones including the lower zone were not the target of this drilling*." Interval samples were described according to lithology, alteration, and mineralization. A summary of the lithologies encountered in the drill core is shown in Table 13.3. A plan view of the drill-hole locations is shown in Figure 13.1.

Table 13.3 Summary of the Lithologies Encountered in the Drilling (RC13-122M to 126M)

Rock Code	Lengths	Percent of total	Description	Type
QAL	5	0.36%	Alluvium	Waste
GVCMBX	250.4	18.04%	Clay Breccia Grass Valley	Waste
PMG	61	4.39%	Gabbro Intrusion	Waste?
LSTB	156.90	11.30%	Thin Bedded limestone	Waste?
LSCR	24.6	1.77%	carbonaceous limestone	Waste?
LSCMBX	47.7	3.44%	Clay-matrix breccia, multi lithic	Ore
FLTBX	178.8	12.88%	Fault breccia	Ore
BXCF	99.2	7.15%	Cave Fill Breccia	Ore
LSBX	552.2	39.78%	Limestone Breccia	Ore
JSBX	12.2	0.88%	Jasperoid breccia	Ore
	1388	**100.00%**		

Figure 13.1 Plan View of the 2013 Metallurgical Drill-Hole Locations



Initially MLI crushed and fire assayed each of the interval samples to determine gold and silver content and conducted a hot cyanide solubility analysis to determine cyanide soluble gold and silver content. A separate split from each interval was submitted by MLI to ALS laboratories for a multi-element ICP analysis. Based on fire assay and cyanide solubility results, along with core logging information, five composites were prepared. Those composites were designated 1-LSBXH (limestone breccia with high cyanide solubility), 2-LSBXL (limestone breccia with low cyanide solubility), 3-CMBXH (clay-matrix breccia with high cyanide solubility), 4-CMBXL (clay-matrix breccia with low cyanide solubility), and 5-JSPBX (jasperoid breccia). The limestone breccia and clay-matrix breccia composites were comprised

only of drill core. The jasperoid breccia composite was comprised of drill core (58 percent by weight), supplemented with bulk sample (42 percent by weight) because of the limited amount of drill core available.

A total of 15 drill-core intervals from drill hole RC13-122M that were logged as containing carbonaceous brecciated material were selected for preg-robbing testing. Each of those intervals was subjected to a cyanide solubility analysis, with and without a gold "spike", to determine the preg-robbing tendency. It should also be noted that 12 of those 15 intervals were also logged as being unoxidized material. Preg-robbing analysis results indicated that eight of the 15 samples displayed a minor to moderate preg-robbing potential. None of the intervals tested for preg-robbing character were included in the metallurgical composites because this material is not included in the resource that may be heap leached. The composite tests focused on the oxidized materials that Pershing Gold is planning to process using heap leaching. Pershing Gold is planning to use ore control procedures during mining that will identify any potentially preg-robbing material so this material can be excluded from processing on the heaps.

Composites were prepared by combining selected intervals in their entirety, according to the descriptions provided above. Intervals logged as unoxidized material generally were left out of the composites. In some cases, individual interval widths included in the composites were relatively small (as small as 1.3 feet), in order to generate sufficient sample for testing, while keeping the composites separated by ore type. Some of the smaller interval widths included in the composites would be considered impractically small for open pit mining techniques. Of the 438 lineal feet of drill core that comprised the five metallurgical composites, 185 feet came from intervals that were less than five-feet thick. It is MLI's understanding that Pershing Gold included these thinner intervals in the composite columns because they are representative of larger, potentially minable intervals of the same material within the Relief Canyon deposit. It should be possible during future metallurgical testing to combine some ore types based on metallurgical similarities in order to prepare composites exclusively from interval depths that represent practical mining thicknesses. Head analysis results for the metallurgical composites are shown in Table 13.4.

Table 13.4 Head Analyses, Relief Canyon Drill Core Composites, MLI 2014 Testing

		Composite				
Analysis	**Unit**	**1-LSBXH**	**2-LSBXL**	**3-CMBXH**	**4-CMBXL**	**5-JSPBX**
Interval Analyses[1)]						
Fire Assay, Au	oz/ton	0.016	0.011	0.023	0.045	N/A
Fire Assay, Ag	oz/ton	0.06	0.04	0.06	0.11	N/A
CN Sol. : Fire Assay, Au	%	92.2	37.9	94.7	77.4	N/A
CN Sol. : Fire Assay, Ag	%	79.9	65.5	71.8	74.2	N/A
Composite Analyses						
Fire Assay, Au	oz/ton	0.017	0.015	0.024	0.040	0.033
Fire Assay, Ag	oz/ton	0.06	0.06	0.06	0.12	0.22
CN Sol. : Fire Assay, Au	%	82.4	57.1	96.0	85.3	93.5
CN Sol. : Fire Assay, Ag	%	72.2	31.6	91.7	83.3	84.4
Preg-Rob Analysis, Au	%	1.2	2.4	1.2	3.6	3.6
C (Organic)	%	0.04	0.22	0.05	0.11	0.03
S (Sulfide)	%	0.01	0.61	0.01	0.05	<0.01
[1)] Composite results, calculated based on properly weighted interval analysis results.						

The five composites contained between 0.015 and 0.040 oz Au/ton. The cyanide soluble ratio (cyanide soluble/assay * 100) was between 82.4 percent and 96.0 percent for four of the five composites. The cyanide soluble to fire assay gold ratio for the limestone-matrix breccia low cyanide solubility composite (2-LSBXL) was substantially lower (57.1 percent). Those results indicate that the material in sample 2-LSBXL was more refractory to cyanidation treatment than the other ore types.

Sulfide sulfur content for the composites generally ranged from <0.01 percent to 0.05 percent. Organic carbon content generally ranged from 0.03 to 0.11 percent. Compared to the other composites, Composite 2-LSBXL contained elevated levels of sulfide sulfur (0.61 percent) and organic carbon (0.22 percent). These elevated levels may help to explain the relatively low cyanide soluble to fire assay ratio for that composite.

A single master composite was prepared from the five individual composites based on the expected weighting of the five ore types in the Relief Canyon resource. Composite make-up information for the master composite is shown in Table 13.5. This master composite included a proportional contribution of the low recovery LSBXL sample to reflect the more refractory portion of the resource that is planned for heap-leach processing. A bulk sample of leached residue from the historical Relief Canyon heaps was also received for testing. That sample was identified as Composite 6 - 2009 Tailings.

Table 13.5 Composite Make-Up, Relief Canyon Master Composite, McClelland – 2014

Composite	Weight to Comp. %	Grade (Fire Assay) oz Au/ton	Au Contribution to Composite, %
1-LSBXH	30.8	0.017	22.0
2-LSBXL	13.2	0.015	8.3
3-CMBXH	31.5	0.024	31.8
4-CMBXL	13.5	0.040	22.7
5-JSPBX	11.0	0.033	15.2
Composite	100.0	0.024	100.0

Metallurgical testing conducted on each of the five individual composites included bottle roll tests at feed sizes of 100%-2 inch, 80%-3/4 inch, 80%-3/8 inch, 80%-10M, and 80%-200M and a column leach test at an 80%-3/4-inch feed size. The same scope of bottle roll testing and two column leach tests (80%-3/4 inch) were conducted on the master composite. The purpose for the bottle roll tests was to confirm amenability to cyanidation treatment and to evaluate feed-size sensitivity. The purpose for the column leach tests was to determine gold and silver recovery, recovery rates, and reagent consumptions under simulated heap-leaching conditions. A third column test was conducted on the master composite (80%-3/4 inch) after it was bedded on top of a layer of the heap residue sample. The purpose for this test was to evaluate the use of the historical heaps for placement and leaching of freshly mined, crushed, and agglomerated ore.

Summary results from the bottle roll tests are presented in Table 13.6. Summary results from the column leach tests are presented in Table 13.7. Gold leach-rate profiles for the master composite are shown in Figure 13.2.

Table 13.6 Summary Results, Bottle Roll Tests, MLI 2014

Composite	Feed Size	Au Recovery %	Calculated Head ozAu/ton	Reagent Requirements lbs/ton ore	
				NaCN Cons.	Lime Added
1-LSBXH	100%-2"	82.4	0.017	0.16	1.9
1-LSBXH	80%-3/4"	81.8	0.011	<0.14	3.0
1-LSBXH	80%-3/8"	83.3	0.012	0.20	3.8
1-LSBXH	80%-10M	83.3	0.012	<0.14	4.0
1-LSBXH	80%-200M	92.3	0.013	<0.14	2.7
2-LSBXL	100%-2"	30.8	0.013	<0.14	2.7
2-LSBXL	80%-3/4"	16.7	0.012	0.39	3.3
2-LSBXL	80%-3/8"	30.8	0.013	0.36	3.6
2-LSBXL	80%-10M	28.6	0.014	0.55	4.0
2-LSBXL	80%-200M	40.0	0.015	0.59	2.7
3-CMBXH	100%-2"	90.9	0.022	0.16	1.8
3-CMBXH	80%-3/4"	87.0	0.023	<0.14	2.7
3-CMBXH	80%-3/8"	81.8	0.022	<0.14	2.6
3-CMBXH	80%-10M	87.0	0.023	0.21	2.4
3-CMBXH	80%-200M	91.3	0.023	<0.14	2.0
4-CMBXL	100%-2"	70.3	0.037	0.30	2.0
4-CMBXL	80%-3/4"	66.7	0.036	0.32	3.3
4-CMBXL	80%-3/8"	74.3	0.035	<0.14	3.6
4-CMBXL	80%-10M	73.7	0.038	0.23	4.4
4-CMBXL	80%-200M	81.1	0.037	<0.14	3.1
5-JSPBX	100%-2"	48.4	0.031	<0.14	1.6
5-JSPBX	80%-3/4"	65.5	0.029	<0.14	2.1
5-JSPBX	80%-3/8"	63.3	0.030	<0.14	2.0
5-JSPBX	80%-10M	74.2	0.031	<0.14	2.0
5-JSPBX	80%-200M	87.1	0.031	<0.14	2.1
Master	100%-2"	64.0	0.025	0.31	1.6
Master	80%-3/4"	69.6	0.023	0.31	2.6
Master	80%-3/8"	72.7	0.022	<0.14	2.6
Master	80%-10M	76.0	0.025	0.25	3.0
Master	80%-200M	84.0	0.025	0.15	2.3

Bottle roll test results showed that four of the five composites were amenable to agitated cyanidation treatment. Gold recoveries obtained from composites 1-LSBXH, 3-CMBXH, 4-CMBXL, and 5-JSPBX at an 80%-3/4 inch feed size ranged from 65.5 percent to 87.0 percent and averaged 75.3 percent in four days of leaching. The jasperoid breccia composite (5-JSPBX) was quite sensitive to feed size, and gold recovery increased from 48.4 percent at the 100%-2-inch feed size to 87.1 percent at the 80%-200M feed size. The three other composites discussed above were not particularly sensitive to feed size, though recoveries for the milled (200M) feeds tended to be moderately higher than obtained from the crushed feeds.

