

# Mine Development Associates



## TECHNICAL REPORT

Report Date: April 25, 2018  
Effective Date: April 25, 2018

### TECHNICAL REPORT AND RESOURCE ESTIMATE FOR THE LONG VALLEY PROJECT, MONO COUNTY, CALIFORNIA, USA



Submitted to:



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# **MINE DEVELOPMENT ASSOCIATES**

## **MINE ENGINEERING SERVICES**

### **TABLE OF CONTENTS**

<i>Section</i>	<i>Page</i>
1.0 EXECUTIVE SUMMARY .....	1
1.1 Property Description and Ownership .....	1
1.2 Exploration and Mining History .....	2
1.3 Geology and Mineralization .....	3
1.4 Drilling and Sampling .....	4
1.5 Metallurgical Testing.....	5
1.6 Long Valley Mineral Resource Estimate .....	5
1.7 Recommendations .....	7
2.0 INTRODUCTION AND TERMS OF REFERENCE .....	9
2.1 Project Scope and Terms of Reference .....	9
2.2 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure.....	10
3.0 RELIANCE ON OTHERS .....	13
4.0 PROPERTY DESCRIPTION AND LOCATION.....	14
4.1 Location .....	14
4.2 Land Area .....	14
4.3 Mining Claim Description .....	14
4.4 Agreements and Encumbrances .....	15
4.5 Environmental Liabilities .....	17
4.6 Environmental Permitting .....	17
5.0 ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY .....	20
5.1 Access.....	20
5.2 Climate .....	20
5.3 Physiography .....	20
5.4 Local Resources and Infrastructure .....	20
6.0 HISTORY .....	24
6.1 Exploration History .....	24
6.2 Historical Mineral Inventory Estimates.....	26
6.3 2003 and 2008 MDA Mineral Resource Estimates for Vista Gold.....	27

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7.0	GEOLOGIC SETTING AND MINERALIZATION .....	29
7.1	Geologic Setting .....	29
7.1.1	Regional Geology .....	29
7.1.2	Local and Property Geology.....	29
7.2	Mineralization.....	32
8.0	DEPOSIT TYPE.....	38
9.0	EXPLORATION .....	39
10.0	DRILLING .....	41
10.1	Introduction .....	41
10.2	Air Track Drilling and Logging .....	41
10.3	Reverse Circulation Drilling and Logging .....	41
10.5	Core Drilling and Logging .....	43
10.6	Twin Hole Comparison .....	43
10.7	Drill Hole Statistics .....	43
10.8	Summary Statement.....	46
11.0	SAMPLE PREPARATION, ANALYSIS, AND SECURITY.....	47
11.1	Drill Sample Preparation and Analysis .....	47
11.2	Sample Security.....	49
11.3	Quality Assurance/Quality Control, Check Samples, Check Assays.....	49
11.4	Comments.....	52
12.0	DATA VERIFICATION .....	53
13.0	MINERAL PROCESSING AND METALLURGICAL TESTING .....	54
13.1	Introduction .....	54
13.2	Bottle Roll Testing .....	54
13.3	Column Leach Testing .....	58
13.4	Mineralogical Observations.....	59
14.0	MINERAL RESOURCE ESTIMATE .....	60
14.1	Introduction .....	60
14.2	Data.....	63
14.3	Density.....	63
14.4	Long Valley Resource Model.....	67
14.5	Long Valley Resource Classification .....	73
14.6	Long Valley Resource Estimate .....	74
23.0	ADJACENT PROPERTIES .....	80
24.0	OTHER RELEVANT DATA AND INFORMATION .....	81
25.0	INTERPRETATION AND CONCLUSIONS .....	82



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26.0	RECOMMENDATIONS .....	83
27.0	REFERENCES .....	85
28.0	DATE AND SIGNATURE PAGE.....	87
29.0	CERTIFICATE OF AUTHOR.....	88



## LIST OF TABLES

<i>Table</i>		<i>Page</i>
Table 1.1	Pit Optimization Parameters.....	6
Table 1.2	Long Valley Gold Resources.....	6
Table 1.3	Estimated Cost of Recommended Program.....	8
Table 4.1	Claims Constituting the Long Valley Project.....	14
Table 6.1	Summary of Drilling by Company.....	25
Table 6.2	Historical Royal Gold Resource and Reserve Statements – MRA Estimates.....	26
Table 6.3	Historical Royal Gold Reserve Statements - Behre Dolbear Estimate.....	27
Table 6.4	Historic Vista Gold Reported Resources.....	28
Table 10.1	Long Valley Drilling Summary.....	41
Table 10.2	Core vs. Proximal RC Drill Holes.....	43
Table 10.3	Drill Hole Information Summary.....	44
Table 10.4	Drill Hole Assay Statistics by Drill Type.....	44
Table 10.5	Drill Hole Assay Statistics by Company.....	45
Table 10.6	Drill Hole Assay Statistics by Deposit Area.....	45
Table 11.1	Long Valley Check Assays – 1 AT vs 2 AT.....	49
Table 11.2	Long Valley Bulk Sample Assays vs. Original Assays.....	50
Table 13.1	Bottle Roll Tests on Oxide Zone Drill Hole Samples.....	55
Table 13.2	Bottle Roll Tests on Mixed or Transition Zone Drill Hole Samples.....	55
Table 13.3	Bottle Roll Tests on Sulfide Drill Hole Samples.....	56
Table 13.4	Bottle Roll Tests on Miscellaneous Drill Hole Samples.....	57
Table 13.5	Bottle Roll Tests with Alternative Gold Lixivants.....	57
Table 13.6	Column Test Results.....	58
Table 14.1	Royal Gold Density Tests.....	64
Table 14.2	Amax Density Tests.....	65
Table 14.3	MDA Density Tests (Surface Samples).....	66
Table 14.4	Long Valley Sample Statistics.....	68
Table 14.5	Long Valley Gold Grade Envelopes.....	68
Table 14.6	Long Valley Composite Statistics.....	69
Table 14.7	Long Valley Variogram Parameters.....	70
Table 14.8	Long Valley Estimation Parameters.....	71
Table 14.9	Long Valley Resource Classification Parameters.....	73
Table 14.10	Comparison of Nearest Neighbor Model with Ordinary Kriging Model (all material).....	73
Table 14.11	Pit Optimization Parameters.....	74
Table 14.12	Long Valley Resources (Imperial Units).....	75
Table 26.1	Estimated Cost of Recommended Program.....	84



## LIST OF FIGURES

<b>Figure</b>		<b>Page</b>
Figure 4.1	Location Map.....	18
Figure 4.2	Claim Map.....	19
Figure 5.1	Access Roads and Location of the Long Valley Claim Block .....	21
Figure 5.2	Topography of the Long Valley Deposit Area .....	22
Figure 5.3	Oblique Air Photo Area of Long Valley Gold Project .....	23
Figure 7.1	Regional Geology .....	30
Figure 7.2	Deposit Geology .....	31
Figure 7.3	Grade-Thickness Map of the South, Southeast, and Hilton Creek Zones .....	33
Figure 7.4	Hilton Creek Cross Section .....	35
Figure 7.5	Southeast Zone Cross Section .....	36
Figure 7.6	South Zone Cross Section .....	37
Figure 8.1	Schematic Model of a Low-Sulfidation Epithermal Mineralizing System .....	38
Figure 9.1	Magnetotelluric Survey Coverage Map.....	39
Figure 10.1	Long Valley Drill Hole Map .....	42
Figure 10.2	Long Valley Sample Distribution by Drill Type.....	46
Figure 11.1	American Assay Lab Sample Preparation and Assaying Procedure .....	48
Figure 11.2	American Assay Lab Check Assay Results.....	50
Figure 11.3	Check Assays on Sample Pulps.....	51
Figure 11.4	Check Assays on Coarse Rejects.....	51
Figure 11.5	American Assay Lab – Au Fire Assay vs. Cyanide Soluble Au .....	52
Figure 14.1	Density vs Depth .....	66
Figure 14.2	Long Valley Sample Data .....	67
Figure 14.3	Hilton Creek / South Zone Variogram (Major Axis) .....	72
Figure 14.4	Southeast Zone Variogram (Omni-Directional).....	72
Figure 14.5	Distribution of Block Models and Composites .....	74
Figure 14.6	AuCN Extraction Data for Samples Logged as Oxide .....	76
Figure 14.7	Hilton Creek Block Model Section, Looking North .....	77
Figure 14.8	Southeast Zone Block Model Cross Section, Looking North .....	78
Figure 14.9	South Zone Block Model Cross Section, Looking North.....	79



## **1.0 EXECUTIVE SUMMARY**

Mine Development Associates (“MDA”) has prepared this Technical Report on the Long Valley project, located in Mono County, California, at the request of Eureka Resources Inc. (“Eureka”), which is listed on the TSX-V Exchange (TSX-V: EUK) and Kore Mining Ltd. (“Kore”), a privately held Canadian company. The Long Valley property is owned by Kore USA Ltd., a wholly owned subsidiary of Kore. Eureka and Kore have entered into an agreement whereby Eureka has agreed to acquire all the outstanding shares of Kore, in exchange for common shares of Eureka by way of a three-cornered amalgamation. Following this transaction, the resulting issuer will retain ownership of Kore USA Ltd., and Kore USA Ltd. will continue to own the mining claims comprising the Long Valley gold property.

The purpose of this report is to provide a technical summary of the Long Valley project in support of securities exchange reporting requirements. This report has been prepared 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.

MDA had previously prepared two Technical Reports on the project for the prior owner of the property, including a mineral resource estimate reported in a 2003 Technical Report. No further drilling has been carried out on the property since that resource estimate was prepared. This current Technical Report relies heavily on MDA’s 2003 and 2008 reports, with updating of the sections describing land ownership, history of the project, exploration, and the mineral resource estimate.

The effective date of this report is April 25, 2018.

### **1.1 Property Description and Ownership**

The Long Valley property is located in the Inyo National Forest, about 7 miles east of the town of Mammoth Lakes, Mono County, California. The Long Valley gold property consists of 95 contiguous, unpatented mining claims that cover an area of approximately 1,800 acres. All of the claims are located in all or portions of Sections 13, 14, 15, 22, 23, 24, 25, and 26, T3S, R28E, Mount Diablo Base and Meridian.

Kore purchased the claims from Vista Gold California LLC, a subsidiary of Vista Gold Corp. (“Vista”), in March 2017 for \$1,350,000, payable as follows:

- a) US\$350,000 at closing (paid on March 31, 2017);
- b) US\$500,000 on or prior to the 30<sup>th</sup> day after commencement of commercial production;  
and
- c) US\$500,000 on or prior to the 12-month anniversary of the commencement of commercial production.



The property is subject to two royalty agreements:

- a) a 1% net smelter return royalty payable to Royal Gold, Inc. (“Royal Gold”); and
- b) a 0.5% to 2.0% net smelter return royalty based on the quarterly gold price payable to Vista.

An amalgamation agreement was signed between Kore Mining Ltd., a private British Columbia corporation prior to the agreement, and Eureka Resources Inc. (“Eureka”, TSX-V: EUK), pursuant to which Eureka has agreed to acquire all the outstanding shares of Kore, in exchange for common shares of Eureka by way of a three-cornered amalgamation. Kore shareholders will receive 3.28 shares of Eureka following a 1 for 10 consolidation of Eureka shares. Immediately following the closure of the transaction, the former Kore shareholders will hold 91.8% of the issued and outstanding Eureka shares, authorized by a March 22, 2018 Eureka shareholder meeting. Following closing, the Resulting Issuer will continue on with the business of Kore and remain a Tier 2 mining issuer on the TSXV, with Kore as its operating subsidiary. The Resulting Issuer is anticipated to hold all existing assets of Eureka and Kore as at the closing. It is expected that in connection with closing, Eureka will change its name to “Kore Mining Ltd”, or such other name as agreed to by the parties.

The transaction remains subject to a number of terms and conditions, including, among other things:

- The completion of the consolidation;
- Eureka and Kore obtaining all necessary consents, orders, and regulatory approvals;
- Completion of concurrent financing for minimum proceeds of \$2 million (completion announced April 12, 2018);
- There being no material change occurring with respect to the business of Eureka or Kore;
- The satisfaction of the obligations under the amalgamation agreement relating to each of the parties;
- The delivery by each of the parties of standard closing documents, including legal opinions;
- Approval of the Transaction by the shareholders of Kore and Eureka, as required by applicable corporate law and the policies of the TSXV; and
- Execution of support and voting agreements by all directors and officers of Kore and Eureka and any shareholder holding greater than 10% of the issued and outstanding shares of each of the parties.

## **1.2 Exploration and Mining History**

Gold was first recognized on the property by Standard Industrial Minerals, Inc. (“Standard”) in the early 1980s as being present in small amounts in and around their kaolinite clay mining operations. Standard optioned the property to Freeport Minerals (“Freeport”) in 1983, and Freeport drilled about 80 shallow reverse circulation holes in mostly the North and South zones during 1983-1984. After Freeport dropped the property, Standard drilled 24 shallow rotary drill holes in 1986.



Royal Gold acquired an option on the property from Standard and drilled 52 reverse circulation holes during 1988. In 1990, Battle Mountain Gold (“Battle Mountain”) and Royal Gold formed a joint venture to further explore and develop the property. During 1990 and 1991, Battle Mountain completed geologic mapping, geochemical sampling, and geophysical surveying of the area and drilled 59 reverse circulation holes. Battle Mountain dropped out of the joint venture in 1993, but Royal Gold continued exploration of the property.

During the period of 1994 through 1997, Royal Gold drilled 615 reverse circulation and 10 core holes at the Long Valley property. During this time, Royal Gold also completed metallurgical investigations and preliminary engineering studies, including resource estimations, and initiated baseline-type environmental studies of the biological, water, and archeological resources of the area.

In mid-1997, Amax Gold Inc. (“Amax”) performed extensive due diligence investigations in consideration of forming a joint venture with Royal Gold, with the intent of placing the property into production. Amax’s work included drilling 46 reverse circulation holes and 10 core holes, as well as conducting extensive re-assay and check assay work and re-logging of older holes. Amax elected not to proceed with the formation of the joint venture because of the continued deterioration of the gold price.

There has been no further drilling on the property since 1997. Royal Gold turned the property back to Standard in 2000. In 2003, Vista signed a purchase option agreement with Standard for the Long Valley project and completed the purchase of the claims in January 2007. Vista maintained the claims in good standing but conducted no exploration on the property from 2003 until their sale of the property to Kore in 2017. The only exploration Kore has conducted on the property to date is a Spartan magnetotelluric survey in December 2017.

### **1.3 Geology and Mineralization**

The Long Valley deposit is contained entirely within the early Pleistocene-age Long Valley caldera, which has been dated at about 760,000 years old. The caldera is an elongated east-west oval depression measuring some 10 by 19 miles and is related to the eruption of the Bishop Tuff, which is mostly covered by younger rocks within the caldera.