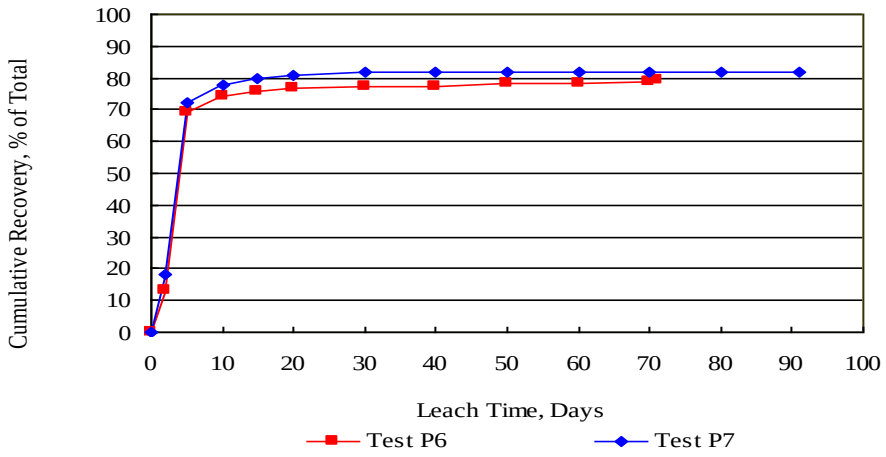
The limestone breccia with low cyanide solubility composite (2-LSBXL) gave significantly lower gold recoveries than the four other composites. Gold recoveries for the crushed feeds were somewhat erratic and ranged from 16.7 percent at the 80%-3/4-inch feed size to 30.8 percent at both the 100%-2-inch and 80%-3/8-inch feed sizes. Gold recovery from the 80%-200M feed was moderately higher (40.0 percent). There were some indications of a mild preg-robbing character for this composite. Those indications included bottle roll test leach rate data typical of a classical preg-robbing character (decreasing gold recovery with increasing leach time). A follow-up bottle roll test was also conducted on this composite with a "spiked" pregnant solution to further evaluate preg-robbing. Results from that test also indicated a mild preg-robbing character, and approximately 19 percent of the gold that was added in the pregnant solution "spike" was lost to the solids (robbed from the pregnant solution) during leaching. Although the preg-robbing character observed during bottle roll testing probably contributed to the anomalously low gold recovery obtained from composite 2-LSBXL, it did not appear to be sufficient alone to explain the low bottle test (or column test discussed below) gold recoveries. As mentioned above, this composite contained elevated levels of both sulfide sulfur and organic carbon. Locking of contained gold in sulfide mineral grains or in silica are among other possible explanations for the low gold recoveries obtained from this composite.

Bottle roll test reagent consumptions were low. Cyanide consumptions at the 3/4-inch feed size ranged from <0.14 to 0.39 lb NaCN/ton. Lime requirements ranged from 2.1 to 3.3 lb/ton ore.

Table 13.7 Summary Results, Column Leach Tests, MLI 2014 Testing, 80%-3/4 Inch

Composite	Time Days	Au Rec. %	Calc'd. Head oz Au/ton	NaCN Consumed lbs/ton ore	Cement Added lbs/ton ore
1-LSBXH	76	85.7	0.014	1.07	8.0
2-LSBXL	76	38.5	0.013	1.18	8.0
3-CMBXH	76	91.3	0.023	1.14	8.0
4-CMBXL	76	78.0	0.041	1.74	8.0
5-JSPBX	194	65.5	0.029	3.02	8.0
Master (Test P6)	71	79.2	0.024	1.32	8.0
Master (Test P7)	91	81.8	0.022	1.17	8.0
Master/HL Res.	76	72.7	0.022	1.34	8.0

Figure 13.2 Gold Leach Rate Profiles, Column Leach Tests
Relief Canyon Master Composite, 80%-3/4" Feed Size, MLI 2014



Column test results showed that three of the five individual composites were readily amenable to simulated heap-leach cyanidation treatment at an 80%-3/4-inch feed size. Gold recoveries obtained from composites 1-LSBXH, 3-CMBXH, and 4-CMBXL were 85.7 percent, 91.3 percent, and 78.0 percent, respectively, in 76 days of leaching and rinsing. Gold recovery rates for those composites were rapid, and gold extraction was substantially complete in 15 to 30 days of leaching.

The jasperoid breccia composite (5-JSPBX) was also amenable to simulated heap-leach cyanidation treatment at the 80%-3/4-inch feed size. Gold recovery from that composite was somewhat lower (65.5 percent), in large part because of a very slow leach rate. Gold extraction was progressing from that test at a slow but significant rate when the test was ended after 194 days. Extending the leach cycle for composite 5-JSPBX would increase gold recovery significantly.

The limestone breccia with low cyanide solubility, composite (2-LSBXL), was not as amenable to simulated heap-leach cyanidation treatment at an 80%-3/4-inch feed size. A gold recovery of 38.5 percent was obtained in 76 days of leaching and rinsing. As discussed above regarding bottle roll testing, it is believed that a mild preg-robbing tendency probably contributed to the anomalously low gold recovery obtained from this composite. The preg-robbing character observed during bottle roll testing was probably not sufficient, however, to fully explain the low column test gold recovery. Further testing to determine the causes for the low gold recovery from this material will be required if this material is to be put on the heaps. In addition to the mild preg-robbing tendency, the low gold recovery could also be due to locking of gold in sulfide minerals or silica encapsulation.

Column test cyanide consumptions were moderate (1.07-1.74 lb NaCN/ton) for the individual composite tests run for 76 days. Cyanide consumption for the jasperoid breccia composite test was significantly higher (3.02 lb NaCN/ton), in large part because of the very long column test leach cycle employed. Column test cyanide consumptions are usually substantially higher than experienced in commercial production. Considering the column test and bottle roll test data, it is expected that commercial

consumptions for the ore types represented by the composites tested probably would not exceed 0.5 lb NaCN/ton.

Two column tests, which were essentially duplicate tests, were conducted on the master composite, at an 80%-3/4" feed size. One of the two tests (P-6) was ended about 20 days earlier than the other (P-7) in order to obtain samples for environmental characterization. Gold recoveries from the two tests were essentially the same (79.2 percent and 81.8 percent). Those gold recoveries agreed closely with the gold recovery that would be expected (78.6 percent), based on the composition of the master composite and the gold recoveries obtained during column testing on the five individual composites. It should be noted again that the master composite contained 13.2 percent by weight of the limestone breccia with low cyanide solubility composite (2-LSBXL). Column test results indicate that any detrimental effect that preg-robbing by the composite 2-LSBXL material might have on recovery from the other ore types was effectively mitigated by blending with the other ore types. Further testing would be required to evaluate the effects of blending at the varied ratios that may be encountered during commercial production. Gold recovery rates for the master composite were rapid, and gold extraction was substantially complete in 15 days of leaching. Cyanide consumptions for the master composite were similar to those obtained from the individual composites.

A column leach test was conducted on a combination of master composite material and the historical heap-leach residue. For this test, the column was loaded, first with heap-leach tailings material (10 percent by weight) followed by master composite material (90 percent). After this test was completed, the master composite material and the old tailings were screened and assayed separately. Results show that gold extraction from the master composite material was similar to the gold extraction obtained from the two master composite column tests described above. No significant adverse effects resulted from leaching the master composite on top of the historical heap residue material. Gold recovery from the historical heap residue material was negligible. Gold recovery rate and reagent consumptions were similar to those obtained from the two other master composite tests.

All of the column charges were agglomerated before leaching using a cement (Portland type I/II) binder addition of 8 lb/ton. This binder addition was based on results from scoping agglomeration ("agglomerate strength and stability") tests conducted on each of the five individual composites and the master composite. That binder addition was sufficient for maintaining adequate solution percolation during column leach testing. After column leaching, selected column leached residues were sampled and submitted to a geotechnical testing laboratory (GeoLogic Associates) for fixed wall hydraulic conductivity testing (ASTM method D-2434). The purpose of these tests was to evaluate permeability of the leached agglomerates under simulated commercial heap stack height compressive loadings. Results from that testing were presented in a separate MLI report (Olson, 2014c) and indicated that the 8 lb/ton cement addition was sufficient for agglomeration pretreatment of the master composite at simulated heap stack heights of up to 200 feet. Results also indicated, however, that a cement addition of 8 lb/ton ore was insufficient for agglomeration of the high-clay material. Hydraulic conductivity of the composite 3-CMBXH column leached residue fell to 8 Lph/m^2 at a simulated heap stack height of 86 feet. These results indicate that further optimization of agglomerating conditions will be required for the high-clay ore types. These results also indicate that if the clay-matrix material is properly blended with other non-clay-matrix material, adequate permeability can be maintained (to a 200-foot stack height) with a cement addition of 8 lb/ton. Further testing would be required to evaluate the effects of blending the high-clay materials at the range of blends that is likely to be encountered during commercial production.

Three additional exploration drill samples were submitted to MLI in May of 2014 for bottle roll testing. Results from that testing were described in an MLI report (Olson, 2014c). The three samples were described in an e-mail (Hillesland e-mail, Sept. 15, 2014) as follows: "*The samples in question were from the jasperoid zone which is stratigraphically about 300 feet or more below the main zones. CN soluble Au values have always been lower in this zone. We had one composite sample from the surface and one composite with high CN solubility and one composite with low CN solubility. The latter two samples were from coarse rejects*." The samples ranged in grade from 0.043 to 0.078 oz Au/ton, and from 0.15 to 0.66 oz Ag/ton. A bottle roll test was conducted on the three samples at an 80%-10M feed size. Gold recoveries obtained from the three samples were 48.9 percent, 82.1 percent, and 60.5 percent. Silver recoveries ranged from 50.0 percent to 60.0 percent. Reagent consumptions were low.

13.2.6.3 Pershing Gold – 2015

In February 2015, a total of 338 drill core interval samples were submitted by Pershing Gold to MLI for metallurgical testing. A few weeks later, a bulk surface sample was also received. Select (82) drill core interval samples were crushed, split, fire assayed to determine gold and silver content and subjected to cyanide solubility analysis procedures to determine soluble gold and silver content. Based on results from those interval sample analyses, four drill core composites were prepared. The composites were described as representing material from the Lower and Jasperoid zones of the Relief Canyon project. Composite descriptions are detailed in Table 13.8. Assayed head grades for the composites ranged from 0.020 to 0.103 ozAu/ton.

The bulk sample was described as a "Composite of Bulk Metallurgical Sample from North Pit, North Target and the Southwest Lacana Dump". A description of the sample and the procedures used for generating the sample was detailed in a memo by Peter Dilles (2015). The sample was prepared on-site by blending more than four tons of "North Target dump" (clay rich material) stockpile with equal amounts of East North Pit limestone breccia stockpile and Southwest dump trenched stockpile. The shipped composite was projected to have an average head grade of 0.020 ozAu/ton, and weighed approximately 12 tons. Assayed head grade for the sample was 0.018 ozAu/ton.

Testing planned for each sample included detailed head analyses, bottle roll tests at five feed sizes, ranging from 100%-2" to 80%-200 mesh, and a column leach test at an 80%-3/4 inch feed size. Column leach tests were also planned for the bulk ore sample at feed sizes ranging from 100%-6 inch to 80%-1.5 inch. Testing on the bulk ore sample also includes the evaluation and optimization of agglomeration pretreatment.

The column testing program was in progress as of the effective date of this technical report. A summary report was issued by MLI concerning results from the bottle roll testing described in the preceding paragraph (Olson, 2015).

Bottle roll tests were conducted on the four drill core composites and one bulk ore sample at feed sizes of 100%-2 inch, 80%-3/4 inch, 80%-3/8 inch, 80%-10 mesh and 80%-200 mesh. The 10 mesh and coarser feed sizes were generated by crushing. The 200 mesh feeds were generated by grinding in laboratory ball mills. Summary results from those tests are shown in Table 13.8.