The Long Valley gold deposit is located near the center of the caldera and is underlain by lithologic units related to the caldera formation and its subsequent resurgence. Associated with the resurgent doming is a sequence of interbedded volcanoclastic sedimentary rocks which were deposited in a lacustrine setting within the caldera. These rocks consist of sediment (siltstones through conglomerates) and debris-flow deposits, with local deposits of intercalated silica sinter and rhyolite flows and dikes. All of these lithologies have been altered and/or mineralized to variable degrees. Intruding the generally flat-lying lake sediments are several younger rhyolite domes that have been dated from 200,000 to 300,000 years in age.

The north-south trending Hilton Creek fault zone appears to define the eastern limit of the resurgent dome within the central part of the Long Valley caldera and extends outside the caldera to the south. This fault system is thought to control the distribution of gold mineralization in the Long Valley deposit. Offset along this fault appears to be variable and suggests that fault activity along this zone may be episodic in



nature. Active hot springs, earthquakes, and very recent volcanism suggest that the area is still geologically active.

Gold and silver mineralization at Long Valley appears to fall under the general classification of an epithermal, low sulfidation type deposit. Several areas, termed the North, Middle, South, Southeast, and Hilton Creek zones, are mineralized with low grades of gold and silver; the North Zone lies outside of the current property boundary. The mineralized zones are generally north-south trending, up to 8,000 ft in length with widths ranging from 500 ft to 1,500 ft. The tabular bodies are generally flat-lying or have a shallow easterly dip. Mineralization is typically from 50 to 200 ft thick and, in the South and Southeast zones, is exposed at (or very near) the surface. The top of the Hilton Creek zone is generally covered by 20 to 50 ft of alluvium. The vast majority of the mineralization discovered to date is located in the Hilton Creek zone.

Drilling is widely spaced in and between the North, Middle, and South zones, and it may be possible that, with additional drilling, these zones may be shown to be contiguous with the better defined zones to the south.

Royal Gold generally defined the base of the oxidized zone as the last occurrence of oxide mineralization. Sulfide mineralization and mixed oxide-sulfide material also occurs above this boundary. The sulfide/oxide boundary occurs at depths between 150 and 250 ft and is often coincident with or slightly above the current water table.

Gold and silver mineralization is quite continuous throughout the zones and is well defined above ~0.010 oz Au/t. Within the continuous zones of low-grade (+0.010 oz Au/t) gold mineralization are numerous zones of higher grade mineralization (+0.050 oz Au/t), particularly in the Hilton Creek zone, which may relate to zones of enhanced structural preparation. Mineralized zones are typically correlated with zones of more intense clay alteration or argillization and/or silicification.

#### **1.4 Drilling and Sampling**

Freeport, Standard, Royal Gold, Battle Mountain, and Amax drilled the Long Valley project between 1983 and 1997; no drilling has been conducted since 1997. The database contains 896 drill holes, totaling 268,275 ft. Eight hundred of the holes were drilled using reverse circulation methods; 20 were core holes. Collar coordinate information is missing for seven of the drill holes.

Gold has been primarily analyzed by fire assay, with grade determinations by atomic absorption. The exceptions are analyses done by Freeport, who completed its assays by acid digestion. The 10 core holes drilled by Amax were twin holes to check close-by RC drilling. Overall, the comparison showed good agreement between the core and RC sample assays; however, individual sets of twin hole data varied considerably. Numerous check assays were completed on sample pulps and sample rejects, all of which indicated good agreement with the original assays.



## **1.5 Metallurgical Testing**

A moderate amount of metallurgical testing was completed on the Long Valley property from about 1989 through 1997. None has been conducted since 1997.

Bottle roll tests on oxide samples show an average gold extraction of about 77% for the gold and 21% for the silver during 72-hr cyanide leach tests. These results demonstrate the good leaching characteristics of the gold, and most of the samples gave fairly consistent results through 14 tests performed by three different labs. Bottle roll tests on the mixed oxide-sulfide samples showed an average gold extraction of about 48% and 19% for silver over 72 hours, with considerable variation between individual samples. Bottle roll test results on the sulfide samples also show a wide range of results. Fifteen samples were tested by three different labs and gold extractions ranged from zero to over 50% for 72-hr tests. The average recovery was about the same for both gold and silver, at 24%. Tests also show that both gold and silver extractions increase at smaller particle sizes for all classes of material.

In 1989, Kappes, Cassiday and Associates performed three column leach tests on a single bulk sample collected from surface cuts in the South zone. The tests were performed on material crushed to -3 inches, -1 ½ inches, and - ½ inches, with column diameters measuring 11.5 inches, 10 inches, and 8 inches; column heights were about 10 ft. Gold recovery ranged from 86% in the -3-inch test to 93% in the -1/2 inch test.

During 1996-1997, Hazen Laboratories performed five large diameter column leach tests on a single bulk sample prepared from seven large diameter (6 inch) core holes drilled in the Hilton Creek and Southeast zones. Gold recovery ranged from 81% to 92% in all the columns, except a low pH column that averaged 68%.

## **1.6 Long Valley Mineral Resource Estimate**

Mineral resources reported for the Long Valley property were modeled and estimated by MDA in accordance with the CIM Standards. The model for the resource was prepared in 2003 by MDA, with the resource calculated on April 25, 2018. No drilling occurred on the property after the 2003 model was created. The resource estimate considered both a heap leach operation for oxide and transition material and a plant to recover sulfide material. Pit optimization parameters were developed for the different materials. The pit optimization parameters are summarized in Table 1.1.



**Table 1.1 Pit Optimization Parameters**

Item	Units	Parameter
Pit Slope	degrees	45°
Gold Price	\$ per ounce gold	\$ 1,500
Mining	\$/ton mined	\$ 1.70
Crushing	\$/ton processed	\$ 1.40
Heap Leach	\$/ton processed	\$ 1.80
Sulfide Mill	\$/ton processed	\$ 8.60
G&A per Ton	\$/ton processed	\$ 0.63
Refining Cost	\$/oz Au Produced	\$ 5.00
Recovery (Oxide - Less than 150' below surface)	% heap recovery	80%
Recovery (Transition - 150-200' below surface)	% mill recovery	90%
Recovery (Sulfide - Below sulfide surface)	% mill recovery	90%

Gold resources that are contained in a \$1500 per ounce optimized pit were estimated by MDA for the Hilton Creek, Southeast, and South zones and are summarized in Table 1.2.

**Table 1.2 Long Valley Gold Resources**

Ore Type	Cutoff (oz Au/ton)	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
		K Tons	oz Au/t	K oz Au	K Tons	oz Au/t	K oz Au	K Tons	oz Au/t	K oz Au	K Tons	oz Au/t	K oz Au
Oxide	0.005	15,923	0.016	258	20,022	0.019	378	35,945	0.018	636	9,192	0.020	185
Transition	0.006	2,007	0.014	27	2,256	0.014	32	4,263	0.014	59	1,314	0.016	21
Sulfide	0.006	12,349	0.016	196	21,079	0.017	356	33,428	0.017	552	15,464	0.018	280
Total	Variable	30,279	0.016	481	43,356	0.018	766	73,635	0.017	1,247	25,970	0.019	486

Resources reported as *oxide* in this report are the material situated above an oxide-sulfide boundary that was generally determined by recording the last occurrence of oxide minerals observed in the drill cuttings or core, and above a transition zone that occurs approximately between 150 and 200 feet below the surface. As such, not all material situated above this boundary can be considered as oxide in the context of metallurgical recovery, as it undoubtedly includes materials that will react differently metallurgically. One of the most important tasks to complete is the development of a model that better defines the metallurgical characteristics of the deposit.

Over 100 measurements completed on Amax's drill core show that the density of mineralized rock at Long Valley is highly variable, ranging between 58 and 175 lbs/ft<sup>3</sup> and averaging about 112 lbs/ft<sup>3</sup>. The results from 12 density tests completed by Royal Gold averaged 123 lbs/ft<sup>3</sup>. MDA selected 10 surface samples at random from mineralized areas to check the density; the density of these samples averaged 125.2 lbs/ft<sup>3</sup>. MDA used a tonnage factor of 15.5 ft<sup>3</sup>/ton (129 lbs/ft<sup>3</sup>) in the resource model. Additional density tests from samples representing all major lithologies and alteration types should be completed to develop a better density model for the deposit.



## 1.7 Recommendations

MDA believes that three models need to be developed to better understand and evaluate the Long Valley deposit: geologic; metallurgical; and density.

- Within the geologic model, rock type boundaries need to be developed, the dip of the mineralization needs better definition from the measurement of angles of the mineralization to the core axis, and the structural features of the deposit need to be defined. All of this work will help to identify and model the controls on mineralization.
- The metallurgical model needs to represent areas of similar recovery. Two boundaries need to be developed that divide the deposit into areas of high, medium, and low cyanide soluble areas. The metallurgy of the sulfides needs testwork to determine if the gold contained in the sulfides can be processed. Waste rock characteristics will need to be defined.
- The density of the deposit needs to be modeled. The density needs to be related to the rock types developed for the geologic model. The tests so far indicate that density may increase with depth.

MDA recommends a two-phase program to advance the project. Additional data are needed to better define the geologic, metallurgical, and density models for the deposits. For Phase 1, the first step is relogging of the existing drill chips to create a uniform geologic database and to define oxide, mixed, and sulfide boundaries that will more accurately represent the various metallurgical domains of the deposits. Additional work will include geophysical surveying and interpretation, geochemical sampling, and testing of pulps for silver using 4-acid digestion. Based on analysis of the results of these activities, a drill program will be designed and a drilling permit obtained. Phase 1 will determine the drill targets for Phase 2 and will aid in the decision-making process for the ultimate size and scope of Phase 2. Phase 2 is conditional on obtaining successful results from Phase 1. The second phase is drilling additional core holes to obtain data to supplement, complete, and verify the models. This is expected to involve 10,000-20,000 ft of core drilling. The deposit is open in several areas, but these aspects are more critical at this time than developing additional resources. Table 1.3 shows the estimated cost of a phased program to complete the recommendations above and remodel the deposit.



**Table 1.3 Estimated Cost of Recommended Program**

(All costs are in US dollars.)

Item	Number	Units	Rate	Total
<b>Phase 1</b>				
Relog Drill Holes & Develop Geologic Map	125	Days	\$800	\$100,000
Drilling Permit	1	1	\$30,000	\$30,000
Drill Hole Targeting & Drill Program Design	62.5	Days	\$800	\$50,000
Geophysics & Interpretation	1	Lot	\$120,000	\$120,000
Geochemical Sampling	1	Program	\$50,000	\$50,000
Testing Pulps for Ag Using 4-acid Digestion	1	Lot	\$50,000	\$50,000
<b>Subtotal Phase 1</b>				<b>\$400,000</b>
<b>Phase 2</b>				
Environmental Studies	2	1	\$40,000	\$80,000
Core Drill Holes	15,000	Feet	\$100	\$1,500,000
Density Testing	3,000	Samples	\$50	\$150,000
Shaker Cyanide Extraction	2,000	Samples	\$20	\$40,000
Sulfide Metallurgical Testing	1	Lot	\$30,000	\$30,000
Grade and other Models	1	Lot	\$80,000	\$80,000
<b>Subtotal Phase 2</b>				<b>\$1,880,000</b>
<b>Total Program</b>				<b>\$2,280,000</b>

After completing this program, the results should be assessed to determine if a preliminary economic assessment should be completed.



## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

Mine Development Associates (“MDA”) has prepared this Technical Report on the Long Valley gold project, located in Mono County, California, at the request of Eureka Resources Inc. (“Eureka”) and Kore Mining Ltd. (“Kore”), Canadian companies located in Vancouver, British Columbia. The Long Valley project is held 100% by Kore’s wholly-owned subsidiary Kore USA Ltd. The project is focused on the Long Valley gold deposit, which is also known as the Inyo gold deposit.

In February of 2018, an agreement was signed between Kore Mining Ltd., a private British Columbia corporation prior to the agreement, and Eureka Resources Inc. (“Eureka”, TSX-V: EUK), pursuant to which Eureka has agreed to acquire all the outstanding shares of Kore, in exchange for common shares of Eureka by way of a three-cornered amalgamation. Following this transaction, the resulting issuer will retain ownership of Kore USA Ltd., and Kore USA Ltd. will continue to own the mining claims comprising the Long Valley gold property.

This report has been prepared 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.

### **2.1 Project Scope and Terms of Reference**

The purpose of this report is to provide a technical summary of the Long Valley gold project in support of securities exchange reporting requirements.

MDA previously prepared two Technical Reports on the Long Valley project for Vista Gold Corp. (“Vista”), from whom Kore acquired the property in 2017 (Prenn and Muerhoff, 2003; Prenn and Dyer, 2008). The 2003 Technical Report described a mineral resource estimate for the project based on drilling conducted by various companies from 1983 through 1997. No further drilling had been carried out between 1997 and MDA’s mineral resource estimate reported in 2003. MDA subsequently prepared a Technical Report in 2008 with a preliminary economic assessment of the Long Valley project, also for Vista. Vista had not conducted any exploration on the property between 2003 and Kore’s acquisition of the property in 2017. Kore has not conducted any drilling on the property. This current Technical Report relies heavily on MDA’s 2003 and 2008 reports, which is appropriate because there has been no further exploration work conducted on the property since the 2003 mineral resource estimate was prepared, except for a geophysical survey in 2017. This current Technical Report updates the land ownership description and history of the project to reflect Kore’s acquisition of the property from Vista and updates the exploration section to reflect the geophysical survey commissioned by Kore. In addition, MDA has optimized a pit with current costs and metal prices to update the mineral resource estimate and classify the mineral resources as current mineral resources.

The mineral resources were estimated and classified under the supervision of Neil Prenn, P. E. and principal engineer for MDA. Mr. Prenn is a qualified person under NI 43-101 and has no affiliations with



Eureka, Kore or Vista except that of independent consultant/client relationship. The mineral resources reported herein are estimated to the standards and requirements stipulated in NI 43-101. No mineral reserves were estimated.

Mr. Prenn visited the Long Valley project on October 30, 2002, and again on February 21, 2018. In neither case was there evidence of current or recent exploration activity; however, some old drill locations were still identifiable. Steven I. Weiss, C.P.G. and Senior Associate Geologist for MDA, worked on the property for Royal Gold in 1996 and is responsible for Sections 7 and 8, while Mr. Prenn is responsible for the remainder of the report sections.

The scope of this study included a review of pertinent technical reports and data provided to MDA by Kore and its predecessor on the property, Vista, relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. The authors have fully relied on the data and information provided by Kore and Vista for the completion of this report, including the supporting data for the estimation of the mineral resources.

The authors have relied almost entirely on data and information derived from work done by Kore and its predecessor operators of the Long Valley project. The authors have reviewed much of the available data and made site visits, and have made judgments about the general reliability of the underlying data. Where deemed either inadequate or unreliable, the data were either eliminated from use or procedures were modified to account for lack of confidence in that specific information. Mr. Prenn and Mr. Weiss 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.

The Effective Date of this Technical Report is April 25, 2018.

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

In this report, measurements are generally reported in English units. Where information was originally reported in metric units, MDA has made the conversions as shown below. Currency, units of measure, and conversion factors used in this report include:

### Linear Measure

1 inch	= 2.54 centimeters
1 foot	= 0.3048 meter
1 yard	= 0.9144 meter
1 mile	= 1.6 kilometers



**Area Measure**

1 acre		= 0.4047 hectare
1 square mile	= 640 acres	= 259 hectares

**Capacity Measure (liquid)**

1 US gallon	= 4 quarts	= 3.785 liter
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**Weight**

1 short ton	= 2000 pounds	= 0.907 tonne
1 pound = 16 oz	= 0.454 kg	= 14.5833 troy ounces

<b>Analytical Values</b>	<u>percent</u>	<u>grams per metric tonne</u>	<u>troy ounces per short ton</u>
1%	1%	10,000	291.667
1 gm/tonne	0.0001%	1	0.0291667
1 oz troy/short ton	0.003429%	34.2857	1
10 ppb			0.00029
100 ppm			2.917

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

**Frequently used acronyms and abbreviations**

AA	atomic absorption spectrometry
Ag	silver
Amax	Amax Gold Inc. (AGI)
Au	gold
BLM	U.S. Department of the Interior, Bureau of Land Management
CIM	Canadian Institute of Mining, Metallurgical, and Petroleum
°F	degrees Fahrenheit



ft	foot or feet
NSR	net smelter return
oz Ag/t	troy ounces silver per short ton (oz/ton)
oz Au/t	troy ounces gold per short ton (oz/ton)
Royal Gold	Royal Gold, Inc.
RC	reverse circulation drilling method
Standard	Standard Industrial Minerals, Inc.
ton	short ton
Vista	Vista Gold Corp.



### **3.0 RELIANCE ON OTHERS**

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 in the United States. The authors did not conduct any investigations of the environmental, permitting, or social-economic issues associated with the Long Valley project, and the authors are not experts with respect to these issues. The authors have relied fully on Kore to provide all information concerning the legal status of Kore and related companies, as well as current legal title, material terms of all agreements, existence of all applicable royalty obligations, and material environmental and permitting information that pertain to the Long Valley project. Section 4.0 is based on information provided by Kore or Eureka.

Mr. Prenn and Mr. Weiss have relied almost entirely on data and information provided by Kore, much of which was obtained or derived from prior operators of the Long Valley property, and many of the conclusions made in this report are based entirely on previous operators' work. Although the authors reviewed much of the available data and visited the project site, these tasks are dwarfed by the amount of data that exist. That said, the authors believe the data presented in this report are generally an accurate and reasonable representation of the project.



## 4.0 PROPERTY DESCRIPTION AND LOCATION

This Section 4.0 is based on information provided to the author by Kore. The author presents this information to fulfill reporting requirements of NI 43-101 and expresses no opinion regarding the legal or environmental status of the Long Valley project, or of any of the agreements and encumbrances related to the property. Beyond what is described in this section, the author is not aware of any other significant factors or risks that may affect access, title, or the right or ability to perform work on the property.

### 4.1 Location

The Long Valley property is located in the Inyo National Forest, about 30 miles in a direct line northwest of Bishop and about seven miles east of the town of Mammoth Lakes, in Mono County, California. Figure 4.1 shows the location of the property.

### 4.2 Land Area

The Long Valley gold property consists of 95 contiguous, unpatented mining claims that cover an area of approximately 1,800 acres. The claims are administered by the U.S. Bureau of Land Management (“BLM”) on federally owned lands administered by the Inyo National Forest, U.S. Department of Agriculture. All of the claims are located in Mono County in east-central California. A listing of the claim names and BLM recordation information is presented as Table 4.1.

**Table 4.1 Claims Constituting the Long Valley Project**

<b>Claim Name</b>	<b>BLM Serial No (CAMC)</b>
Long Valley 1 - 11	231947 - 231957
Long Valley 12 - 38	237721 - 237747
LVR 45 - 52	275118 - 275125
LV 57	270604
LV 59	270605
LV 63 - 96	242259 - 242292
LV 98	242294
LV 111 - 117	242307 - 242313
LV 118 - 119	270618 - 270619
LV 120	242316
LV 121	270620
LV 122	242318

### 4.3 Mining Claim Description

The mining claim group is centered at 37 degrees 40 minutes North latitude and 118 degrees 51 minutes West longitude. The claims cover all or portions of Sections 13, 14, 15, 22, 23, 24, 25, and 26, T3S, R28E, Mount Diablo Base and Meridian. Figure 4.2 is a claim location map. Ownership of the unpatented mining claims is in the name of the holder (locator), subject to the paramount title of the United States of America, under the administration of the U.S. Bureau of Land Management (“BLM”). Under the Mining



Law of 1872, which governs the location of unpatented mining claims on federal lands, the locator has the right to explore, develop, and mine minerals on unpatented mining claims without payments of production royalties to the U.S. government, subject to the surface management regulation of the BLM and U.S. Forest Service, with the area of the claims being subject to a surface grazing lease issued by the U.S. Forest Service. Kore has rights to use the unpatented mining claims for mining related purposes to September 1, 2018 and may continue to do so on a yearly basis beyond that by timely annual payment of claim maintenance fees and other filing requirements.

The areas of defined gold resources are located entirely within the area of the claims listed in Table 4.1 and shown in Figure 4.2.

Figure 10.1, which shows drill hole locations, also shows the outline of the mineral resources within the claim block.

#### **4.4 Agreements and Encumbrances**

The unpatented mining claims are all held by Kore USA Ltd., a Nevada (U.S.A.) corporation that is a wholly owned subsidiary of Kore Mining Ltd.; both companies are referenced as “Kore” in this report. The claims are in good standing with all holding fees paid for the current year. The claims will remain in effect for as long as the annual claim maintenance fees are paid to the U.S. government. The claims must also be maintained by insuring that the claim posts and location notices are properly upright and visible. The claim maintenance fees for the Long Valley project total \$14,725 annually and are due on or before September 1 of each year. Kore paid this amount to the BLM on August 25, 2017 for the 2018 assessment year. In addition, Kore must file and record with the Mono County Recorder an Affidavit Notice of Intent to Hold and Payment of Annual Maintenance Fee in lieu of Assessment Work; that affidavit was filed and recorded in Mono County on August 10, 2017.

Kore acquired the claims from Vista Gold California LLC, a subsidiary of Vista Gold Corp. (both companies are referenced as “Vista” in this report), through a purchase agreement dated March 29, 2017. In addition to a royalty to Vista described below, Kore agreed to pay Vista a cash consideration of US\$1,350,000, payable as follows:

- a) US\$350,000 at closing (paid on March 31, 2017);
- b) US\$500,000 on or prior to the 30<sup>th</sup> day after commencement of commercial production; and
- c) US\$500,000 on or prior to the 12-month anniversary of the commencement of commercial production.

Vista may elect to receive shares of Kore in place of cash for the payments identified as b) and c) above.

The property is subject to two royalty agreements. A 1.0% net smelter return (“NSR”) royalty is payable by Kore to Royal Gold, Inc. (“Royal Gold”) pursuant to a Royalty Deed between Vista and Royal Gold dated August 23, 2002, and subsequently assigned to Kore by Vista on April 25, 2017. In addition, through an agreement between Kore and Vista dated April 25, 2017, Kore granted Vista a perpetual NSR royalty at the following rates to be determined quarterly based on the gold price:



**Gold Price (\$/oz Au)**

**Royalty Rate**

Under \$1,400	0.5% NSR
\$1,401 to \$1,600	1.0% NSR
Above \$1,600	2.0% NSR

The royalty agreement between Kore and Vista allows Kore to repurchase a total of 1.0% of the royalty rate applicable to any royalty payable when the gold price is above \$1,600 per oz Au for \$2,000,000, if repurchased prior to announcement of a feasibility study, or for \$4,000,000 if repurchased prior to commencement of commercial production, subject to various terms and conditions. Kore's option to repurchase a portion of the royalty rate is extinguished following the commencement of commercial production. The royalty agreement between Kore and Vista also included a security interest in favor of Vista over the Long Valley claims in respect of any future obligations arising under the royalty only.

The purchase agreement between Kore and Vista included a grant of rights to Vista regarding placer claims pursuant to an agreement between Standard Industrial Minerals, Inc. ("Standard") and Vista dated January 22, 2007. Standard granted Vista the right to "explore, develop, mine, remove and sell the gold, silver, and other materials located on and under the ground" where Standard's Little Antelope No. 3 and Little Antelope No. 4 unpatented placer mining claims overlap the Long Valley No. 31-38 and LV No. 98 unpatented lode mining claims; that right was transferred from Vista to Kore in 2017. Figure 4.2 shows the location of the area of overlap between the placer and lode claims subject to this agreement.

The 2007 mining deed that conveyed the unpatented lode mining claims from Standard to Vista included a provision that reserved to Standard all material mined from the property that contains kaolinite but does not contain economic values of gold and/or silver, and was not needed by Vista for construction purposes related to the property, both as determined by Vista, and the right to have such mined kaolinite material transported and deposited at Standards facilities near the property at Standard's sole cost and expense. This reservation did not obligate Vista to evaluate any mined material for its value or suitability as kaolinite ore, nor handle the kaolinite-bearing material in any special way different from the normal material handling process for material deemed not economic as gold and/or silver ore. At the time Vista purchased the claims from Standard, Standard was mining kaolinite from an operation within a mile north of the unpatented lode mining claims purchased by Vista, but that operation is not active currently.

The agreement signed between Kore Mining Ltd., a private British Columbia corporation, and Eureka Resources Inc. ("Eureka", TSX-V: EUK) in February of 2018, stipulates that Eureka will acquire all the outstanding shares of Kore, in exchange for common shares of Eureka by way of a three-cornered amalgamation. There will be no change to Kore's ownership of Kore USA Ltd., and Kore USA Ltd. will continue to hold 100% ownership of the mining claims comprising the Long Valley gold property.

Kore shareholders will receive 3.28 shares of Eureka following a 1 for 10 consolidation of Eureka shares. Immediately following the closure of the transaction, the former Kore shareholders will hold 91.8% of the issued and outstanding Eureka shares, authorized by a March 22, 2018 Eureka shareholder meeting. Following closing, the Resulting Issuer will continue on with the business of Kore and remain a Tier 2



mining issuer on the TSX-V, with Kore as its operating subsidiary. The Resulting Issuer is anticipated to hold all existing assets of Eureka and Kore as at the closing. It is expected that in connection with closing, Eureka will change its name to “Kore Mining Ltd.”, or such other name as agreed to by the parties.

The transaction remains subject to a number of terms and conditions, including, among other things:

- The completion of the consolidation;
- Eureka and Kore obtaining all necessary consents, orders, and regulatory approvals;
- Completion of concurrent financing for minimum proceeds of \$2 million (completion announced April 12, 2018);
- There being no material change occurring with respect to the business of Eureka or Kore;
- The satisfaction of the obligations under the amalgamation agreement relating to each of the parties;
- The delivery by each of the parties of standard closing documents, including legal opinions;
- Approval of the Transaction by the shareholders of Kore and Eureka, as required by applicable corporate law and the policies of the TSX-V; and
- Execution of support and voting agreements by all directors and officers of Kore and Eureka, and any shareholder holding greater than 10% of the issued and outstanding shares of each of the parties.

#### **4.5 Environmental Liabilities**

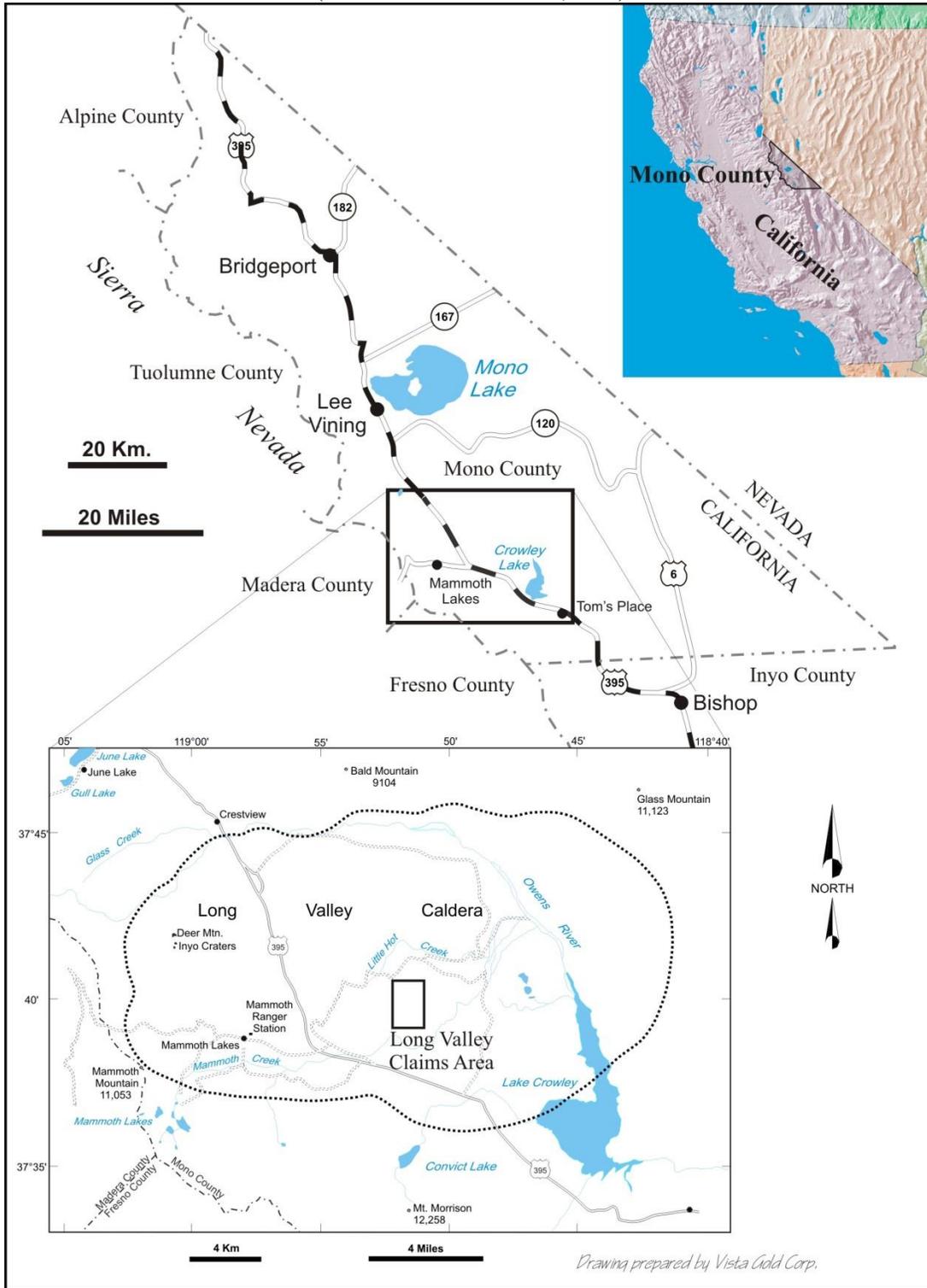
The U.S. Forest Service requires that an operator file a Notice of Intent to Conduct Prospecting Operations (“Notice of Intent”) for a proposed exploration or mining operation to provide the District Ranger with sufficient information to determine if the level of proposed disturbance will require a Plan of Operations and a detailed environmental analysis. A Plan of Operations is required to be filed with and approved by the U.S. Forest Service prior to any significant on-site activities, which would include any additional drilling. The author is not aware of any outstanding environmental liabilities on the property.