Table 13.8 Summary Metallurgical Results, Bottle Roll Tests, Relief Canyon Bulk Sample and Drill Core Composites, MLI 2015 Testing

Sample	Description	Feed Size	Au Recovery, %	Calculated Head, ozAu/ton	Reagent Requirements lb/ton	
					NaCN Cons.	Lime Added
BS-1	Bulk Surface Sample	100%-2"	86.7	0.015	<0.14	1.9
		80%-3/4"	77.8	0.018	<0.14	3.0
		80%-3/8"	82.4	0.017	<0.14	3.6
		80%-10M	81.3	0.016	<0.14	3.4
		80%-200M	86.7	0.015	0.15	3.7
Comp. 1	Fault Breccia and Jasperoid Breccia, High CN Solubility	100%-2"	67.9	0.109	<0.14	1.6
		80%-3/4"	71.6	0.116	0.25	2.6
		80%-3/8"	67.6	0.145	<0.14	2.9
		80%-10M	79.0	0.124	<0.14	2.7
		80%-200M	97.8	0.134	<0.14	2.5
Comp. 2	Limestone Breccia and Thin-Bedded Limestone, High CN Solubility	100%-2"	65.2	0.023	<0.14	0.7
		80%-3/4"	78.3	0.023	<0.14	1.6
		80%-3/8"	80.0	0.020	0.15	1.7
		80%-10M	83.3	0.024	<0.14	2.4
		80%-200M	92.0	0.025	0.19	2.1
Comp. 3	Fault Breccia, Jasperoid Breccia, and White Clay (Illite)-Fluorite, Low CN Solubility	100%-2"	60.5	0.086	0.15	1.9
		80%-3/4"	65.9	0.085	0.23	2.1
		80%-3/8"	68.6	0.086	<0.14	2.8
		80%-10M	69.9	0.093	<0.14	2.9
		80%-200M	95.5	0.089	<0.14	2.9
Comp. 4	Thin-Bedded Limestone and Gabbro, Low CN Solubility	100%-2"	65.0	0.020	<0.14	0.9
		80%-3/4"	64.7	0.017	<0.14	1.3
		80%-3/8"	68.2	0.022	0.31	2.5
		80%-10M	70.4	0.027	0.27	2.4
		80%-200M	92.3	0.026	<0.14	2.1

Gold recoveries from the bulk sample ranged from 77.8% to 86.7% in 96 hours of leaching, but the sample was described as being not particularly sensitive to feed size. Variations in recovery resulted mainly from the low grade nature of the sample, and normal analytical and experimental variability.

Gold recoveries from the four Lower and Jasperoid zone composites ranged from 60.5% to 97.8%. Gold recovery from each of those composites tended to increase with decreasing feed size. On average, gold recovery at the 200 mesh feed size was 30% higher than recovery at the minus 2 inch feed size. Gold recoveries from the 200M feeds ranged from 92.0% to 97.8%.

For the low cyanide solubility composites (composites 3 and 4), recoveries from the crushed feeds varied by only as much as 9% within the range of feed sizes evaluated. These results suggest that the finer crushing of this material for heap leaching would have limited benefit. The high cyanide solubility

composites were somewhat more sensitive to crush size, suggesting that a heap leach feed of this material may benefit, to a greater degree, from finer crushing. Conversely, fine grinding of the low cyanide solubility composites resulted in larger increases in gold recovery.

Silver recoveries varied from 11.1% to 71.9%. Silver recovery generally increased with decreasing feed size.

Cyanide consumption was low for all feeds tested, and ranged from less than 0.14 to 0.31 lbNaCN/ton ore. Cyanide consumption was not strongly correlated with feed size for any of the samples tested. Lime requirements were low and tended to increase with decreasing feed size.

13.3 Operating Data

Heap leaching of Relief Canyon ore was conducted by Lacana in 1984 and 1985 and by Pegasus between 1987 and 1990. Subsequently, Newgold (later Firstgold) redeveloped the project in 2007 and 2008 and reprocessed existing heap-leach tailings by crushing and re-leaching (heap leaching). Observations made in this chapter concerning operational experience are based on previous reviews (Gustin, 2010; Altman, 2013; and Janke, 2013). None of the original operational data or reports or other third-party reviews were available to this author for review.

13.3.1 Lacana Operations

Lacana operated the Relief Canyon project between 1984 and 1985 by heap leaching run-of-mine ore. The average recoveries realized during Lacana's operations were reportedly 45 percent to 48 percent. This was significantly lower than expected, based on Lacana's pilot heap-leach testing. No reasons for the lower-than-expected gold recoveries were found in the reviews referenced above.

13.3.2 Pegasus Operations

Pegasus operated the Relief Canyon project between 1987 and 1990 by crushing, agglomerating, and heap leaching. Gold recoveries for the Pegasus operations were reportedly estimated as 65 percent to 70 percent.

13.3.3 Newgold Operations

During a few months in 2008 and 2009, Newgold reprocessed approximately 250,000 tons of previously leached material at the Relief Canyon project (Janke, 2013). Processing consisted of re-crushing historic heap residue material to -1/2 inch and heap leaching (re-leaching). The project was reportedly shut down after a few months because of low gold recoveries.

13.4 Summary

Recent metallurgical testing (Olson, 2014a) demonstrates that the major Relief Canyon ore types (limestone breccia, clay breccia, and jasperoid) contained in the Main Zone generally would be amenable to heap-leach cyanidation treatment. With the notable exception of the limestone breccia (low cyanide

solubility) material, test data indicate expected heap-leach gold recoveries of between approximately 65 percent and 90 percent.

The material represented by the limestone-breccia (low cyanide solubility) sample tested gave substantially lower gold recovery (38.5 percent) by column testing at the 3/4-inch feed size. This sample was also refractory to milling/cyanidation treatment at a 200M feed size. The sample displayed a mild preg-robbing character during testing, but that was probably not sufficient to explain the anomalously low gold recovery. If this material is to be put on the heaps, further testing will be required to determine the causes for lower recoveries. Those causes may include locking of gold in sulfide minerals or silica.

Indicated cyanide consumptions for the Relief Canyon ore types tested were low. Heap-leach cyanide consumptions for those ore types would probably not exceed 0.5 lb NaCN/ton ore. Cement additions for agglomeration pretreatment will require further optimization, particularly for the clay-breccia ore types. A cement addition of 8 lb/ton ore was sufficient for agglomeration pretreatment of the blended (weighted blend of the five major ore types) material but was not sufficient for agglomeration pretreatment of the higher clay ore types. Further testing will be required to optimize agglomeration of the high-clay material if ore blending plans are not adequate for dealing with high-clay-content ores.

Recent testing also indicates placement of the Relief Canyon crushed and agglomerated ore on top of existing heap-leach residue (to be used as liner protection material) and heap leaching the crushed and agglomerated ore would not adversely affect gold recovery from the freshly placed ore.

Available results from ongoing metallurgical testing indicate good potential for heap leaching of materials sampled from the Lower and Jasperoid zones. Column testing is in progress to verify that observation.

Early testing and operation experience for the Relief Canyon project suffer from a lack of available documentation. Available reviews of the earlier data show, however, that they generally are consistent with the more recent testing and the summary observations made above.

Opportunities for improving metallurgy through continued testing include optimization of agglomerating and heap-leaching conditions, including feed size. Additional testing may be required to determine causes for the low gold recovery observed in the low cyanide solubility composite (2-LSBXL) and to confirm that the high-clay ore can be successfully agglomerated and heap leached with the required agglomeration binder.

Deleterious elements identified during testing were undetermined preg-robbing constituents (probably organic carbon) that caused minor preg-robbing for one of the five ore types tested, and clays which will require increased cement additions during agglomeration pretreatment. However, the effects of both appeared to be limited and can probably be mitigated by proper ore-control procedures during mining and proper processing. Further testing will be required to confirm this observation.

The recent metallurgical testing program (Olson, 2014a) identifies the leaching characteristics and gold recoveries from the various ore types in the Main Zone of the Relief Canyon deposit, which comprise the materials that Pershing Gold is planning to process using heap leaching. The test results show that the Main Zone ore types are expected to have heap-leach gold recoveries of between approximately 65

percent and 90 percent. Only one rock type, a low cyanide solubility limestone breccia, which makes up only a small percentage of the Main Zone, fails to fall within this range of gold recovery. Further testing should be designed to support future mine planning and could include the following:

- Mineralogical characterization of the major ore type in the Main Zone metallurgical composites (in progress);
- Detailed mineralogical characterization and metallurgical testing on the limestone-breccia (low cyanide solubility) ore type material to determine the causes for the low cyanidation gold recoveries exhibited by that material if this material is to be put on the heaps (in progress);
- Agglomeration optimization for the high-clay ores, with subsequent column leach testing and hydraulic conductivity testing to confirm permeability of the leached agglomerates under simulated heap stack height compressive loadings if ore-blending plans are not adequate for dealing with high-clay-content ores. This testing is in progress at MLI;
- Ore variability bottle roll testing;
- Column leach testing on production schedule drill-core composites, considering only practical mineable thicknesses and likely ore scheduling;
- Column leach testing on drill core composites from the Lower Zone and the Jasperoid Zone of the deposit that are included in the resource but are outside of the "Main Zone" ore zone and may not be mined. This testing is in progress at MLI; and
- Column leach testing on a bulk sample at ROM, 3 inch, 1.5 inch, and 0.75 inch sized fractions. This testing is in progress at MLI.

14.0 MINERAL RESOURCE ESTIMATE

14.1 Introduction

Mineral resource estimation described in this section for the Relief Canyon project follows the guidelines of Canadian Institute of Metallurgy ("CIM"). The modeling and estimate of the Mineral Resources were done under the supervision of Paul G. Tietz. There is no affiliation between Mr. Tietz and Pershing Gold except that of an independent consultant/client relationship. There are no Mineral Reserves estimated for the Relief Canyon project as part of this report.

Although MDA is not an expert with respect to any of the following aspects, MDA is not aware of any unusual environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that may materially affect the Relief Canyon mineral resources as of the date of this report.

The effective date of the mineral resource estimate is June 30, 2015. The drilling analyses, database verification, and resource modeling were completed according to the guidelines specified by Canadian National Instrument 43-101 ("NI 43-101"). MDA classifies resources in order of increasing geological and quantitative confidence into Inferred, Indicated, and Measured categories to be in compliance with the "CIM Definition Standards - For Mineral Resources and Mineral Reserves" (2014) CIM mineral resource definitions are given below, with CIM's explanatory material shown in italics:

Mineral Resource

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

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of Modifying Factors. The phrase 'reasonable prospects for eventual economic extraction' implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic

extraction. The Qualified Person should consider and clearly state the basis for determining that the material has reasonable prospects for eventual economic extraction. Assumptions should include estimates of cutoff grade and geological continuity at the selected cut-off, metallurgical recovery, smelter payments, commodity price or product value, mining and processing method and mining, processing and general and administrative costs. The Qualified Person should state if the assessment is based on any direct evidence and testing.

Interpretation of the word 'eventual' in this context may vary depending on the commodity or mineral involved. For example, for some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage 'eventual economic extraction' as covering time periods in excess of 50 years. However, for many gold deposits, application of the concept would normally be restricted to perhaps 10 to 15 years, and frequently to much shorter periods of time.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient

confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Pre-Feasibility Study which can serve as the basis for major development decisions.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

Modifying Factors

Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

MDA reports resources at cutoffs that are reasonable for deposits of this nature given anticipated mining methods and plant processing costs, while also considering economic conditions, because of the regulatory requirements that a resource exists "in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction."

14.2 Resource Data

A geologic model for estimating the gold resources at Relief Canyon was created from drilling data generated by historical operators, over a period from 1981 through 2008, and also from Pershing Gold's drilling in 2011 through February, 2015. The Relief Canyon drill-hole database contains 895 holes for total drill footage of 375,447 feet. Of these holes, 219 are core holes with total core footage of 137,045 feet, and the remainder are reverse circulation holes for a total of 238,402 feet. Almost all the core drilling was completed by Pershing Gold (215 holes), with much of this drilling targeting the deep, structurally controlled mineralization occurring within the northern portion of the resource area.

The resource database also includes 20 excavator trenches within the dump/stockpile area located west-southwest from the historical mined South pit. The trenches were dug by Pershing Gold in 2014 and 2015 to provide additional confidence in the mineralization previously defined by shallow core and RC drilling. Each trench is about 50ft long and 15ft deep. Samples were collected from the excavated material along the length of the trenches.

The Relief Canyon assay database contains 72,431 gold assays and 41,269 silver assays. Due to the generally low silver metallurgical recoveries and subsequent minor impact on projected economics, only gold was estimated in the current resource. All less-than-detection values were converted to "0" for use in the resource estimate.

The database contains down-hole survey information only for the Pershing Gold drilling. The historical drill holes were not surveyed, though the risk to the resource estimate is mitigated by the fact that most historical drill holes were short vertical holes in which only minor down-hole deviation is expected.