#### **4.6 Environmental Permitting**

Exploration of the Long Valley project is currently operating under a Notice of Intent. There are currently no other permits required, and none have been obtained.



**Figure 4.1 Location Map**  
 (From Prenn and Muerhoff, 2003)







## **5.0 ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY**

### **5.1 Access**

The Long Valley property is located about seven miles to the east of the town of Mammoth Lakes and about 45 miles by road northwest of the town of Bishop, California. Both towns are connected by U.S. Highway 395, which passes a few miles west of the property. Access to the property from the highway is via a series of graded gravel roads. Figure 5.1 shows the general area, as well as access to the property and location of the claim block.

### **5.2 Climate**

The climate is semi-arid and moderate, with high temperatures in the summer generally in the 80 °F range and winter highs generally in the 30-40 °F range. Winter temperatures can be below 0 °F. Precipitation at the property probably totals about 20 to 25 inches per year, divided between winter snows and summer thunderstorms. The evaporation potential greatly exceeds the precipitation on an average annual basis, so the area is one with a negative water balance. Snow depths in winter are generally less than two feet on the property, and the overall climate should permit operations year around.

### **5.3 Physiography**

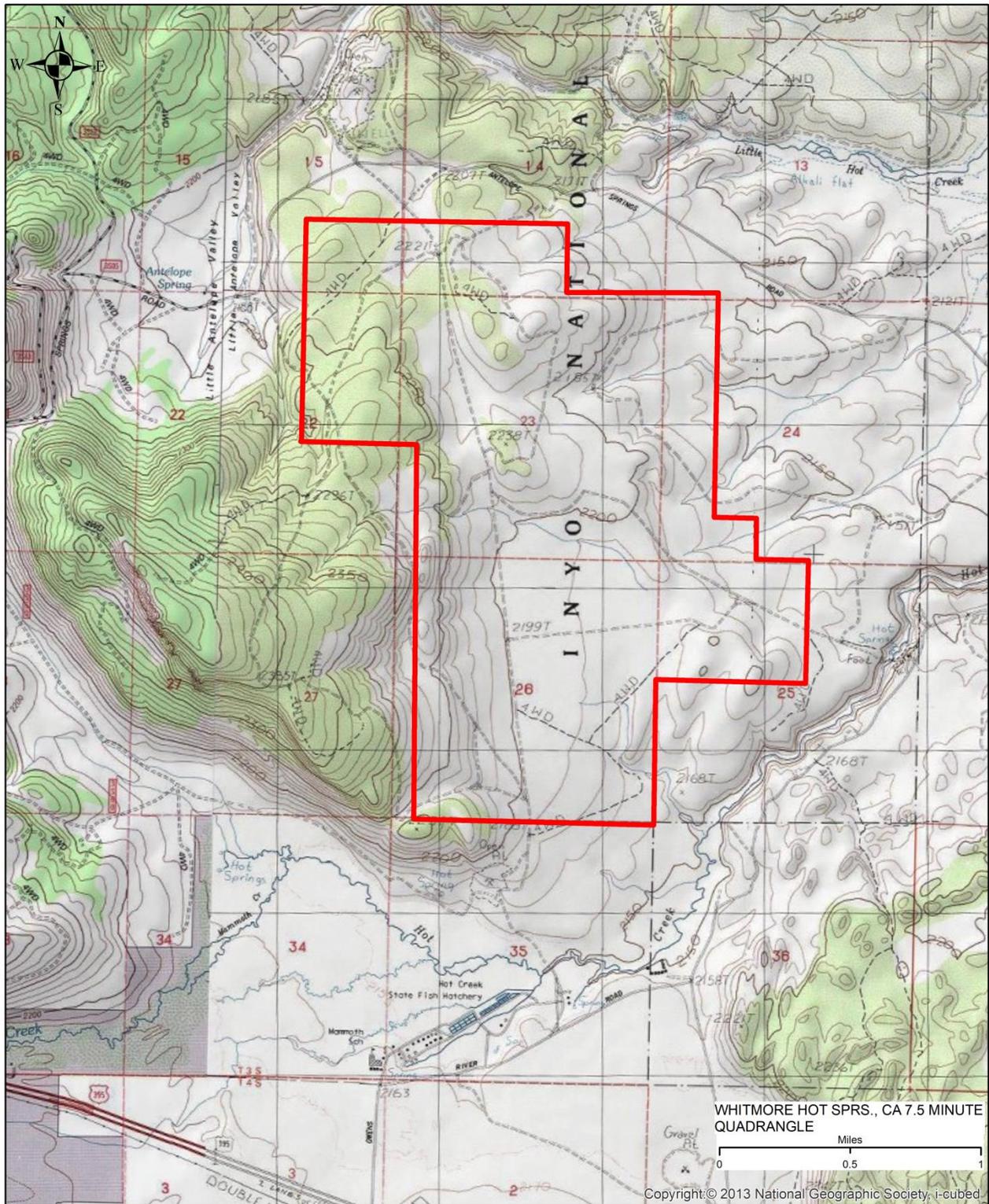
The Long Valley gold property is located a few miles to the east of the Sierra Nevada Mountains, at an elevation of about 7,200 ft or 2,200 meters, in an area of gently rolling terrain. The vegetation consists mostly of sagebrush and related shrubs and grasses with local areas of open pine forest. The topography in the area of the property will allow for the location of site facilities which may be required, including waste dumps, heap leach pads, plant sites, etc., as shown in Figure 5.2. Figure 5.3 shows the topography and vegetation characteristic of the area, along with the network of drill roads.

### **5.4 Local Resources and Infrastructure**

Lodging, supplies, and labor are available in either Mammoth Lakes or Bishop, with the area population exceeding 20,000 people. Groundwater has been encountered in many exploration drill holes at depths of 200 to 300 ft and should be available in sufficient quantities for processing. It is believed that adequate power is available in the area with no more than a few miles of additional powerline required to reach the property.



Figure 5.1 Access Roads and Location of the Long Valley Claim Block



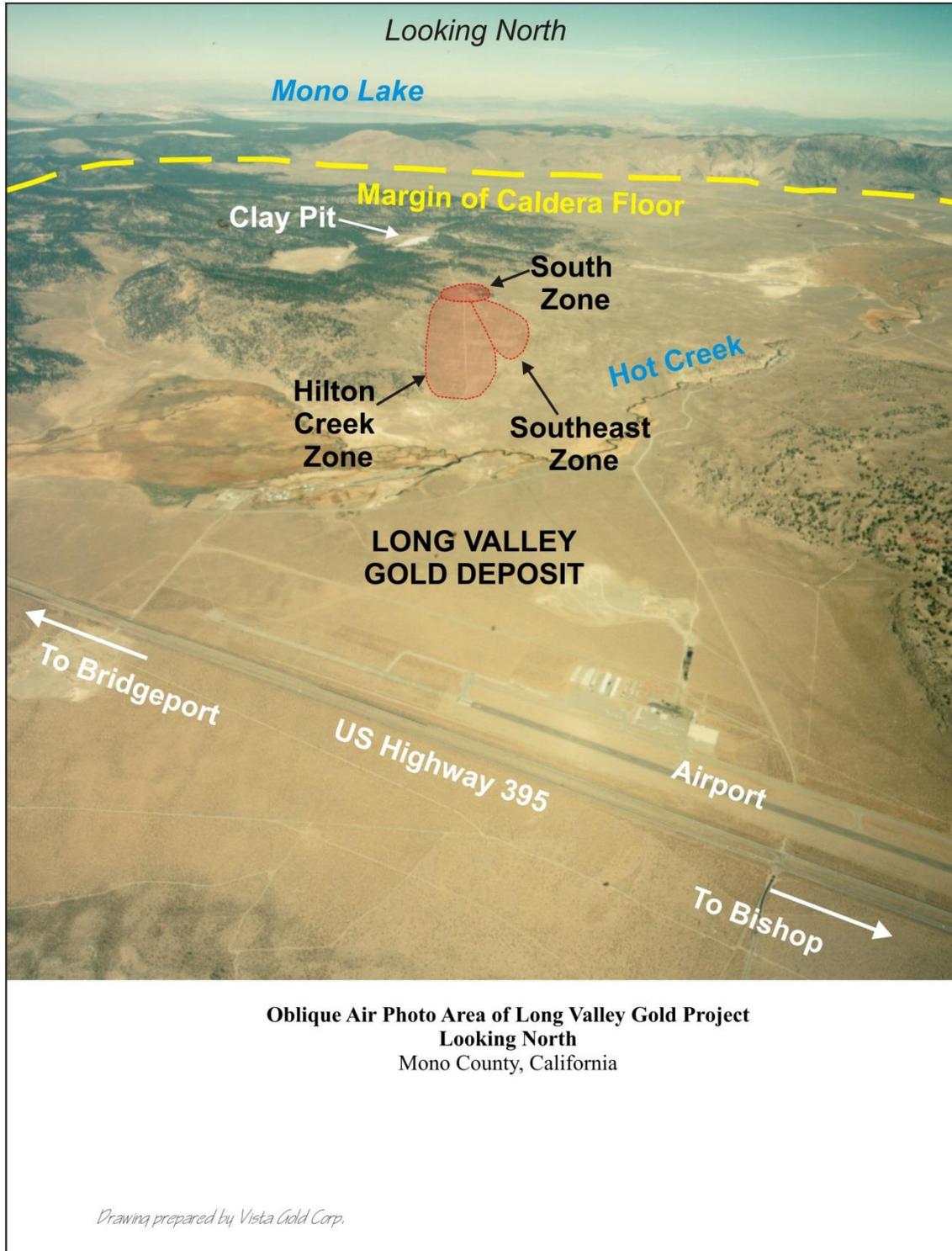


**Figure 5.2 Topography of the Long Valley Deposit Area  
(looking South along Hilton Creek Area)**





**Figure 5.3 Oblique Air Photo Area of Long Valley Gold Project**  
(From Prenn and Muerhoff, 2003)





## 6.0 HISTORY

### 6.1 Exploration History

Gold was first recognized on the property by Standard in the early 1980s as being present in small amounts in and around their kaolinite clay mining operations. Standard optioned the property to Freeport Minerals (“Freeport”) in 1983, who prospected the area and defined several distinct mineralized zones, referred to as the North, Middle, and South zones (see Figure 10.1 for the location of the Middle and South mineralized zones and their relation to the current resource area). Based on a sketch map of the zones in the 1997 Behre Dolbear report by Martin et al. (1997a), it appears that the North Zone is outside of the current property boundary. Freeport drilled about 80 shallow reverse circulation (“RC”) holes in mostly the North and South zones during 1983-1984. Freeport dropped the property, but additional drilling was performed by Standard in 1986, with 24 shallow rotary holes drilled mostly in the South zone.

Royal Gold acquired the property from Standard under a lease/purchase option agreement in 1988 and shortly thereafter drilled 52 air track holes in the South zone. Martin et al. (1997a) reported that Royal Gold drilled 53 holes in this program, but 52 are in the project database. Royal Gold also had performed various metallurgical and engineering studies and submitted permitting documents in support of constructing a small operation based on gold resources in the South zone. However, in 1990, Battle Mountain Gold (“Battle Mountain”) and Royal Gold formed a joint venture to further explore and perhaps develop the property. During 1990 and 1991, Battle Mountain, as the operator, completed geologic mapping, geochemical sampling, and geophysical surveying of the area and also drilled 59 RC holes. These holes were mostly in the South zone, but they also resulted in the discovery of two new zones contiguous with the South zone: the Hilton Creek zone and the Southeast zone.

Battle Mountain dropped out of the joint venture in 1993, but work continued by Royal Gold. During the period 1994 through 1997, Royal Gold aggressively explored the property, drilling some 625 holes mostly in the Hilton Creek and Southeast zones. Only 10 core holes were drilled, with the balance being RC holes. During this time, Royal Gold also undertook extensive studies related to metallurgical investigations and preliminary engineering studies, including resource estimations. They also initiated baseline-type environmental studies of the biological, water, and archeological resources of the area.

In mid-1997, Amax performed extensive due diligence investigations in consideration of forming a joint venture with Royal Gold to place the property into production. Their work included drilling 46 RC holes and 10 core holes, as well as extensive re-assay and check-assay work, and the re-logging of older holes. Many of the holes were intended as “twins” to earlier Royal Gold holes. Amax elected not to proceed with the formation of the joint venture because of the continued deterioration of the gold price and their pending merger with Kinross Gold. Table 6.1 summarizes the drilling completed on the property.

Following Amax’s departure, Royal Gold did not perform any additional drilling, but did continue with some of the environmental studies, reclaimed the drill roads and sites, performed some additional geochemical sampling, re-estimated mineral resources, and initiated a community public relations campaign. Due to the continued decline in the gold price and the decision by Royal Gold to become a royalty holding company, Royal Gold turned the property back to Standard, effective August 2000.



Except for maintaining the claims in good standing, Standard performed no further work on the Long Valley property and there has been no drilling on the property since 1997.

In January of 2003, Vista signed a purchase option agreement with Standard for the Long Valley project and completed the purchase of the claims in January 2007. Vista maintained the claims in good standing but conducted no exploration on the property from 2003 until their sale of the property to Kore in 2017.

**Table 6.1 Summary of Drilling by Company**

Year	Company	# Holes	Footage
1983-4	Freeport	80	18,615
1985	Standard	24	2,055
1988	Royal Gold	52	4,770
1991	Battle Mtn	59	18,685
1994-7	Royal Gold	625	207,901
1997	Amax Gold	56	16,249
Totals		896	268,275

There have been fairly extensive geochemical surveys conducted over the Long Valley property, but only one known geophysical survey prior to Kore's acquisition of the property in 2017. The geochemical surveys have been performed by personnel working for either Battle Mountain or Royal Gold. Documentation of the results of both of the geochemical programs is sparse, but it appears that both surveys consisted of the collection of between 100 and 200, predominantly rock and fewer soil samples. These samples were analyzed for gold, silver, arsenic, antimony, and mercury, and perhaps other elements as well. The surveys indicated that the entire area is mildly to highly anomalous in these elements and that potentially economic mineralization is known by drilling to underlie the area of many of the better anomalies. Other geochemical anomalies remain untested by drilling. MDA has not analyzed the sampling methods, quality, and representativity of surface sampling on the Long Valley property because drilling results form the basis for the mineral resource estimate described in Section 14.0. Drilling is described in Section 10.0.

An IP/resistivity geophysical survey was performed for Battle Mountain by DMW Surveys of Reno, Nevada, in the southern part of the area. Four possible target areas were identified from this survey, and it is believed that these areas have subsequently been drilled, with mineralization indicated in both the Hilton Creek and Southeast zones.

Several periods of geological mapping have been performed in the area by employees of, or consultants to, Battle Mountain and Royal Gold. The mapping identified areas of alteration, silicification, and brecciation within the predominantly volcanoclastic rocks in the area, which have been demonstrated to be favorable for gold mineralization. Many of these areas have been drilled with positive results, but other areas remain untested. In addition, much of the area is covered with soil or post-mineralization rocks, which could conceal areas favorable for mineralization.

Outside of the presently defined resource area as described in Section 14.0, there are numerous drill holes which have intercepted significant intervals of gold and silver mineralization. The area of these drill holes is generally defined as the North and Middle zones and, with further drilling and the discovery of



additional mineralized intercepts, they might also be the location of significant gold mineralization. All of the holes are vertical, and all intercepts are thought to represent true thickness. Some of the intercepts include 145 ft of 0.035 oz Au/t (LV-83-02), 120 ft of 0.024 oz Au/t (LV-83-03), 120 ft of 0.017 oz Au/t (LV-83-05), 85 ft of 0.019 oz Au/t (LV-83-34), and 80 ft of 0.021 oz Au/t (LV-83-51).

There has been no historical gold production from the Long Valley property, and the only mining activity in the area has been associated with the mining of kaolinite clay.

## 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 Long Valley. There were a number of mineral resource estimates and associated mineral reserve calculations prepared on behalf of Royal Gold by the outside consulting group, Mine Reserves Associates (“MRA”) of Lakewood, Colorado, during the period 1995 to 1998. It is believed that these estimates were not prepared in full compliance with the provisions included in National Instrument 43-101, as they do not clearly differentiate between Measured, Indicated, and Inferred categories of mineralization and as to whether these categories contribute to the estimates provided below in Table 6.2. Accordingly these estimates should not be relied upon. The author has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves, and Eureka and Kore are not treating these historical estimates as current mineral resources or mineral reserves. These historical estimates are superseded by the current mineral resource estimate discussed in Section 14.0 of this report.

**Table 6.2 Historical Royal Gold Resource and Reserve Statements – MRA Estimates**

Category	Year	Tons 000,000s	Grade oz Au/t	Ounces Gold (000's)
Resource	1996	49.6	0.018	893.5
Resource	1997	49.6	0.018	893.5
Reserve	1996	20.7	0.018	373.0
Reserve	1997	39.1	0.018	704.0

In December 1997, Behre Dolbear & Company Inc. (“Behre Dolbear”) calculated reserves based on several density factors, as testwork by Amax had indicated widely variable densities. The base case was from the 1997 MRA calculation. These are summarized in Table 6.3. The author has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves, and the issuer is not treating these historical estimates as current mineral resources or mineral reserves. Accordingly these estimates should not be relied upon.



**Table 6.3 Historical Royal Gold Reserve Statements - Behre Dolbear Estimate**

Case	Tonnage Factor ft <sup>3</sup> /ton	Ore Tons 000,000's	Ore Grade oz Au/t	Ounces Au 000's
Base	14.0	39.1	0.018	703.8
1	18.0	30.4	0.018	547.2
2	20.0	27.4	0.018	492.7

The resource estimates noted above only include the material classified as oxide or non-sulfide in the geologic model. The minable reserves were calculated using oxidized resource material only, a cutoff grade of 0.010 oz Au/t, an assumed gold recovery of 70%, and a gold price of \$350.00 per ounce.

### **6.3 2003 and 2008 MDA Mineral Resource Estimates for Vista Gold**

MDA prepared a mineral resource estimate of the Long Valley deposit for the previous operator in 2003 (Prenn and Muerhoff, 2003) that was the first estimate reported in accordance with NI 43-101 standards of disclosure at that time. The reported Vista Gold historical resource estimate is shown in Table 6.4.

In January 2008, MDA prepared a Technical Report for Vista describing a preliminary economic assessment of the Long Valley project (Prenn and Dyer, 2008), but the resource estimate or model was not updated from the 2003 estimate. The 2003 estimate did not report resources constrained within a pit.

The 2003 mineral resource estimate reported in both the 2003 and 2008 Technical Reports (Prenn and Muerhoff, 2003; Prenn and Dyer, 2008) were prepared in accordance with the CIM Standards and NI 43-101 reporting requirements in effect at that time, but that mineral resource estimate does not meet current CIM Standards and NI 43-101 reporting requirements. It is reported here as a matter of historical interest. Therefore Kore and Eureka are not treating the 2003 mineral resource estimate as current mineral resources, and that 2003 estimate and the 2008 preliminary economic assessment should not be relied upon. The author describes the current resource estimate in Section 14.6 of this report.



**Table 6.4 Historic Vista Gold Reported Resources**

<b>Measured</b>				
Rock Type	Cut off (oz Au/ton)	Tons (000's)	Au Grade (oz/ton)	Au Ounces (000's)
Oxide	0.010	15,500.6	0.017	265.3
	0.015	6,600.5	0.024	158.9
	0.020	3,201.8	0.032	103.4
	0.050	276.6	0.064	17.7
	0.100	5.7	0.122	0.7
Sulfide	0.010	11,096.3	0.017	187.1
	0.015	4,210.8	0.025	105.3
	0.020	2,004.1	0.035	69.2
	0.050	282.1	0.065	18.4
	0.100	15.2	0.122	1.9
Total Measured	0.010	26,596.9	0.017	452.5
	0.015	10,811.4	0.024	264.2
	0.020	5,205.9	0.033	172.6
	0.050	558.7	0.065	36.1
	0.100	20.9	0.122	2.6
<b>Indicated</b>				
Rock Type	Cut off (oz Au/ton)	Tons (000's)	Au Grade (oz/ton)	Au Ounces (000's)
Oxide	0.010	20,571.9	0.019	395.4
	0.015	9,794.1	0.027	266.5
	0.020	6,617.3	0.032	214.4
	0.050	511.7	0.062	31.7
	0.100	13.4	0.122	1.6
Sulfide	0.010	21,106.9	0.017	363.2
	0.015	7,202.8	0.027	197.0
	0.020	4,100.9	0.036	146.9
	0.050	733.2	0.061	44.8
	0.100	42.6	0.125	5.3
Total Indicated	0.010	41,678.8	0.018	758.7
	0.015	16,996.9	0.027	463.5
	0.020	10,718.2	0.034	361.3
	0.050	1,244.9	0.061	76.5
	0.100	56.0	0.124	6.9
<b>Measured + Indicated</b>				
Rock Type	Cut off (oz Au/ton)	Tons (000's)	Au Grade (oz/ton)	Au Ounces (000's)
Oxide	0.010	36,072.5	0.018	660.8
	0.015	16,394.6	0.026	425.4
	0.020	9,819.1	0.032	317.8
	0.050	788.4	0.063	49.4
	0.100	19.1	0.122	2.3
Sulfide	0.010	32,203.2	0.017	550.4
	0.015	11,413.7	0.026	302.3
	0.020	6,105.0	0.035	216.1
	0.050	1,015.2	0.062	63.2
	0.100	57.8	0.124	7.2
Oxide & Sulfide	0.010	68,275.7	0.018	1,211.1
	0.015	27,808.3	0.026	727.7
	0.020	15,924.1	0.034	533.9
	0.050	1,803.6	0.062	112.6
	0.100	76.9	0.123	9.5
<b>Inferred</b>				
Rock Type	Cut off (oz Au/ton)	Tons (000's)	Au Grade (oz/ton)	Au Ounces (000's)
Oxide	0.010	11,539.7	0.019	219.4
	0.015	5,431.0	0.027	145.7
	0.020	3,971.1	0.031	121.9
	0.050	183.0	0.071	13.0
	0.100	28.9	0.134	3.9
Sulfide	0.010	21,373.7	0.016	352.1
	0.015	6,441.6	0.027	175.9
	0.020	4,070.2	0.034	137.9
	0.050	295.0	0.080	23.5
	0.100	82.6	0.117	9.7
Total Inferred	0.010	32,913.3	0.017	571.5
	0.015	11,872.5	0.027	321.6
	0.020	8,041.3	0.032	259.8
	0.050	477.9	0.076	36.5
	0.100	111.5	0.121	13.5



## 7.0 GEOLOGIC SETTING AND MINERALIZATION

### 7.1 Geologic Setting

#### 7.1.1 Regional Geology

The Long Valley property is contained entirely within the early Pleistocene Long Valley caldera, which was formed about 760,000 years ago. The Long Valley caldera and related adjacent volcanic rocks comprise a late Pliocene to Quaternary volcanic complex developed along the western edge of the Basin and Range Province, at the base of the Sierra Nevada frontal fault escarpment. The caldera is an oval depression elongated east-west and measuring some 10 by 19 miles. It is related to the eruption of the Bishop Tuff, which has been dated at about 0.76 Ma. The pre-volcanic basement rocks in the area are mostly Mesozoic granitic rocks of the Sierra Nevada batholith and surrounding Paleozoic and Mesozoic metamorphic rocks. The pre-Cenozoic rocks are totally covered by younger volcanic rocks within the caldera. None of the pre-volcanic basement rocks are known to be mineralized at the Long Valley gold property.

Figure 7.1 shows the regional geology of the Long Valley caldera.

#### 7.1.2 Local and Property Geology

The Long Valley gold property is located near the center of the caldera and is underlain by most of the lithologic units related to caldera formation and subsequent resurgence. Prior to the resurgent doming shortly after caldera formation, a sequence of interbedded volcanoclastic and sedimentary rocks were deposited in a lacustrine setting within the caldera. These rocks consist of siltstones through conglomerates and debris-flow deposits, with all variations between, along with more local deposits of intercalated silica sinter and rhyolite flows and dikes. Clast lithologies are primarily volcanic in origin with a large proportion of rhyolite pumice and ash. These lithologies have an aggregate preserved thickness of more than 1,500 ft based on drill holes. All of the aforementioned units have been mineralized in variable amounts.

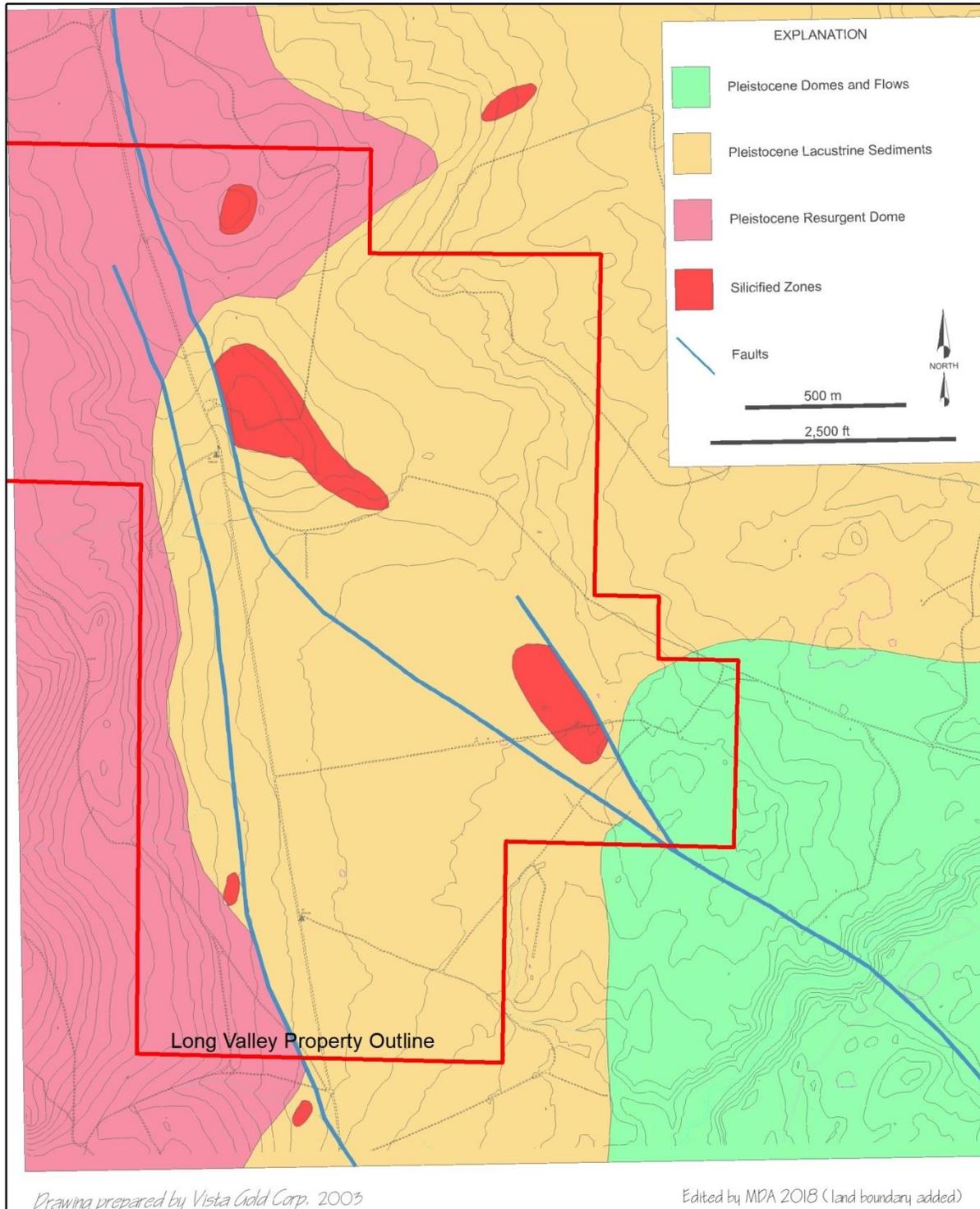
Intruded and erupted through these generally flat-lying lake sediments and interbedded tuffs and debris-flow deposits is a large, composite rhyolite flow-dome exposed just west of the gold deposit, which has been referred to as a resurgent phase of the caldera complex. It is composed of generally aphyric to sparsely sanidine-bearing rhyolite lava and breccia. Rhyolite breccia and blocks of this flow-dome make up much of the debris-flow units within the adjacent caldera sedimentary sequence and were likely shed from the erupting flow-dome.

A younger, distinctly quartz-bearing group of rhyolite domes were erupted near the margins of the caldera at about 200,000 to 300,000 years ago. Associated with and younger than all the rhyolite domes is rather clean, well-sorted sandstone. Both of these later units crop out to the southeast of the gold deposit. These units are interpreted to be post-mineralization in age, as is recent alluvium up to some 60 ft thick, which covers most of the Hilton Creek gold zone. A geologic map of the project area is shown in Figure 7.2.





Figure 7.2 Deposit Geology





A north-south trending fault zone, inferred by previous operators to be the northern continuation of the regional Hilton Creek fault zone, appears to define the eastern limit of the resurgent rhyolite within the central part of the Long Valley caldera and extends outside the caldera to the south. This normal fault zone (down to the east) also seems to control the distribution of gold mineralization in the Long Valley deposit. Offset along this fault appears to be variable, which suggests that fault activity could have been episodic in nature. Active hot springs, earthquakes, and young volcanism suggest that the Long Valley volcanic center has not reached the end of its life cycle.