The reverse circulation drilling was conducted using both dry and wet drilling techniques. Down-hole contamination was noted in the reverse circulation drilling below the water table, especially in the deeper North area holes, Pershing's 2013 through 2015 core drilling targeted this deep North area mineralization allowing MDA to remove most, if not all, suspect reverse circulation sample intervals from use in the geologic model and resource estimate. A total of 2,914 samples from all of parts of 31reverse circulation holes were removed from use in the estimate.

Project digital topography was provided by Pershing Gold. These data were incorporated into a digital database using State Plane coordinates, Nevada West zone, NAD83 datum, expressed in US Survey feet, and all subsequent modeling of the Relief Canyon resource was performed using GEOVIA Surpac™ mining software.

14.3 Deposit Geology Pertinent to Resource Modeling

The majority of the modeled Relief Canyon gold mineralization, and all the mineralization within the historical mining area, lies within an envelope of jasperoid-clay breccia (the Main Zone) that lies

immediately below the Grass Valley Formation. Within the project area, the thrust fault contact between the Grass Valley Formation and underlying Cane Spring Formation, as well as the mineralized breccia horizon lying between the two units, forms a broad, northeast-trending antiform that plunges about 10° to the southwest. The thickest portions of the breccia, as well as the associated mineralization, lie primarily along the broad crest of the antiform, and the breccia and accompanying mineralization thins and pinches out down dip on the northwest limb and is very thin to nonexistent on the southeast limb. Locally, the breccia-hosted mineralization extends a short distance (usually less than 10 feet) into the overlying Grass Valley Formation.

While the reverse circulation data often indicate significant jasperoid development within the upper portions of the Main Zone breccia, the few core holes drilled through this feature indicate clay-rich breccias are also prevalent. It is likely that the clay component is poorly recovered, at least in the geologic sample used for logging purposes, using reverse circulation drilling techniques.

Deeper drilling within the North area has encountered structurally controlled mineralization within the Cane Spring Formation (within both the Massive and Deformed Limestone packages as discussed in Section 7.0) at depth beneath the Main Zone breccia. Labeled the Lower Zone and Jasperoid Zone by Pershing Gold, both are sub-horizontal structural zones characterized by fault brecciation, moderate to pervasive silicification, and sporadic clay development. Higher-angle splay structures, along with thrust fault-related duplex structures, are common extending up from and between the main sub-horizontal structures, and mineralization is localized at these structural intersections.

Mafic dikes within the Lower Zone show a strong spatial correlation with gold. Post-emplacement fault movement along the intrusive/limestone contacts served to channel hydrothermal solutions, and higher-grade gold mineralization often occurs within these fault contact zones.

Above the water table, the Main Zone breccia mineralization is primarily oxidized, though some remnant unoxidized pockets are in evidence. Below the water table, oxidation is highly variable within the Main Zone and Lower Zones, and portions of the Jasperoid Zone, with the presence of oxide, mixed oxide/unoxidized, and some remnant unoxidized mineralization.

14.4 Geology Modeling

Pershing Gold provided MDA with a set of digitized 50-foot-spaced, east-west-oriented cross sections that define the limits of alluvium, the Grass Valley Formation, diorite intrusive sills and dikes, as well as low- and high-angle fault zones within the Cane Springs and Smelser Pass Formations beneath the Main Zone breccia. Included within this model was a cross-sectional interpretation of the areas of moderate to strong clay alteration within the Main Zone mineralization. The clay model is used primarily for metallurgical purposes. The Pershing Gold sections were created using geologic logs of Pershing Gold's drill holes in combination with interpretations of logging codes and historical cross sections from older holes.

MDA made some minor revisions to the interpreted geology to best fit the validated drill data and also added the historical mine dumps and the updated topography to the cross-sections. The cross-sectional data were rectified in three-dimensions to the drill data and modeled using solids (the mine dumps and

all geology) and planar surfaces (the prominent faults). Individual solids were created for the alluvium, Grass Valley Formation, clay alteration, and diorite sills and dikes).

14.4.1 Water Table

Pershing Gold provided MDA a groundwater surface created by Schlumberger Water Services (Reno, Nevada) using the data from two pumping wells, four piezometers, and approximately 15 exploration drill holes located throughout the resource area. This groundwater surface is coded into the block model and will be used by Pershing Gold for mine planning.

14.4.2 Oxidation

The project database includes oxidation codes (1, 2, and 3), with 1 = completely oxidized, 2 = mixed oxidized/unoxidized, and 3 = completely unoxidized) for 678 drill holes, representing approximately 75 percent of the drill holes in the Relief Canyon database. The codes were interpreted by a number of different geologists from a variety of companies based on logging of reverse circulation drill chips and diamond core. These data are therefore subjective by nature and may or may not correlate with ultimate recoveries achieved in a cyanide heap-leach scenario.

In addition to the standard fire assay, Pershing Gold assayed for gold using hot cyanide-leach techniques for most of the mineralized intervals within their 2012, 2013, 2014, and 2015 core drilling programs. The database includes a total of 3,778 cyanide-leach gold assays. In conjunction with the subjective drill-log oxidation codes, MDA used these data to determine general areas within the deposit that are predominantly "oxide," "mixed oxide/sulfide," and "sulfide."

A review of the oxidation data in the context of the geology reveals that the Main Zone breccia horizon is predominantly oxide material, though the deeper extensions, especially below the water table, can be partially oxidized with some minor remnant unoxidized material. The Lower Zone structurally controlled mineralization at depth beneath the Main Zone is predominantly mixed material consisting of oxide, partially oxidized, and some remnant unoxidized material. Within the areas of mixed material, the transition between oxidized and unoxidized material within individual drill holes can be very sharp, though it also can be highly variable both within and between drill holes. In many drill holes, all oxidation types can be observed within individual mineralized intervals. Significantly more drill data would be needed to define oxide, partially oxidized, and unoxidized areas within the mixed material.

The predominantly unoxidized material occurs within portions of the Lower Zone and much of the Jasperoid Zone mineralization at depth within the North area. Due to the significantly reduced gold recoveries associated with this oxidation type, as indicated by the cyanide leach assay data, a sulfide 3D solid was created and used to code the block model. An increased resource cut-off grade was used for blocks within this solid.

While the data density is not sufficient to entirely fill the mineral domains with oxidation codes, MDA believes that the relative amounts of oxidized, mixed, and unoxidized material estimated within the mineral domains are likely to be reasonably representative of the entire breccia horizon.

14.5 Density

Historical density data are discussed in Section 11.9. Due to questions of sample provenance and procedures, these data have not been used to develop the current specific gravity model.

Pershing Gold collected over 2,900 samples for density determinations from their 2012, 2013 and 2014 core drilling programs. The samples were from all significant rock types and gold grade ranges, and the procedures used the water immersion method.

MDA analyzed the data and the general statistics by modeled rock type and gold mineral domain, along with the tonnage factor used in the block model, are shown in Table 14.1. Due to the often highly fractured nature of the deposit, and the fact that voids resulting from many of the open fractures cannot be accurately reflected in density determinations, the measured density values were factored down by 1.5 percent to account for the unavoidable sample-selection bias. The alluvium density was factored down by a larger percentage due to the few samples collected and the sample bias in collecting representative overburden material. There is no density data on dump material, so a tonnage factor of 20 was assigned by MDA. The factored data, shown in the "Model TF" column in Table 14.1, reflect the actual density values assigned to the Relief Canyon block model.

Table 14.1 Descriptive Statistics of Relief Canyon Density Values by Rock Type

Rock Type	Specific Gravity Statistics (g/cm3)						Model TF (cuft/ton)
	Count	Mean	Median	Min.	Max.	Std.Dev.	
Alluvium	14	2.19	2.24	1.64	2.69	0.33	**18**
Dump	NA	-	-	-	-	-	**20**
Grass Valley Fm	44	2.36	2.31	2.14	2.60	0.14	**14**
Main Zone Breccia	70	2.50	2.57	1.98	2.76	0.21	**12.8**
Cane Springs Ls	558	2.59	2.63	1.85	2.84	0.15	**12.5**
Mafic dike	91	2.34	2.41	1.68	2.75	0.29	**13.7**
Volcanic tuff/flow	99	2.66	2.74	2.18	2.85	0.16	**12**
Debris Flow Breccia	6	2.56	2.56	2.42	2.70	0.12	**12.7**
Mineralized Material*							
Low-grade Au (MZ-Ox)	668	2.47	2.57	1.70	2.75	0.24	**12.9**
Low-grade Au (MZ-Sulf)	11	2.39	2.42	2.27	2.43	0.05	**13.5**
Low-grade Au (LZ-Ox)	658	2.51	2.58	1.82	2.78	0.19	**12.8**
Low-grade Au (LZ-Sulf)	113	2.55	2.61	1.99	2.77	0.17	**12.6**
Mid-grade Au (MZ-Ox)	157	2.41	2.51	1.86	2.74	0.23	**13.2**
Mid-grade Au (MZ-Sulf)	6	2.36	2.39	2.14	2.48	0.12	**13.5**
Mid-grade Au (LZ-Ox)	284	2.49	2.54	1.85	2.86	0.20	**12.9**
Mid-grade Au (LZ-Sulf)	50	2.53	2.58	2.05	2.71	0.17	**12.7**
High-grade Au (LZ-Ox)	73	2.39	2.42	1.99	2.66	0.18	**13.5**
High-grade Au (LZ-Sulf)	18	2.53	2.57	2.30	2.69	0.11	**12.7**

* MZ= Main zone; LZ=Lower zone; Ox=Oxide/Mixed area; Sulf=unoxidized area

14.5.1 Gold Modeling

The mineral resources at Relief Canyon were modeled and estimated by evaluating the drill data statistically, utilizing the geologic interpretations provided by Pershing Gold to interpret mineral domains on cross sections spaced at 50-foot intervals, rectifying the mineral-domain interpretations on long sections spaced at 10-foot intervals, analyzing the modeled mineralization geostatistically to establish estimation parameters, and estimating grades into a three-dimensional block model. All modeling of the Relief Canyon resources was performed using Gemcom Surpac® mining software.

Mineral Domains. A total of 87 vertical, north-looking cross sections spaced at 50-foot intervals across the deposit were used for the initial modeling of the Relief Canyon mineral domains. A mineral domain is a natural grade population of a metal that occurs within a specific geologic setting. In order to define the mineral domains at Relief Canyon, the natural populations were first identified on quantile graphs that plot the gold-grade distributions of the drill-hole assays. Quantile graphs of the combined core and reverse circulation assay data, along with graphs of core-only and reverse-circulation-only data, were created and evaluated. This analysis led to the identification of low- (~0.004 to ~0.025 oz Au/ton), medium- (~0.025 to 0.10 oz Au/ton), and high-grade (>~0.10 oz Au/ton) gold populations, assigned to domains 100, 200, and 300, respectively. Ideally, each of these populations can be correlated with specific geologic characteristics that are captured in the project database to aid in the definition of the mineral domains. These population breaks were most clearly observed in the core data, while the reverse circulation data have only subtle breaks indicating a smoothing of the assay data. This smoothing versus the core results is expected from the reverse circulation data due to the often greater sample lengths and the nature of the drilling and sampling procedures.

The drill-hole traces, topographic profile, and Pershing Gold's geologic interpretations were plotted on the sections with gold assays (colored by the grade-domain population ranges) plotted along the drill-hole traces, and these data were used as the base for MDA's interpretations of the mineral domains. Mineral-domain envelopes were interpreted on the sections to more-or-less capture assays corresponding approximately to each of the defined grade populations. The domains were modeled through all available drill data, including volumes that had been mined.

Due to inconsistencies in the geologic logs of the historical reverse circulation holes, as well as the fact that essentially all subsurface geologic information in the Main Zone is derived from reverse circulation chips, it was difficult to correlate the three mineral domains to specific Main Zone geologic characteristics. In a general sense, medium-grade zones of mineralization (domain 200) typically lie in the upper portions of the Main Zone breccia, often associated with jasperoid-clay breccias. The crests of small, sympathetic folds that lie within the crest of the larger antiformal structure appear to exert some control on the mineralization. While high-grade assays occur within the often jasperoid-rich breccia, they are primarily isolated and show limited continuity. As such, a high-grade domain 300 was not modeled within the Main Zone. The low-grade (domain 100) zones envelope the domain 200 mineralization, but they extend progressively further laterally within the breccia, especially down the dip of the northwest limb of the antiformal structure. Despite the lack of geologic definition of the mineral domains, the modeled 100 and 200 domains exhibit excellent continuity throughout the Main Zone.

In the North area, medium- and high-grade mineralization (domains 200 and 300) occurs within sub-horizontal to steeply-dipping breccia zones within the Cane Spring Formation carbonates (the Massive

and Deformed Limestone packages). The breccias are interpreted as thrust fault-related features that are often sub-parallel to bedding orientation. Low-grade mineralization is associated with limited brecciation/fracturing within the Cane Springs wallrock. The mineral domain contacts, as exhibited in core, are often sharp and clearly define the mineralized structures. Adjacent reverse circulation drilling often shows a much thicker mineral intercept with low- to medium-grade values occurring down hole beneath the projected mineralized zone. This is presumed to be due to down-hole contamination (See Section 11.8 for a discussion of core versus reverse circulation drilling in the North area). The significant amount of core drilling completed by Pershing from 2013 through early 2015 has allowed for the removal of the suspect reverse circulation intervals from use in the geologic model and resource estimate.

Representative cross sections showing gold mineral-domain interpretations are shown for the South area Main Zone in Figure 14.1 and the stratigraphically deeper Lower and Jasperoid zones mineralization within the North area in Figure 14.2.

The cross-sectional mineral-domain polygons were digitized and then three-dimensionally rectified to the drill data. Vertical slices of the polygons were created at 10-foot intervals orthogonal to the cross sections, and the mineral domains were then modeled on 10-foot-spaced long sections. The final product of the long-section work is a set of 10-foot-spaced mineral-domain envelopes that three-dimensionally honor the drill data at the resolution of the block model.

Dump/Stockpile: Mineralized material was encountered in drill holes within portions of the mine dumps that overlie the existing *in-situ* resource and also within the dump/stockpile situated to the west of the South pit. A total of 42 shallow reverse circulation holes and 10 core holes had been drilled through the latter dump/stockpile and results indicated the potential to develop a small resource. Pershing Gold excavated 20 trenches within this dump area in 2014 and 2015 to better define the gold mineralization. The dump mineralization was modeled within a unique cross-sectional mineral domain (domain 10) polygon. The polygons were then used to create 3D solids, and gold grades were estimated within these solids.

Figure 14.1 Cross Section 15109100 Showing Gold Mineral Domains

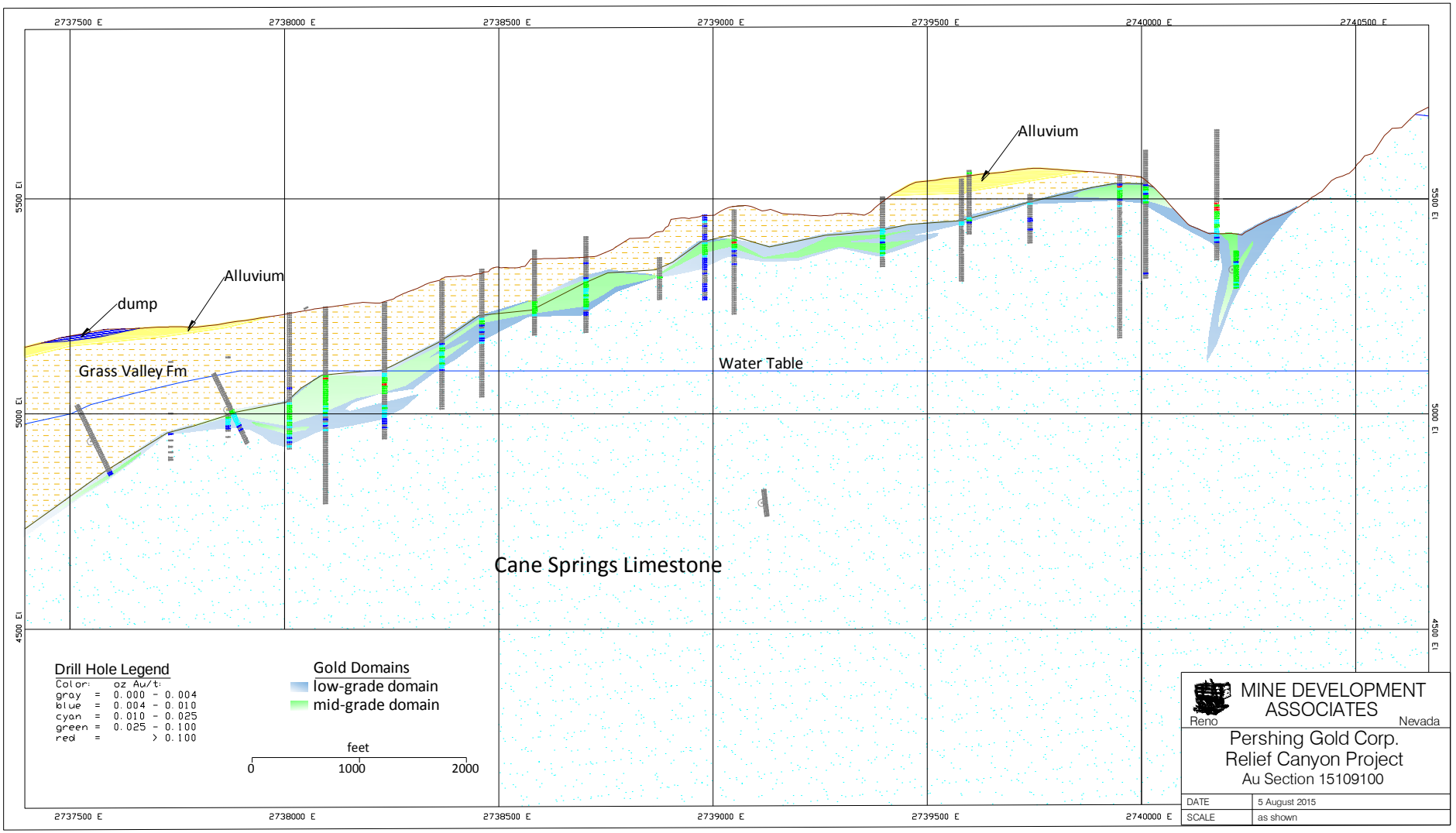
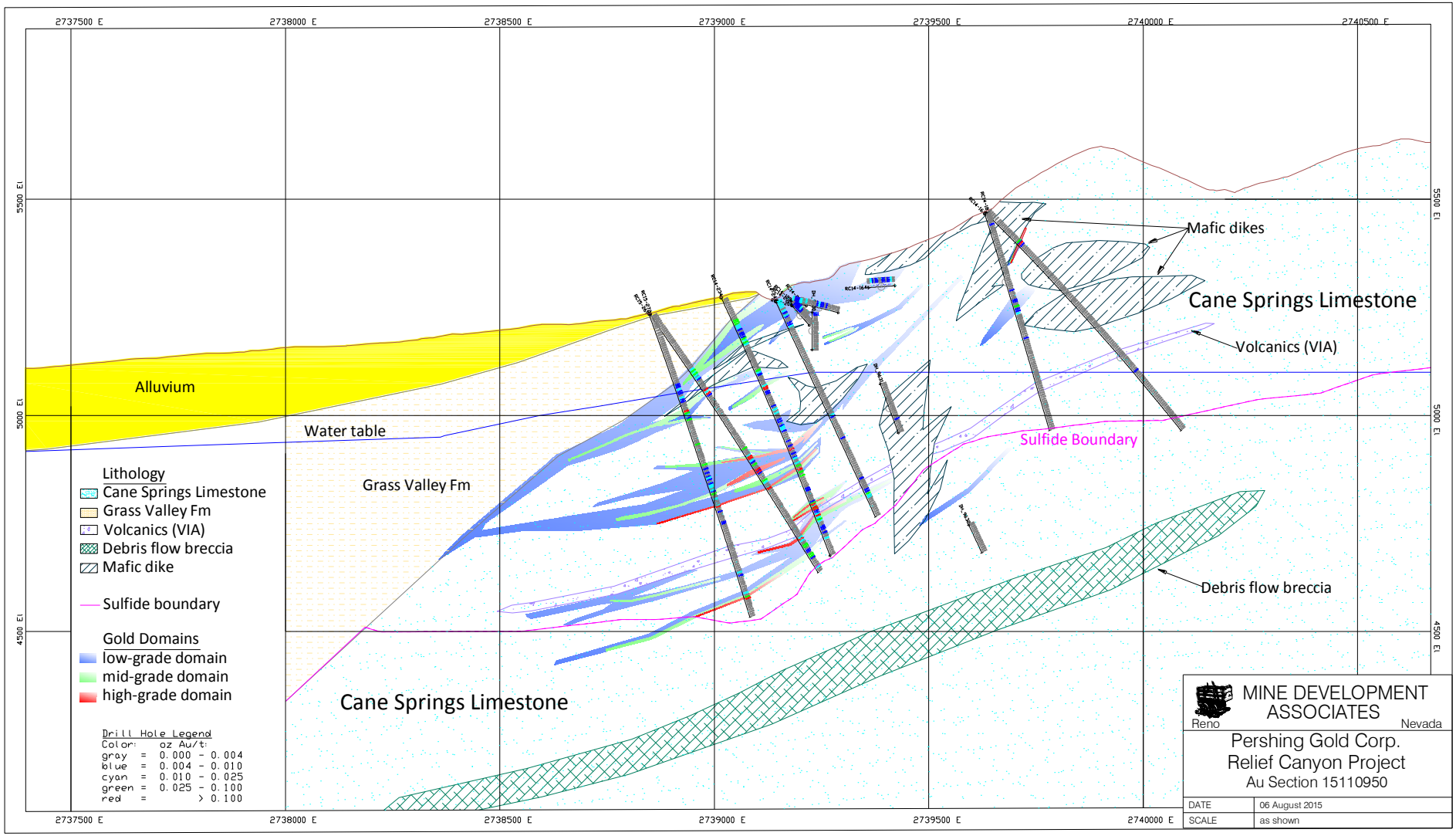


Figure 14.2 Cross Section 15110950 Showing Gold Mineral Domains

(modeled mineralization lying above the present-day topography is not included in the mineral resources)



Assay Coding, Capping, and Compositing. Drill-hole gold assays were coded to the mineral domains using the cross-section mineral-domain envelopes. Descriptive statistics of the coded assays are provided in Table 14.2.

The process of determining assay caps began with inspection of quantile plots of the coded assays by domain to assess the mineral-domain populations and identify possible high-grade outliers that might be appropriate for capping. Descriptive statistics of the coded assays by domain and visual reviews of the spatial relationships of the possible outliers and their potential impacts during grade interpolation were also considered in the process of determining appropriate assay caps (Table 14.3). The effects of the final assay caps can be qualitatively evaluated by examination of the descriptive statistics of the capped and uncapped mineral-domain assays (Table 14.2).

Table 14.2 Descriptive Statistics of Coded Gold Assays

Domain	Assays	Count	Mean (oz Au/ton)	Median (oz Au/ton)	Std. Dev.	CV	Min. (oz Au/ton)	Max. (oz Au/ton)
100	Au	10017	0.010	0.008	0.009	0.890	0.000	0.714
	Au Cap	10017	0.010	0.008	0.009	0.830	0.000	0.200
200	Au	3899	0.047	0.036	0.044	0.930	0.000	1.319
	Au Cap	3899	0.047	0.036	0.038	0.820	0.000	0.500
300	Au	198	0.344	0.241	0.391	1.140	0.002	3.618
	Au Cap	198	0.344	0.241	0.391	1.140	0.002	3.618
All	*Au*	*14114*	*0.024*	*0.012*	*0.062*	*2.530*	*0.000*	*3.618*
	Au Cap	*14114*	*0.024*	*0.012*	*0.061*	*2.500*	*0.000*	*3.618*

Table 14.3 Relief Canyon Gold Assay Caps

Domain	Capping Values	
	oz Au/ton	Number Capped (% of samples)
100	0.2	1 (<0.1%)
200	0.5	4 (0.1%)
300	NA	NA

The capped assays were composited at 10-foot down-hole intervals respecting the mineral domains, and length-weighted composites were used in the block-model grade estimation. The volume inside each mineral domain was estimated using only composites from inside that domain. Descriptive statistics of the composites are shown in Table 14.4.