## 7.2 Mineralization

Several areas or zones on the Long Valley property are known to be mineralized with low grades of gold and silver. These areas are known as the North, Middle (also called Central), South, Southeast, and Hilton Creek areas (The Middle, South, Southeast, and Hilton Creek areas are shown on Figure 10.1 in Section 10 on Drilling; the North Zone lies just north of the current property boundary). Based on drilling, mineralization appears to generally be contiguous between the South, Southeast, and Hilton Creek zones (Figure 7.3). These same zones appear to contain the vast majority of the estimated mineral resources described later in this report. Drilling is widely spaced in and between the North, Middle, and South zones, and it may be possible that with additional drilling, these zones may be shown to be contiguous with the better-defined zones to the south.

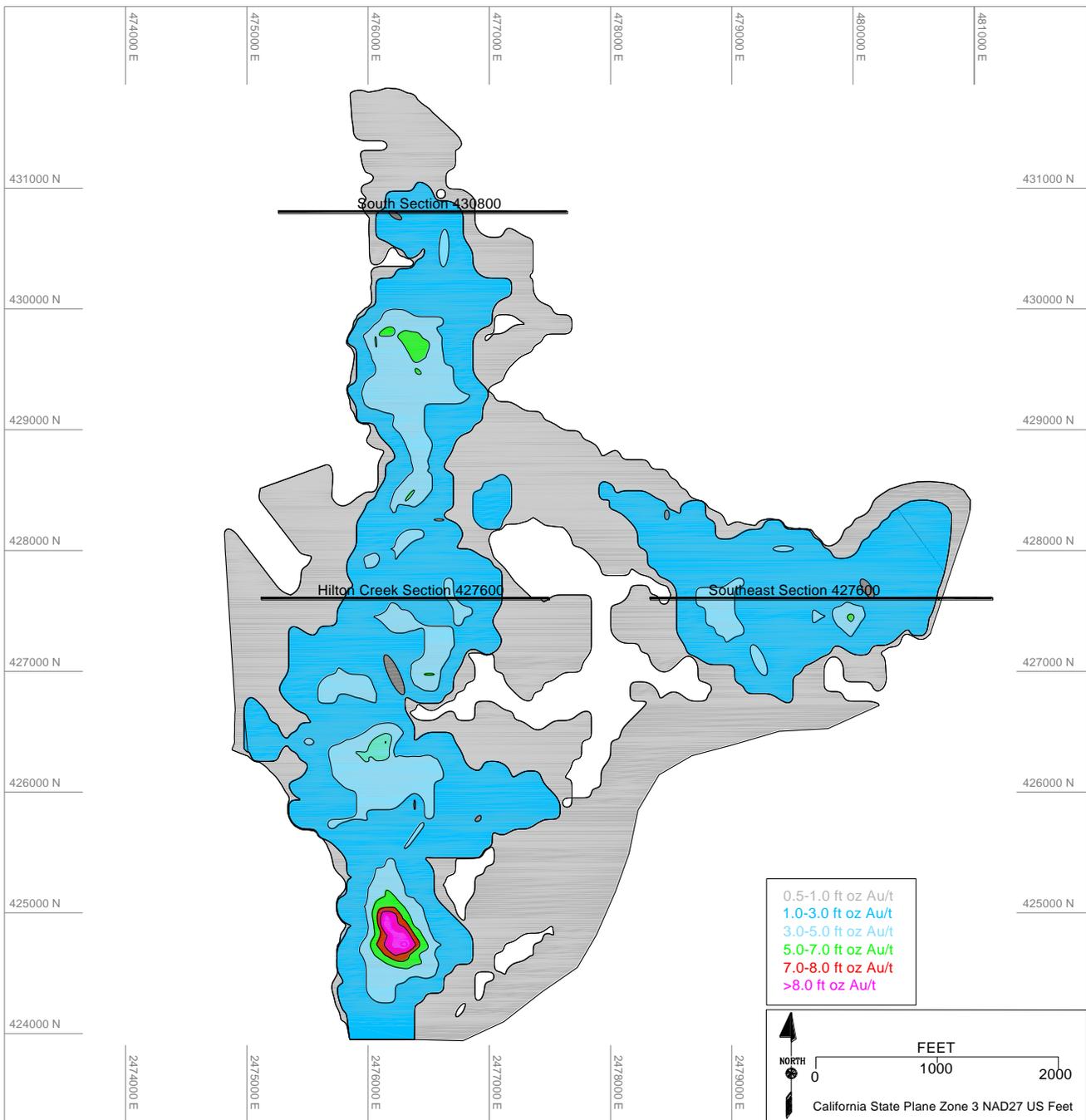
The principal host rocks for the gold mineralization are the caldera-fill interbedded siltstone, tuff, and volcanoclastic sedimentary rocks and, to a lesser extent, the adjacent resurgent rhyolite along the west margin of the Hilton Creek fault zone.

The base of the oxidized zone was generally defined by Royal Gold as the last occurrence of the oxide mineralization within the mineralized zone. As such, mixed oxide-sulfide and sulfide mineralization occurs above this boundary. This oxide/sulfide boundary modeled by Royal Gold is undulating to locally flat-lying, lies at depths of between 150 and 250 ft, and is often coincident with or slightly above the current water table. Grades of gold mineralization are typically the same both above and below the oxide/sulfide boundary.

Gold-silver mineralization is quite continuous throughout the zones and is well defined using a 0.010 oz Au/t cutoff grade. Numerous zones of higher-grade mineralization (0.050 oz Au/t) are present within the continuous zones of low-grade (0.010 oz Au/t) gold mineralization, particularly in the Hilton Creek zone. These higher grades may relate to zones of enhanced structural preparation. Silver grades are generally in the range of 0.1 to 0.5 oz Ag/t within the gold-mineralized zones, appear to be more erratic in nature, but generally have a positive correlation with higher gold values. A gold grade-thickness map is presented in Figure 7.3, using a 0.5 ft-oz Au/t cutoff.



Figure 7.3 Grade-Thickness Map of the South, Southeast, and Hilton Creek Zones



Mineralized zones contain fracture coatings, veinlets, and disseminated iron oxide minerals that were formerly grains of pyrite and marcasite. Opal and chalcedony veinlets with pyrite or marcasite, or iron oxides, are common, but generally less than a few tenths of an inch in width. Adularia is present in fractures and veinlets at depth and as patches of replacement of the rhyolite groundmass in the western margin of the deposit. In much of the deposit, mineralization is associated with zones of clay alteration



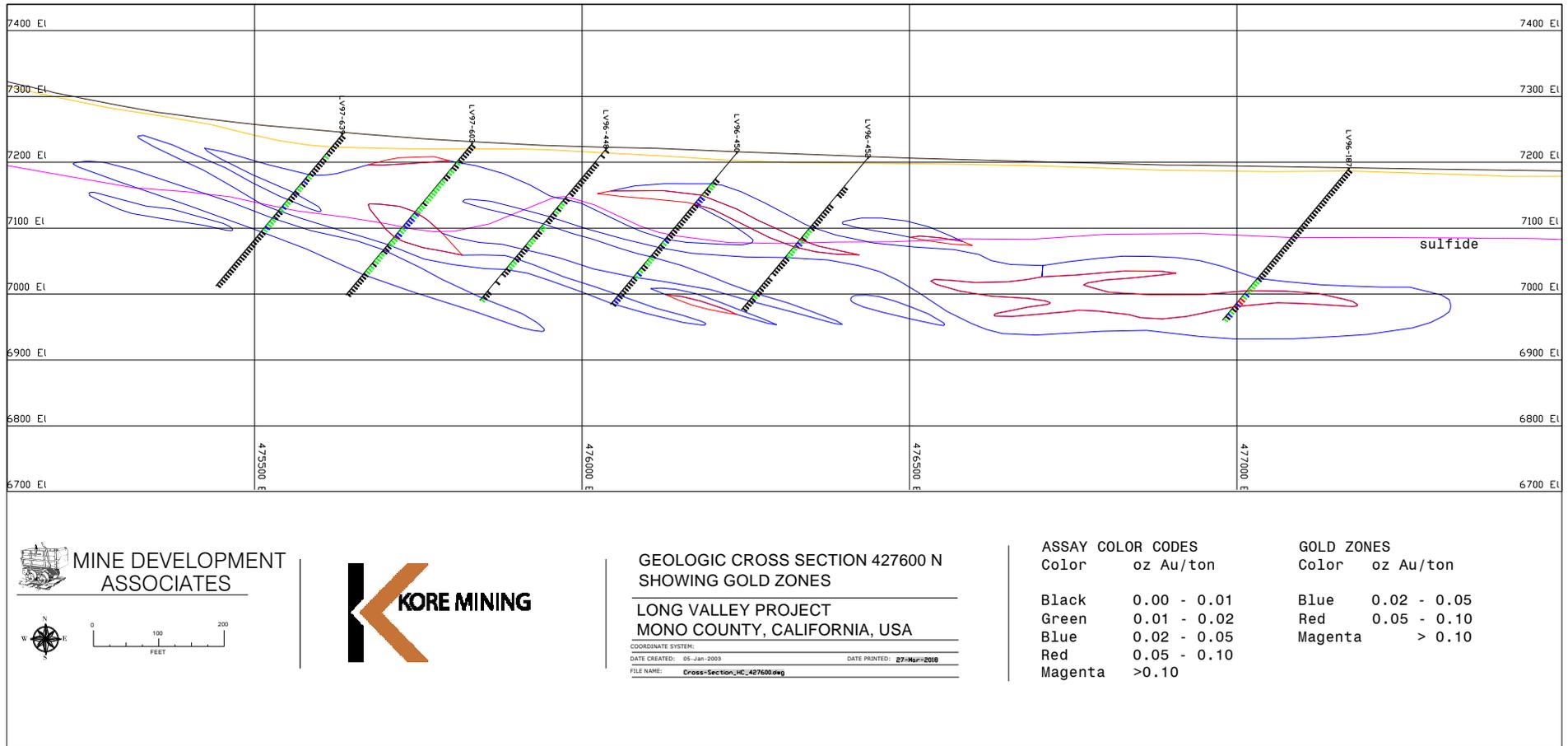
and/or silicification. These alteration types are well developed in all of the volcanoclastic sediments and, as such, host-rock type does not appear to have a major control over the distribution and grade of mineralization. The predominant clay mineral has been determined to be kaolinite, while the silicification types can be chalcedony, quartz, or opal. Multiple periods of brecciation and silicification are evidenced by cross-cutting silica veinlets and silicified breccia fragments in otherwise clay-altered rocks.

The distribution of the mineralization appears to be spatially related to faults associated with the north-south-trending Hilton Creek fault zone. Splays of this fault zone are projected to trend through the central part of the Hilton Creek mineralized zone, as well as the Southeast zone, with the assumption that the altering and mineralizing fluids ascended along these fault conduits and then spread laterally. Higher-grade zones may also be related to areas of cross-faults and fractures.

The Hilton Creek mineralized zone is known to be some 8,000 ft in length, while the Southeast zone is about 5,000 ft in length. The mineralized zones are generally flat-lying or have a slight dip (10-15 degrees) to the east and have a width in plan view (across the trend) in the range of 500 to 1,500 ft, but average about 1,000 ft in width. The mineralized zones are typically from 50 to 200 ft thick and average about 125 ft thick in the Hilton Creek zone, and 75 ft thick in the Southeast zone. Mineralization in the South and Southeast zones typically is exposed at or very near the surface, while the top of the Hilton Creek mineralization is usually covered by 20 to 50 ft of alluvium. Figure 7.4, Figure 7.5 and Figure 7.6 are east-west cross sections through the Hilton Creek, Southeast, and South zones, respectively, showing the modeled gold zones to indicate thickness, lateral extent, and continuity of mineralization.



Figure 7.4 Hilton Creek Cross Section



MINE DEVELOPMENT ASSOCIATES



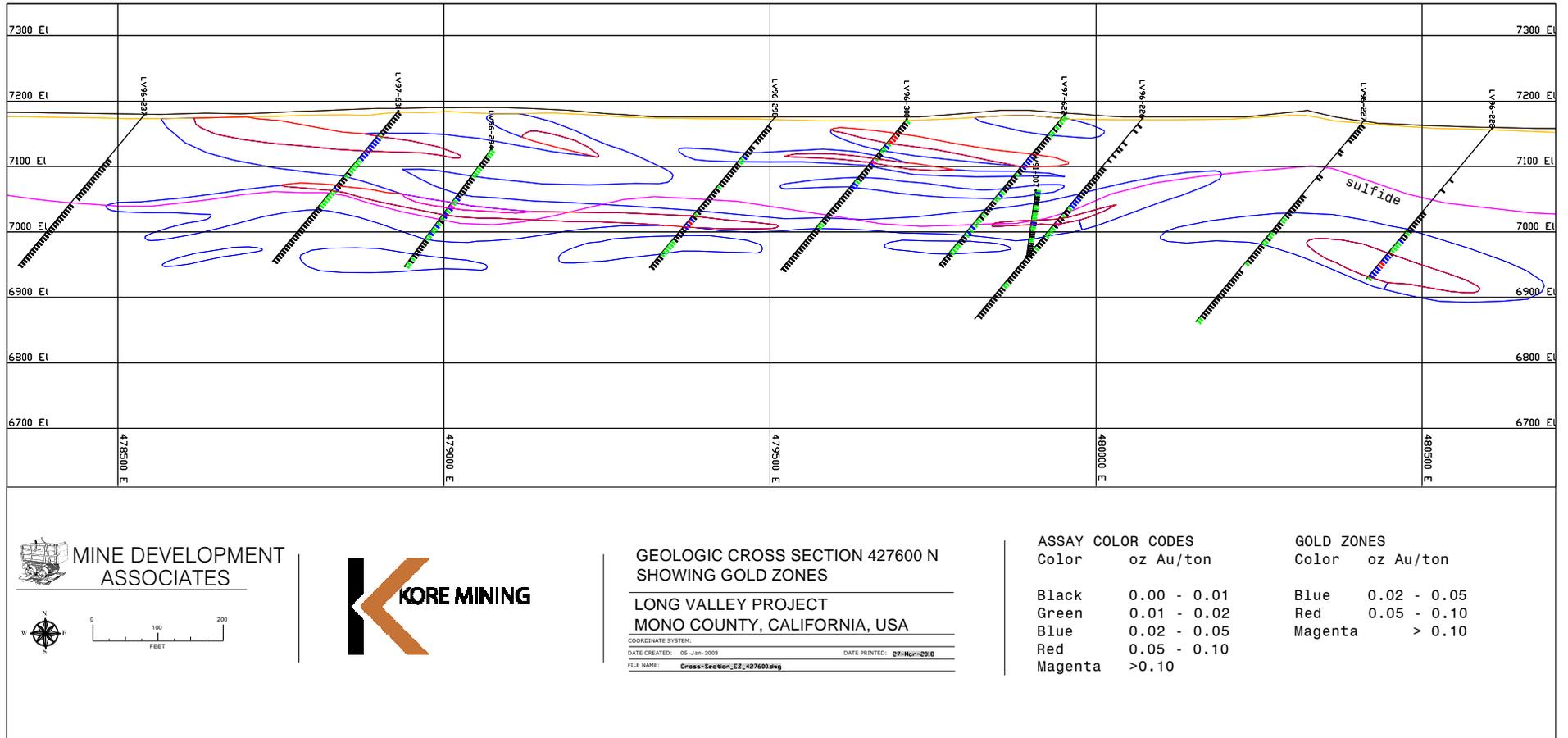
GEOLOGIC CROSS SECTION 427600 N  
 SHOWING GOLD ZONES

LONG VALLEY PROJECT  
 MONO COUNTY, CALIFORNIA, USA

COORDINATE SYSTEM:  
 DATE CREATED: 05-Jan-2009 DATE PRINTED: 27-Mar-2018  
 FILE NAME: Cross-Section\_HC\_427600.dwg