Table 14.4 Descriptive Statistics of Relief Canyon Gold Composites

Domain	Count	Mean (oz Au/ton)	Median (oz Au/ton)	Std. Dev.	CV	Min. (oz Au/ton)	Max. (oz Au/ton)
100	5497	0.010	0.009	0.007	0.67	0.000	0.163
200	2215	0.047	0.037	0.033	0.70	0.001	0.440
300	156	0.344	0.254	0.328	0.95	0.050	3.618
All	*7868*	*0.024*	*0.013*	*0.055*	*2.26*	*0.000*	*3.618*

Block Model Coding. The 10-foot-spaced long-sectional mineral-domain polygons were used to code a north-south three-dimensional block model that is comprised of 10 foot (width) x 10 foot (length) x 10 foot (height) blocks. In order for the block model to better reflect the irregularly shaped limits of the various gold domains, as well as to explicitly model dilution, the percentage volume of each mineral domain within each block is stored (the "partial percentages").

Each block is assigned a tonnage factor listed on Table 14.1based on its coded lithology and mineral domain. The blocks are coded as lying above or below the Schlumberger and MDA-modeled water-table surface, and the percentage of each block that lies below the topographic surface is also stored.

14.6 Resource Estimation

The resource estimate reflects the general northerly trend and variably west-dipping nature of the Relief Canyon gold mineralization. To replicate the change in orientation observed along the strike of the deposit, four search-ellipse orientations were used to control the resource estimate (see Table 14.5). The first three orientations are controlled by the Northing coordinate (designated as Areas 10, 20, and 30) with a general steepening of dip within the Main Zone breccia as one progresses north through the deposit. The search-ellipse orientation in the northern area (Area 30) also represents the general orientation of the mineralized fault structures at depth within the Cane Spring Formation. The fourth orientation area (Area 40) is coded into the block model using a solid and represents the portion of the deeper, structurally controlled, North area mineralization that occurs along shallow east-dipping fault duplex structures .

A variographic study was performed using the gold composites from each mineral domain, collectively and separately, at various azimuths, dips, and lags. Acceptable variogram models were obtained from composites from the combined 100 and 200 gold domains in the Main zone and the 200 and 300 gold domains in the North area. A maximum range of about 250 feet was obtained in the Main Zone horizontal strike (azimuth 0°, plunge 0°) and dip (azimuth 270, plunge 20°) directions, while a maximum range of about 180 feet was obtained in the North area horizontal strike (azimuth 0°, plunge 0°) direction; these are geologically reasonable orientations for the global strike and dip of the mineralization, respectively. Parameters obtained from the variography study were used in an ordinary-krige interpolation and also provided information relevant to both the estimation parameters used in an inverse-distance interpolation and in resource classification.

The estimation parameters applied at Relief Canyon are summarized in Table 14.6. The estimation used two search passes with successive passes not overwriting previous estimation passes. The first-pass search distances take into consideration the results of both the variography and drill-hole spacing. The second pass was designed to estimate grade into all blocks coded to the mineral domains that were not estimated in the first pass.

The estimation passes were performed independently for each of the mineral domains, so that only composites coded to a particular domain were used to estimate grade into blocks coded by that domain. The estimated grades were coupled with the partial percentages of the mineral domains to enable the calculation of a single weight-averaged block-diluted grade for each block.

Gold grades were interpolated using inverse distance to the third power, ordinary-krige, and nearest-neighbor methods. The mineral resources reported herein were estimated by inverse-distance interpolation, as this technique was judged to provide results superior to those obtained by ordinary kriging. The nearest-neighbor estimation was also completed as a check on the other interpolations.

Gold grades were estimated into all blocks coded by the gold mineral domains, including those blocks coded as "mined out" (the block centroid occurs above the current post-mining surface but below the material coded as dump).

Table 14.5 Relief Canyon Search Ellipse Orientations

Estimation Area	Major Bearing	Plunge	Tilt
Area 10; <15110400 North	0°	0°	15°
Area 20; 15110400 North to 15111000 North	0°	10°	25°
Area 30; >15111000 North	0°	10°	35°
Area 40; North Area steeply-dipping structural zones	0°	0°	-20°

Table 14.6 Summary of Relief Canyon Estimation Parameters

Estimation Pass	Search Ranges (ft)			Comp Constraints		
	Major	S-Major	Minor	Min	Max	Max/hole
1 (area 10)	200	200	100	2	15	3
2 (area 10)	500	500	500	1	24	3
1	150	150	75	2	9	3
2	500	500	500	1	18	3

For the dump/stockpile mineralization, gold grades were estimated into the one domain using inverse distance to the second power, an isotropic search , and no restrictions on number of dump composites used in the estimate. These relaxed parameters were used to attain a smoothed estimate that approximated the average grade of the dump assay data.

14.7 Relief Canyon Mineral Resources

The Relief Canyon resources are classified on the basis of the distance of the model blocks to the nearest composite, and the minimum number of composites and drill holes used in the grade interpolation of each block (Table 14.7). Measured resources are restricted to Pershing Gold's core holes due to the general lack of QA/QC data for the reverse circulation drilling that could be used for verification purposes and to some uncertainties in the reverse-circulation-based geologic interpretations. The stockpile/dump mineralization located southwest of the historical mined open-pit is restricted to an Inferred only classification

Table 14.7 Relief Canyon Classification Parameters

Class	Estimation Pass	Min. Number of Drill holes	Min. Number of Composites	Avg. Dist. to Nearest 2 Composites
Measured	1	2*	3	75
Indicated	1	2	2	150
"	1	1	2	100
Inferred	all other modeled in-place mineralization			
"	all dump/stockpile mineralization			

* minimum one core hole

The Relief Canyon mineral resources are listed in Table 14.8 using a cutoff grade of 0.005 oz Au/ton for oxide/mixed material and 0.02 oz Au/ton for sulfide material. The oxide/mixed cutoff was chosen to capture mineralization potentially available to open-pit extraction and heap-leach processing, while the sulfide cut-off was chosen to reflect the potentially higher costs associated with sulfide processing. The block-diluted resources are also tabulated at additional cutoffs in order to provide grade-distribution information, as well as to provide for economic conditions other than those envisioned by the 0.005 oz Au/ton cutoff (Table 14.9).

Figure 14.3 and Figure 14.4 show cross sections of the block model that correspond to the mineral-domain cross sections in Figure 14.1 and Figure 14.2, respectively.

Table 14.8 Relief Canyon Reported Mineral Resources

Class	Cutoff (oz Au/ton)	Tons	oz Au/ton	oz Au
Measured-Oxide	0.005	12,182,000	0.024	290,000
Indicated-Oxide	0.005	24,736,000	0.017	426,000
Indicated-Sulfide	0.020	417,000	0.054	23,000
Indicated-Total	variable	25,153,000	0.018	449,000
Meas. + Ind Total	variable	37,335,000	0.020	739,000
Inferred-Oxide	0.005	6,928,000	0.010	70,000
Inferred-Sulfide	0.020	2,000	0.025	40
Inferred-Total	variable	6,930,000	0.010	70,000

Note: rounding may cause apparent inconsistencies

The Inferred oxide resource total in Table 14.9 includes a dump/stockpile resource of 25,000 ounces gold at a 0.007oz Au/ton average gold grade.

Table 14.9 Relief Canyon Mineral Resources

Cutoff	Measured Resource - Oxide/Mixed		
(oz Au/ton)	Tons	oz Au/ton	oz Au
0.004	12,996,000	0.023	294,000
0.005	***12,182,000***	***0.024***	***290,000***
0.006	11,221,000	0.025	286,000
0.008	9,267,000	0.029	273,000
0.010	7,455,000	0.035	257,000
0.012	6,073,000	0.040	243,000
0.015	4,664,000	0.048	225,000
0.020	3,580,000	0.058	207,000

Cutoff	Indicated Resource - Oxide/Mixed		
(oz Au/ton)	Tons	oz Au/ton	oz Au
0.004	26,557,000	0.016	434,000
0.005	***24,736,000***	***0.017***	***426,000***
0.006	22,816,000	0.018	417,000
0.008	18,900,000	0.021	391,000
0.010	14,843,000	0.024	357,000
0.012	11,595,000	0.028	323,000
0.015	8,519,000	0.033	283,000
0.020	6,265,000	0.039	246,000

Cutoff	Measured + Indicated - Oxide/Mixed		
(oz Au/ton)	Tons	oz Au/ton	oz Au
0.004	39,553,000	0.018	728,000
0.005	***36,918,000***	0.019	***716,000***
0.006	34,037,000	0.020	703,000
0.008	28,167,000	0.024	664,000
0.010	22,298,000	0.028	614,000
0.012	19,050,000	0.032	580,000
0.015	13,183,000	0.038	508,000
0.020	9,845,000	0.05	453,000

Cutoff	Inferred Resource - Oxide/Mixed*		
(oz Au/ton)	Tons	oz Au/ton	oz Au
0.004	7,565,000	0.010	73,000
0.005	**6,928,000**	**0.010**	**70,000**
0.006	6,213,000	0.011	67,000
0.008	3,743,000	0.013	51,000
0.010	1,922,000	0.018	36,000
0.012	1,190,000	0.024	28,000
0.015	718,000	0.030	22,000
0.020	453,000	0.038	17,000

*includes dump/stockpile

Cutoff	Indicated Resource - Sulfide		
(oz Au/ton)	Tons	oz Au/ton	oz Au
0.010	811,000	0.035	28,000
0.015	554,000	0.045	25,000
0.020	***417,000***	***0.054***	***23,000***
0.030	250,000	0.075	19,000
0.050	130,000	0.109	14,000

Cutoff	Inferred Resource - Sulfide		
(oz Au/ton)	Tons	oz Au/ton	oz Au
0.010	20,000	0.013	300
0.015	4,000	0.020	100
0.020	***2,000***	***0.025***	***40***
0.030	300	0.032	10
0.050	0	0.000	0

Figure 14.3 Cross Section 15109100 Showing Block Model Gold Grades

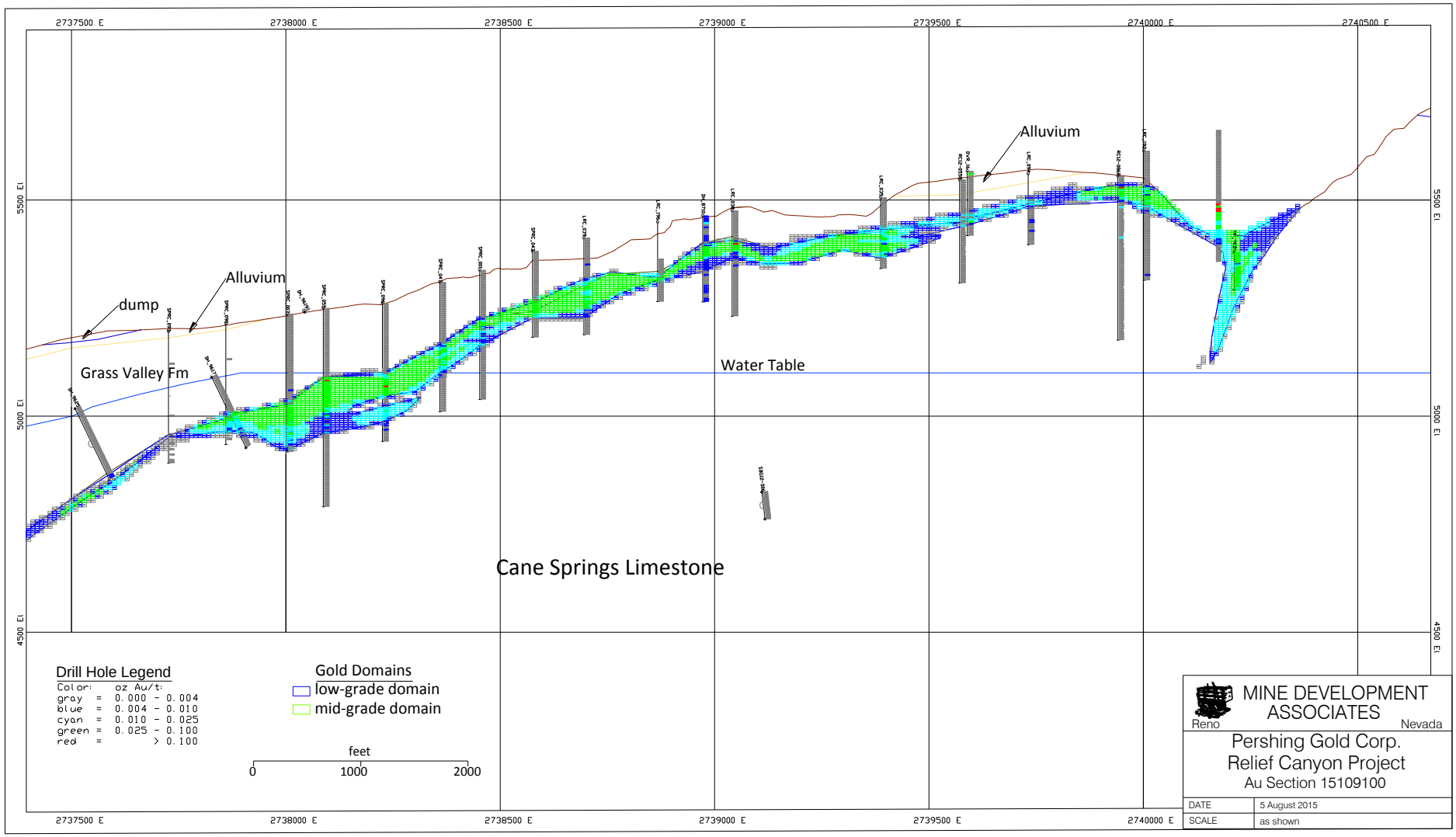
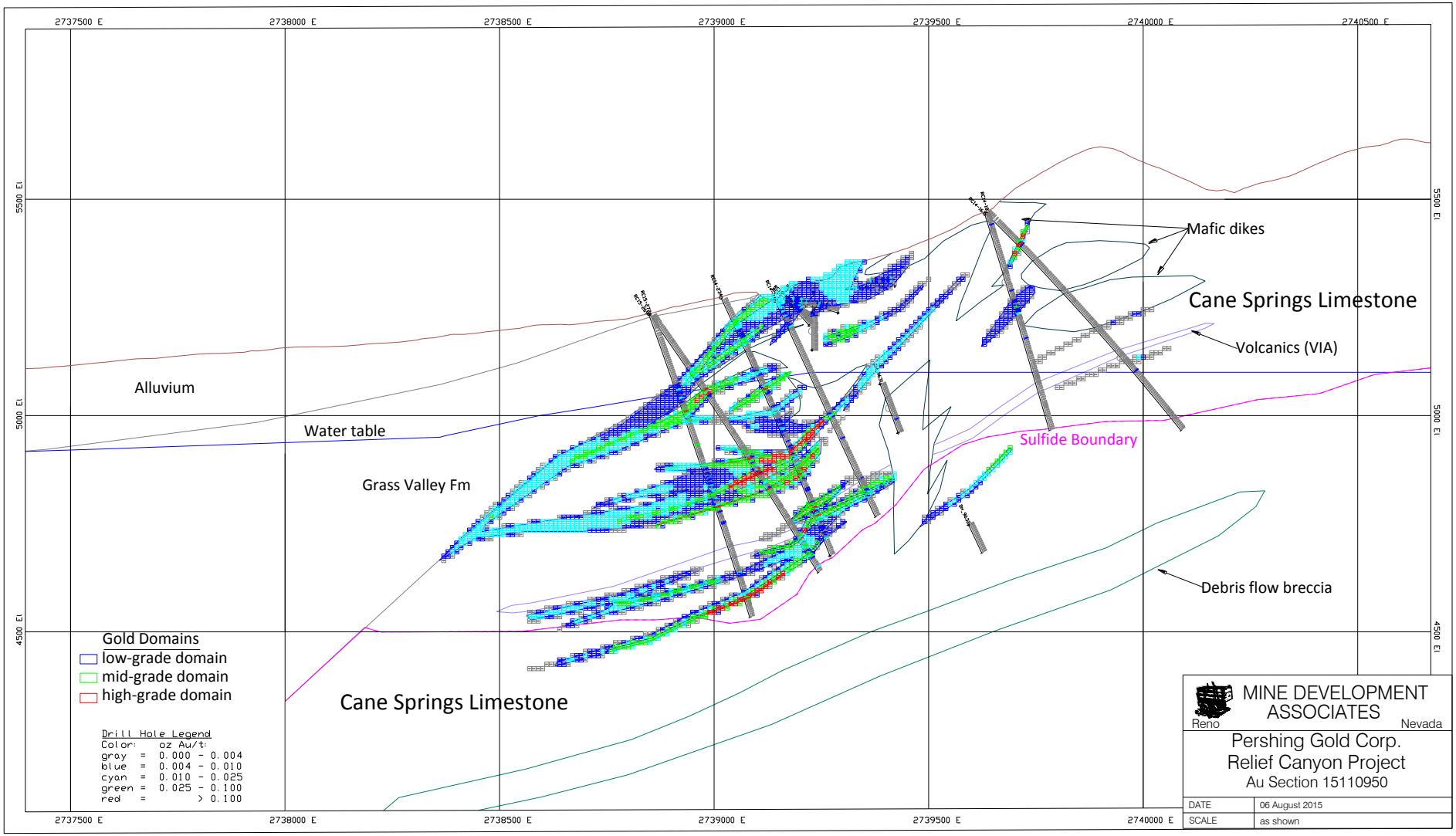


Figure 14.4 Cross Section 15110900 Showing Block Model Gold Grades

(model blocks lying above the present-day topography are not included in the mineral resources)



14.8 Model Checks

Volumes indicated by the sectional mineral-domain modeling were compared to the long-section volumes and those coded to the block model to assure close agreement, and all block-model coding was checked visually on the computer. Nearest-neighbor and ordinary-krige estimates of the Relief Canyon resources were undertaken as a check on the inverse-distance-cubed resource model. Grade-distribution plots of assays and composites versus the nearest-neighbor, krige, and inverse-distance block grades were also evaluated as a check on the estimation. Finally, the inverse-distance grades were visually compared to the drill-hole assay data to assure that reasonable results were obtained.

The estimate of the mined-out grade and tons can be compared to the reported production from the pits as a very rough check on the resource estimation. At a cutoff of 0.005 oz Au/ton, the MDA model estimates that a total of about 10.4 million tons of material grading 0.020 oz Au/ton (208,000 ounces) were mined by Lacana and Pegasus. Using the available production data and estimates of recoveries, approximately 202,000 ounces of gold were mined by Lacana and Pegasus, which is three percent lower than the MDA model. Given uncertainties regarding mining cutoff grades, reported production, and actual recoveries realized by Lacana and Pegasus, the MDA model and estimated production numbers are very close.

14.9 Comments on the Resource Modeling

The size and tenor of the Relief Canyon deposit reflects the strong structural and lithologic controls observed with detailed surface mapping and in the recent Pershing Gold core drilling. The Main Zone breccia, which was the focus of past mining activity, extends at a shallow dip to the west and south beneath surface cover, while the mineralized zones at depth within the North area (represented by the Lower Zone and Jasperoid Zone) are controlled by sub-horizontal structures sub-parallel to the overlying Main Zone. Higher-angle splays and fault duplexes within the deeper structures can extend up into the Main Zone mineralization, resulting in increased brecciation and associated mineralization. MDA believes that the resource model adequately reflects the current project knowledge as it pertains to geologic controls on mineralization.

The primary risks with the resource model are the reliance on reverse circulation drilling within the Main Zone and the highly variable oxidation and its effect on metallurgical recoveries, both within the deeper portions of the Main Zone and at depth within the North area mineralized structures.

Additional core drilling in the Main Zone would result in the incorporation of detailed geologic controls that correlate with, and therefore assist in the definition of, the various mineral domains. The ability to define the jasperoid-dominant versus clay-dominant breccias would aid in the determination of mineral domains and also would be useful in the metallurgical characterization studies.

Down-hole contamination, which is of limited extent within the Main Zone, is more readily apparent in the North area where the pre-Pershing Gold reverse circulation drilling extends beneath the water table. The current resource estimate excludes those anomalous drill-sample assay values believed to be the result of down-hole contamination and the current geologic model and estimate is based primarily on the significant amount of core drilling completed by Pershing Gold in 2011 through early 2015. While the resource estimate likely still includes some intervals of possible down-hole contamination in the older

reverse circulation drilling, the risk to the resource estimate is considered low. Following on the drilling procedures and methods used by Pershing Gold in 2014 and 2015, MDA recommends that future drilling below the water table be limited to core drilling.

The North area resource at depth beneath the Main Zone is open to the south, west, and east. Further core drilling is recommended to expand the resource and better define the limits of mineralization. The core drilling should be predominantly east-directed angle holes to better target the generally west-dipping structural targets. Deep high-grade targets beneath the current resource, which may require underground mining methods, are available and should be tested with exploration drilling.

15.0 MINERAL RESERVE ESTIMATE

No mineral reserve estimate has been made on the Relief Canyon deposit for this report.

16.0 MINING METHODS

No mining methods have been proposed in this technical report for the Relief Canyon project.

17.0 REVOVERY METHODS

Recovery Methods have not been defined in this technical report for the Relief Canyon project.

18.0 PROJECT INFRASTRUCTURE

Project infrastructure has not been defined for the Relief Canyon project. However, significant infrastructure from previous operators exists at the site and is summarized in Section 24.0.

19.0 MARKET STUDIES AND CONTRACTS

This technical technical report does not include market studies and there are no contracts for mineral concentrates from the Relief Canyon project.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Pershing Gold's permits and licenses are in good standing and authorize mining within the current pit and heap leaching on the approved leach pads as summarized in Section 4.4 and Table 4.3.

21.0 CAPITAL AND OPERATING COSTS

Capital and Operating costs have not been estimated for this technical report.

22.0 ECONOMIC ANALYSIS

This technical report does not include economic analyses for the Relief Canyon project.

23.0 ADJACENT PROPERTIES

This technical report does not include information from adjacent properties.

24.0 OTHER RELEVANT DATA AND INFORMATION

Crushing, processing, and heap-leach pad facilities constructed at the Relief Canyon site for Firstgold's reprocessing program could potentially support crushing and leaching of newly mined material from a pit.

A crushing circuit was installed by Firstgold to crush the heap material as part of the reprocessing project. The crushing circuit was designed to operate at approximately 325 tons per hour and includes a vibrating grizzly feeder, jaw (30 inch x 42 inch) crusher, vibrating screen, cone crusher (4.5-foot standard), four transfer conveyors, six truss conveyors, and a radial stacker (Figure 24.1).

A new 72-acre pad design was completed by Dyer and Associates as part of the reprocessing program (Figure 24.2). The bond associated with the existing Reclamation Permit limits ore stacking on the pad to a height of 60 feet, giving the pad design a 7,000,000-ton capacity. However, the pad is designed for a 200-foot stack height with 21,000,000 tons of capacity. Pershing Gold will need to provide additional financial assurance to build the 200-foot-high heaps. The pad design consists of a double-lined system with a compacted soil/clay liner and an 80-mil HDPE plastic liner, which are overlain by two feet of drain rock. One quarter of the allowable leach pad area has been constructed.

The process plant at Relief Canyon (Figure 24.3 and Figure 24.4) was designed to operate at approximately 3,000 gallons per minute. The plant includes four 8-ton carbon columns with the necessary operating ponds. The plant is fully operational and includes all pumps, piping, and electrical system for leaching/processing operations.