Figure 7.5 Southeast Zone Cross Section



MINE DEVELOPMENT ASSOCIATES



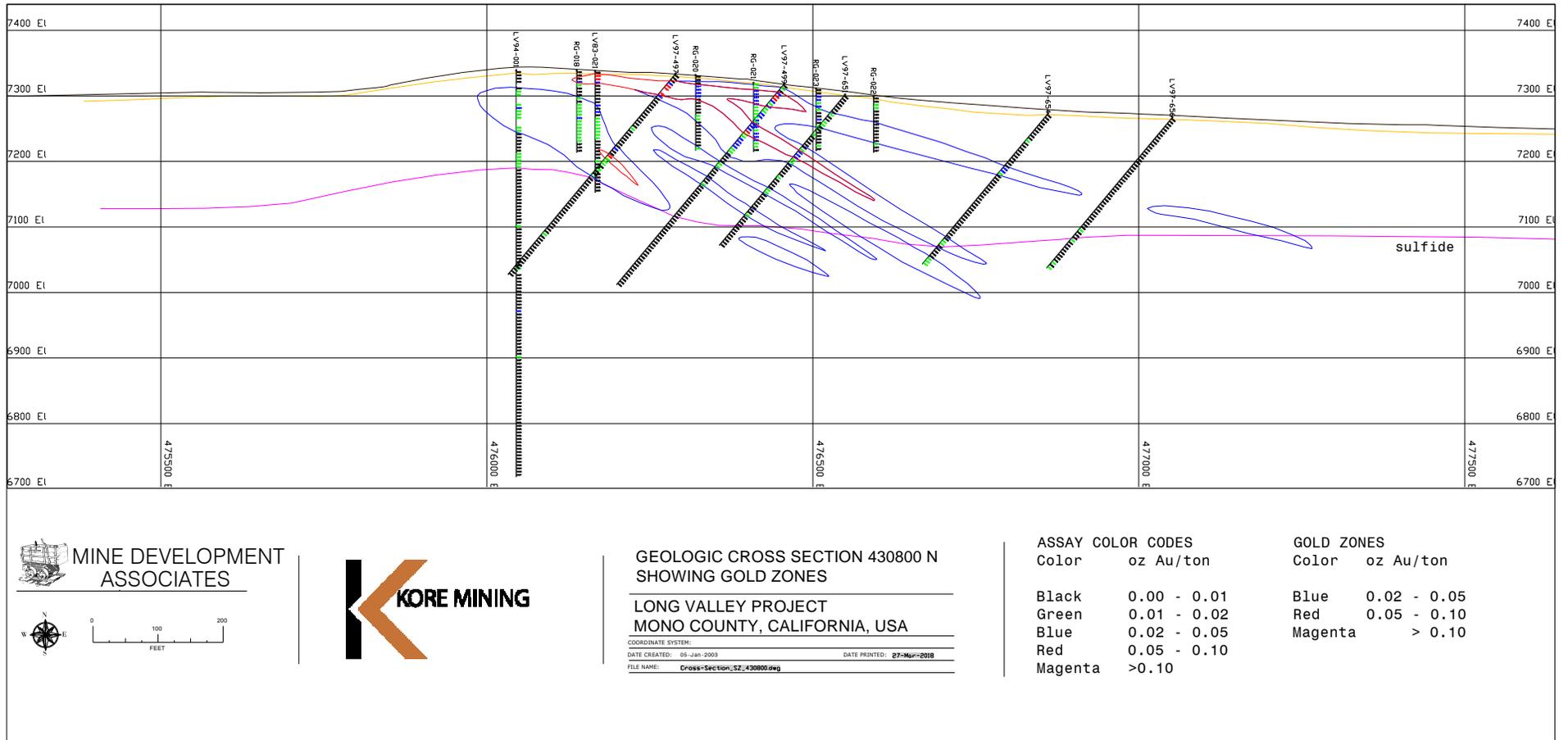
GEOLOGIC CROSS SECTION 427600 N  
 SHOWING GOLD ZONES

LONG VALLEY PROJECT  
 MONO COUNTY, CALIFORNIA, USA

COORDINATE SYSTEM:  
 DATE CREATED: 05-Jan-2003 DATE PRINTED: 27-Mar-2018  
 FILE NAME: Cross-Section\_EZ\_427600.dwg



Figure 7.6 South Zone Cross Section



MINE DEVELOPMENT ASSOCIATES



GEOLOGIC CROSS SECTION 430800 N  
 SHOWING GOLD ZONES

LONG VALLEY PROJECT  
 MONO COUNTY, CALIFORNIA, USA

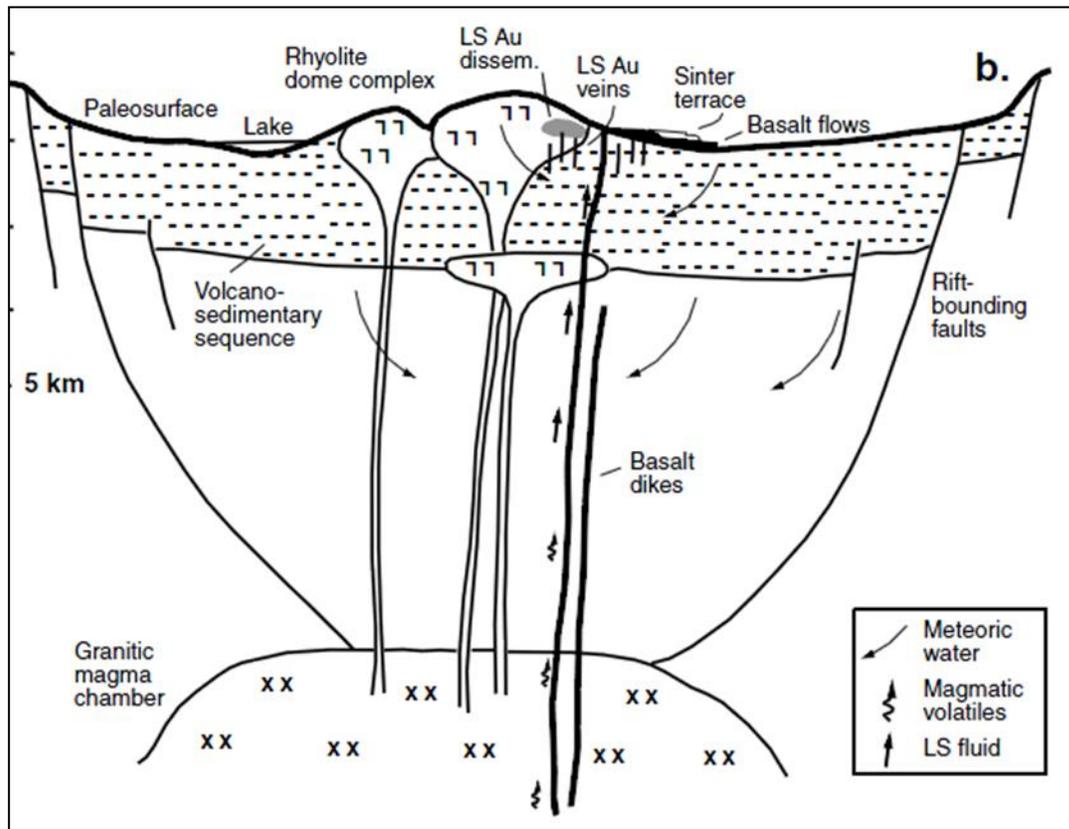
COORDINATE SYSTEM:  
 DATE CREATED: 05-Jan-2009 DATE PRINTED: 27-Mar-2018  
 FILE NAME: Cross-Section\_S2\_430800.dwg



## 8.0 DEPOSIT TYPE

The mineralization identified at the Long Valley property is typical of the shallower portions of an epithermal, low-sulfidation type of gold-silver deposit. Other examples of this type of deposit, which share some similarities to Long Valley, include the McLaughlin deposit in California and the Hycroft (Sulfur) deposit in Nevada. In common with these deposits, gold and silver mineralization appears to have taken place at very shallow depths and is associated with a relatively recent volcanic-related hydrothermal system. In addition, the mineralized zones are typically associated with clay alteration (kaolinite) and silica replacement of volcanoclastic host rocks. This type of deposit typically contains very low amounts of base metals. A schematic diagram for this type of deposit model is shown in Figure 8.1. In the case of Long Valley, basalt flows are not present, and sinter is equivocal.

**Figure 8.1 Schematic Model of a Low-Sulfidation Epithermal Mineralizing System**  
(After Sillitoe and Hedenquist, 2003)

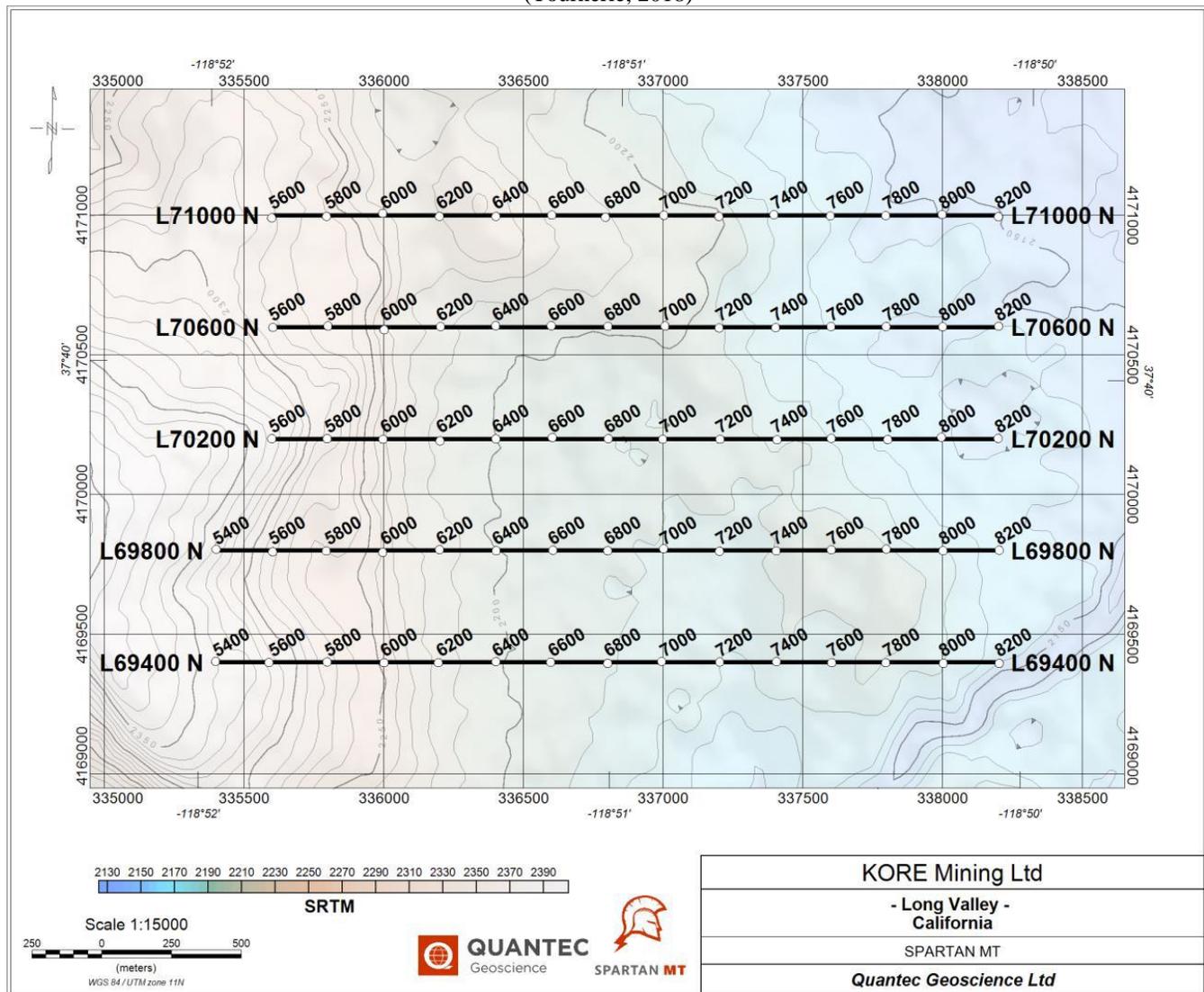




## 9.0 EXPLORATION

Since acquiring the Long Valley project in March 2017, Kore commissioned a geophysical survey conducted from December 10<sup>th</sup> through December 20<sup>th</sup>, 2017, by Quantec Geoscience Ltd. A Spartan magnetotelluric (“MT”) survey acquired data from 72 sites distributed along five survey lines that were oriented east-west on approximately 1,300 ft line spacing (Tournerie, 2018). Figure 9.1 shows the coverage area of the five lines, which total approximately 8.3-line miles and cross the southern portion of the property.

**Figure 9.1 Magnetotelluric Survey Coverage Map**  
 (Tournerie, 2018)





The instrumentation used for the survey included:

- Receiver systems: RT160Q Quantec data logger
- Synchronization: GPS clock (10ns precision)
- Receiver electrodes: Ground contacts using Quantec steel plates
- Magnetic sensors (HF): Geometrics G100K magnetic field sensors
- Magnetic sensors (LF): Phoenix MTC50 magnetic field sensors.

Tensor magnetotelluric soundings were processed with remote reference. The site configuration consisted of a cross-shaped electrode field with HF and LF magnetic sensors located at each site; the E-field dipole lengths were  $E_x$ : 100m and  $E_y$ : 100m. The remote site configuration consisted of cross-shaped E-fields with HF and LF magnetic sensors located at the site and oriented in the same direction as the local sites. The final processed data were presented as MT sounding curves of apparent resistivity and phase and as pseudo-section plots of observed XY and YX apparent resistivity and phase. Tournerie (2018) reported that *“the measured magnetotelluric data are of very good quality (smooth curves, and low errors) for the frequencies from 10kHz to 0.01Hz; more noise is observed for the lowest frequencies. A few sites were presenting more noise near 1Hz, but the sites were repeated at the end of the survey. The data sites have been improved for these repeated measurements.”*

The MT survey is expected to highlight silicified zones near the surface and identify structure suitable for mineralization at depth. As of the date of this Technical Report, Kore has not yet received the final report on interpretation of the survey results from their geophysical consultant.