On site mine facilities include a modular office complex, warehouse (fabric building), electrical distribution system, power line, back-up generator, and water wells. A small amount of heavy equipment and light vehicles are also available. In addition, an office complex is located in Lovelock, Nevada.

Figure 24.1 Crushing and Conveyor Systems

Figure 24.2 Heap-Leach Pad Design

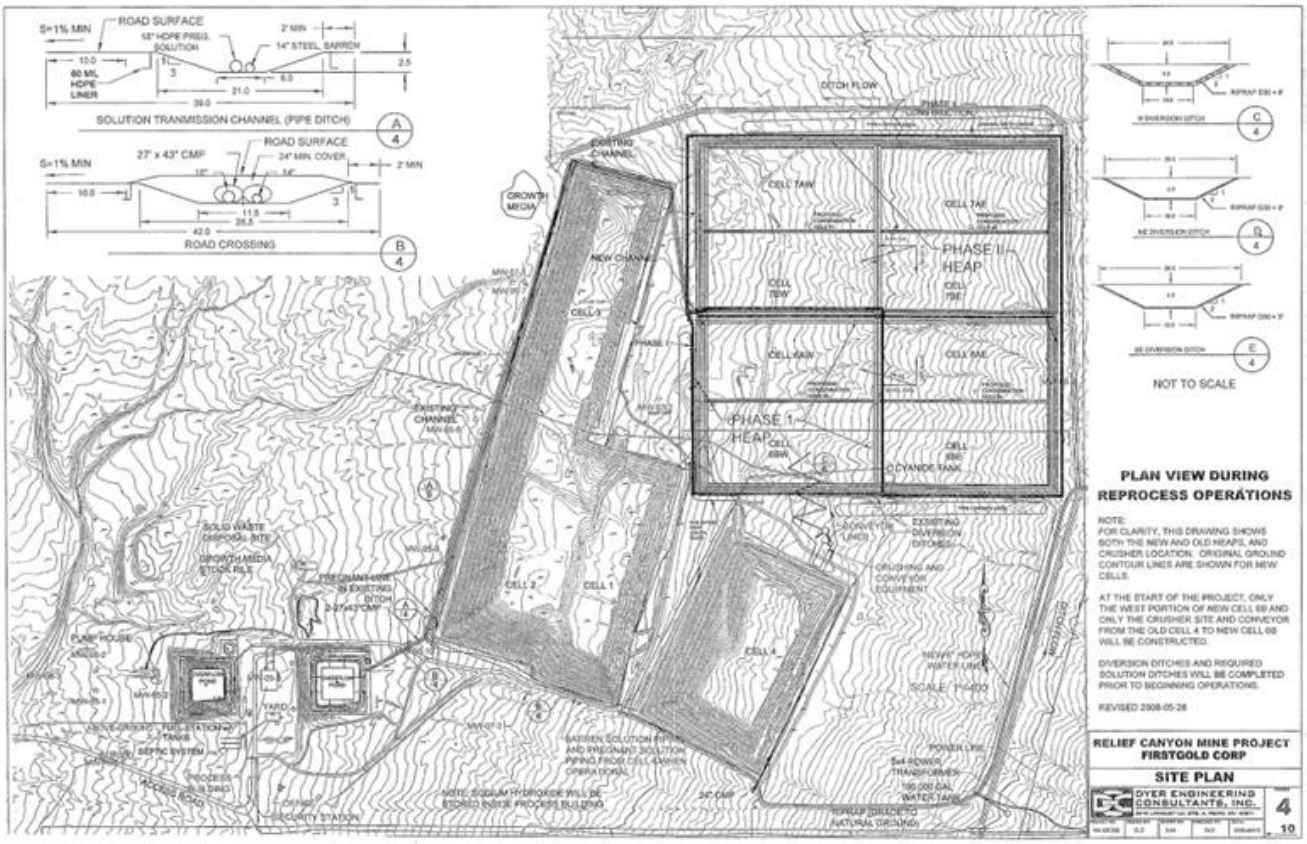


Figure 24.3 Processing Plant Layout

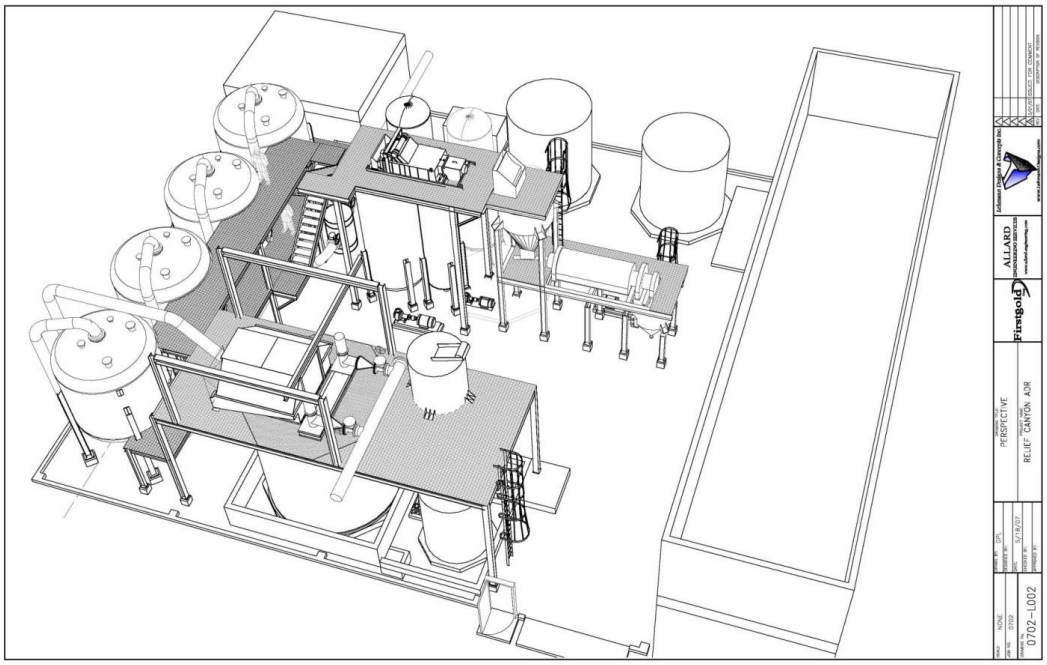


Figure 24.4 Interior of Processing Plant
(October 2013)

MDA is not aware of any other information relevant to this technical report of the Relief Canyon project.

25.0 INTERPRETATIONS AND CONCLUSIONS

MDA reviewed the project data and the Relief Canyon drill-hole database and has visited the project site. MDA believes that the data provided by Pershing Gold are generally an accurate and reasonable representation of the Relief Canyon project and adequately support the mineral resource estimation.

Gold mineralization at Relief Canyon is primarily found in three structurally controlled mineralized zones in Triassic foliated carbonate rocks and overlying thick-bedded limestones that have been deformed by multiple thrust faults. Gold mineralization occurs in tectonic and collapse breccias, areas of silicification, and associated with gabbroic intrusions. The breccia mineralization is predominantly oxidized or partially oxidized to the depths of the existing drill data, although pods of unoxidized breccia are not uncommon. Quartz, fluorite, illite, and kaolinite are associated with the gold in all three of the mineral zones, as are anomalous amounts of arsenic, antimony, molybdenum, tungsten, chromium, mercury, and thallium.

The Relief Canyon gold deposit was discovered in the early 1980s and was explored by several major mining companies prior to being acquired by Pershing Gold. The Relief Canyon mine was put into production by Lacana in 1984 as an open pit heap-leach mine but was closed in 1985 due to poor recoveries from run-of-mine ore after producing about 14,000 ounces of gold. Pegasus reopened the mine in 1986, mined through 1989, and produced about 117,000 ounces of gold. Other than rinsing the existing heaps, as well as an attempt by Firstgold at reprocessing the heaps, there has been no further production from the property.

Metallurgical testing and actual mining experience indicate that the Relief Canyon deposit is amenable to cyanide heap-leach processing. Lacana's operation experienced gold recoveries of about 45 to 50 percent from run-of-mine material, while Pegasus achieved recoveries reported to be in the 65 to 70 percent range by leaching crushed and agglomerated ore. Recent metallurgical test work by Firstgold and Pershing Gold confirms potential recoveries in excess of 65 percent for crushed and agglomerated ore. Column leach tests performed by MLI on Main Zone mineralization types show recoveries of 79 and 81 percent for two composite columns comprised of a proportional blend of all of the Main Zone mineralization types.

This report provides an updated mineral resource estimate for Relief Canyon. The mineral resources are tabulated using a cutoff grade of 0.005 oz Au/ton for oxide/mixed material and 0.02 oz Au/ton for sulfide material. Measured plus Indicated resources total 37,335,000 tons grading 0.020 oz Au/ton (739,000 ounces of gold), and Inferred resources total 6,930,000 tons grading 0.010 oz Au/ton (70,000 ounces of gold).

The drill data indicate that down-hole contamination of gold values occurred in some portion of the reverse circulation sample database for intercepts below the water table. This issue was mitigated to a large extent in the North area resource modeling by the exclusion of suspect intervals and the reliance on the recent Pershing Gold core drill program. MDA feels that the procedures used in the resource modeling have minimized the effects of potentially contaminated intervals and the risk to the resource estimate is considered low. MDA recommends that Pershing Gold continue with the current drill procedures limiting drilling below the water table to core drilling only.

The North area resource at depth beneath the Main Zone is open to the south, west, and east.

Significant on-site facilities are present at Relief Canyon, including a 325 tons-per-hour two-stage crushing circuit, a permitted 72-acre heap-leach pad that is one-quarter constructed, a radial stacker, a 3,000 gallons-per-minute processing plant, a mine office, and warehouse facilities. Additional office facilities are located in Lovelock.

26.0 RECOMMENDATIONS

The Relief Canyon gold project is a project of merit that deserves additional drilling and metallurgical testing.

Continued developmental core drilling is recommended in order to:

- better define geologic controls of the mineralization;
- identify oxide-sulfide zonation with respect to cyanide gold recovery;
- better identify high clay areas within the Main Zone; and
- target extensions of the current resource.

A flexible 2015 drill program of approximately 75,000 feet of drilling is recommended to complete the above tasks. Upon drilling completion, an updated mineral resource estimate is recommended that incorporates the 2015 drill results. And lastly, a preliminary economic assessment ("PEA") is recommended that incorporates drill results through February 2015 to be completed concurrently with the current drill program. This PEA can be updated in early 2016 with all drill results completed during the latest program. The estimated cost, including the accompanying technical reports, is approximately $4.7 million.

The following additional metallurgical testing should be completed as necessary to support future mine planning:

- Mineralogical characterization of the major ore type in the Main Zone metallurgical composites (in progress). Estimated cost for this work is approximately $5,000;
- Detailed mineralogical characterization and metallurgical testing on the limestone-breccia (low cyanide solubility) ore type material to determine the causes for the low cyanidation gold recoveries exhibited by that material if this material is to be put on the heaps. Estimated cost for this work is approximately (in progress) $6,000;
- Agglomeration optimization for the high-clay ores, with subsequent column leach testing and hydraulic conductivity testing to confirm permeability of the leached agglomerates under simulated heap stack height compressive loadings if ore-blending plans are not adequate for dealing with high-clay-content ores (in progress). Estimated costs for this work are $20,000;
- Ore variability bottle roll testing. Estimated cost for this work is $15,000;
- Column leach testing on production schedule drill-core composites, considering only practical mineable thicknesses and likely ore scheduling. Estimated costs for this work are approximately $60,000;
- Column leach testing on drill core composites from the Lower Zone and the Jasperoid Zone of the deposit that are included in the resource but are outside of the "Main Zone" ore zone (in progress). Estimated cost for this work is approximately $170,000; and
- Column leach testing on a bulk sample at ROM, 3inch, 1.5 inch, and 0.75 inch sized fractions (in progress). Estimated costs for this work are approximately $50,000.

The estimated cost for the recommended metallurgical testing is approximately $326,000.

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