Kore has not conducted any further exploration on the property to date.



## 10.0 DRILLING

### 10.1 Introduction

Table 10.1 summarizes the drilling on the property. The database contains 896 drill holes totaling 268,275 ft of drilling. Seven drill holes are missing coordinate information. There has been no drilling on the property since 1997, and there has been none conducted by the issuer.

Figure 10.1 is a map of the drill holes in the database, but the map does not include holes drilled north of the current property boundary.

**Table 10.1 Long Valley Drilling Summary**

Company	Year	RC Holes	RC Footage	Rotary Holes	Rotary Footage	Air Track Holes	Air Track Footage	Core Holes	Core Footage	Total Drill Holes	Total Footage
Freeport	1983-1984	80	18,615							80	18,615
Standard	1985			24	2,055					24	2,055
Royal Gold	1988					52	4,770			52	4,770
Battle Mtn.	1991	59	18,685							59	18,685
Royal Gold	1994-1997	615	206,410					10	1,491	625	207,901
Amax	1997	46	13,835					10	2,414	56	16,249
Totals		800	257,545	24	2,055	52	4,770	20	3,905	896	268,275

Most of the drill hole samples obtained from the property were from generally dry RC drilling, although when drilling below the water table, significant flows were encountered. Water was added when drilling dry to improve recovery.

No down hole surveys of the drill holes were performed, as the depth of most of the drilling was 300 feet or less.

### 10.2 Air Track Drilling and Logging

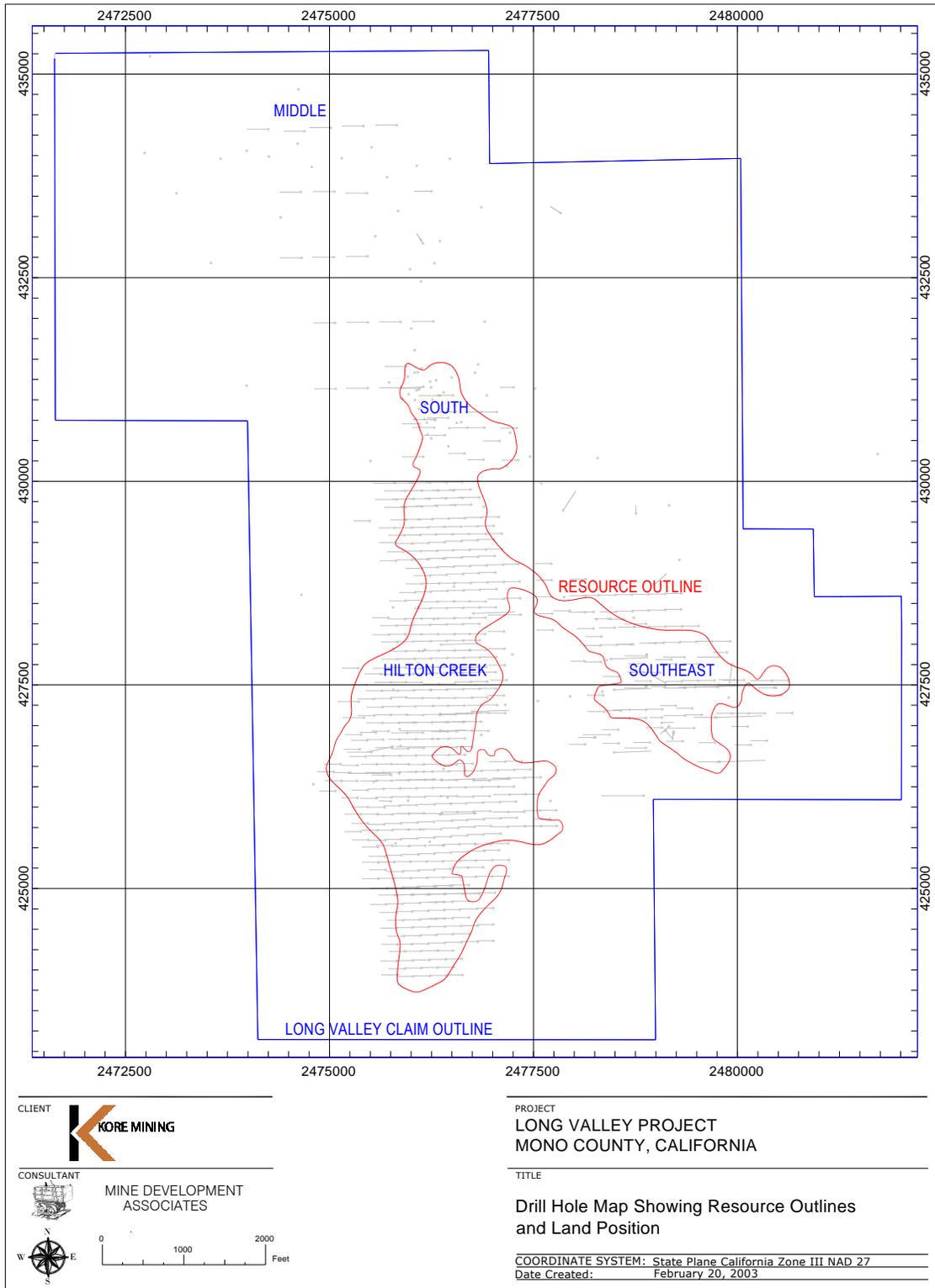
During 1988, Royal Gold completed 52 shallow air track holes, mostly in the North zone. The 1988 Royal Gold air track drill holes were used to plot mineralized zones when modeling gold envelopes but were not used to estimate block grades. Royal Gold geologists completed geologic logs.

### 10.3 Reverse Circulation Drilling and Logging

Freeport, Standard, Battle Mountain, Royal Gold, and Amax completed 24 rotary and 800 RC drill holes on the property. Most of the drilling prior to 1994 was vertical, and most of the drilling after 1993 was angled. Royal Gold completed most of their RC drill holes by adding minimal amounts of water to normally dry drill holes drilled to about 300 ft. The water table was generally between 250 and 300 ft below the surface and, if intersected by drilling, added significant amounts of water. The deposit is in the area of nearby hot springs, and a few of the drill holes did intercept hot water. Drill holes were logged by geologists of the respective companies.



Figure 10.1 Long Valley Drill Hole Map





Eklund Drilling of Elko, Nevada was the RC drilling contractor in 1996. TH60 and TH100 drills were used. Drill chips were logged in the field to paper log sheets using a hand-lense and binocular microscope.

#### 10.4 Core Drilling and Logging

Royal Gold and Amax each completed 10 core holes on the property. Royal Gold logged the first two holes prior to shipment for assay. The remaining Royal Gold core holes were six-inch-diameter holes drilled in 1996 with a truck-mounted Longyear 38 drill and wireline methods. The 1996 core was logged in the field to paper log sheets and transported in its entirety by Royal Gold personnel in a rented moving van for use in column leach tests. At the metallurgical laboratory the whole core was blended together into a single composite.

The Amax core holes were drilled close to prior RC drill holes to compare the values. The Amax core was logged by the company geologists, and the whole core was shipped for assay.

#### 10.5 Twin Hole Comparison

Table 10.2 shows the comparison of 10 core holes that were drilled proximal to existing RC drill holes on the property. The individual holes generally do not compare very well, with core holes giving both higher and lower gold values over selected intervals, but overall, the comparison is very close.

**Table 10.2 Core vs. Proximal RC Drill Holes**

Core				Reverse Circulation			
Core Hole	Number of Intervals	Average oz Au/t	Number > 0.007	RC Hole	Number of Intervals	Average oz Au/t	Number > 0.007
LV97-C11	44	0.018	30	LV96-323	44	0.020	34
LV97-C12	44	0.020	30	LV96-319	44	0.025	37
LV97-C12	45	0.019	30	LV96-399	45	0.011	29
LV97-C13	49	0.028	44	LV96-321	49	0.031	47
LV97-C14	59	0.009	23	LV97-561	59	0.003	1
LV97-C14	59	0.009	23	LV97-606	59	0.007	24
LV97-C15	47	0.015	17	LV96-474	47	0.016	21
LV97-C16	40	0.019	25	LV96-475	40	0.013	23
LV97-C17	29	0.008	16	LV91-033	29	0.027	25
LV97-C18	44	0.014	30	LV96-241	44	0.016	38
LV97-C19	40	0.026	36	LV96-378	40	0.021	38
LV97-C20	30	0.010	16	LV96-376	30	0.018	21
<b>Total</b>	<b>530</b>	<b>0.016</b>	<b>320</b>	<b>Total</b>	<b>530</b>	<b>0.016</b>	<b>338</b>

#### 10.6 Drill Hole Statistics

The drill hole data for the project are summarized in Table 10.3. Seven of the drill holes were missing coordinate data, and about 4,800 intervals were missing assays, either due to the sample not being recovered or the interval not being assayed. A large number of the missing intervals occur above the known mineralized zone and were typically from the 1995 drilling.



**Table 10.3 Drill Hole Information Summary**

Item	Value
Number of Drill Holes	896
Number of Core Holes	20
Drill Hole Footage	268,275
Drill Hole Intervals	52,656
Drill Hole Assays	47,792
Drill Hole Missing Intervals	4,864
Down Hole Survey	0

Note: 2 Drill holes with missing coordinates not loaded to database

Item	Hole ID	North	East	Elevation	Depth
Minimum Northing	LV83-056	437,978	472,261	7,225	40
Maximum Northing	LV84-069	474,261	439,836	7,200	200
Minimum Easting	LV97-590	423,938	476,028	7,250	300
Maximum Easting	LV91-047	430,330	481,700	7,200	430
Minimum Elevation	LV95-098	426,149	478,845	7,149	800
Maximum Elevation	LV84-072	431,167	473,995	7,436	245
Minimum Depth	RG-047	430,423	476,265	7,321	10
Maximum Depth	LV95-019	426,343	476,376	7,219	865

The statistics for the gold assay data are summarized in Table 10.4 by drill type, Table 10.5 by company, and Table 10.6 by deposit area.

**Table 10.4 Drill Hole Assay Statistics by Drill Type**

Drill Type	Number Samples	Mean oz Au/t	Minimum oz Au/t	Maximum oz Au/t	Std.Dev.	CV
RC	45,857	0.009	0.000	0.890	0.015	1.73
Core	576	0.015	0.000	0.149	0.020	1.31
Rotary	405	0.013	0.000	0.302	0.019	1.52
Air Track	954	0.013	0.000	0.120	0.013	1.03
All	47,792	0.009	0.000	0.890	0.015	1.70



**Table 10.5 Drill Hole Assay Statistics by Company**

Company	Number Samples	Mean oz Au/t	Minimum oz Au/t	Maximum oz Au/t	Std.Dev.	CV
Freeport	2,672	0.004	0.000	0.530	0.012	2.99
Standard	405	0.013	0.000	0.302	0.019	1.52
Battle Mountain	3,341	0.007	0.000	0.245	0.010	1.46
Royal Gold	38,204	0.009	0.000	0.890	0.016	1.68
Amax	3,170	0.008	0.000	0.149	0.012	1.37
All	47,792	0.009	0.000	0.890	0.015	1.70

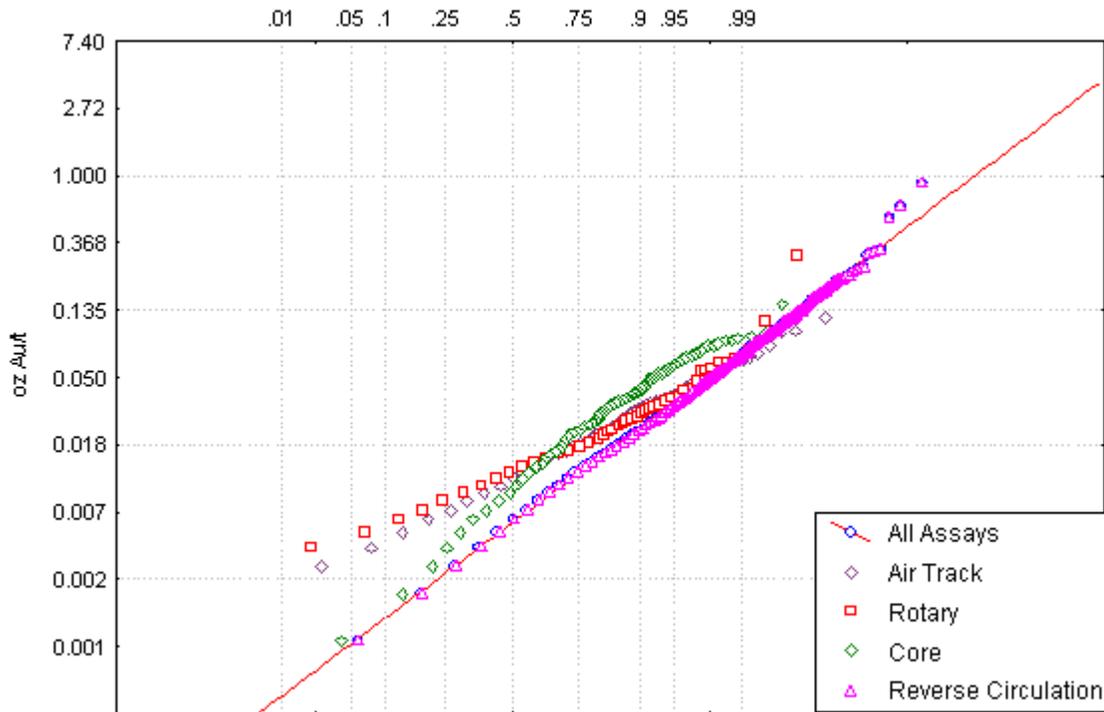
**Table 10.6 Drill Hole Assay Statistics by Deposit Area**

Area	Number Samples	Mean oz Au/t	Minimum oz Au/t	Maximum oz Au/t	Std.Dev.	CV
Hilton Creek	31,138	0.010	0.000	0.328	0.016	1.55
South	4,471	0.008	0.000	0.530	0.014	1.74
South East	7,714	0.008	0.000	0.890	0.016	2.01
North	2,121	0.003	0.000	0.099	0.005	1.77
Central	2,091	0.002	0.000	0.042	0.004	1.72
No Area	257	0.001	0.000	0.014	0.002	1.30
All	47,792	0.009	0.000	0.890	0.015	1.70

Figure 10.2 shows the distribution of the air track and conventional rotary samples to be different from RC samples. Samples from core drilling have a higher-grade distribution.



Figure 10.2 Long Valley Sample Distribution by Drill Type



## 10.7 Summary Statement

The author believes that the drilling sampling procedures provided samples that are representative and of sufficient quality for use in the resource estimations discussed in Section 14.0. The author is unaware of any sampling or recovery factors that materially impact the mineral resources discussed in Section 14.0.



## 11.0 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

### 11.1 Drill Sample Preparation and Analysis

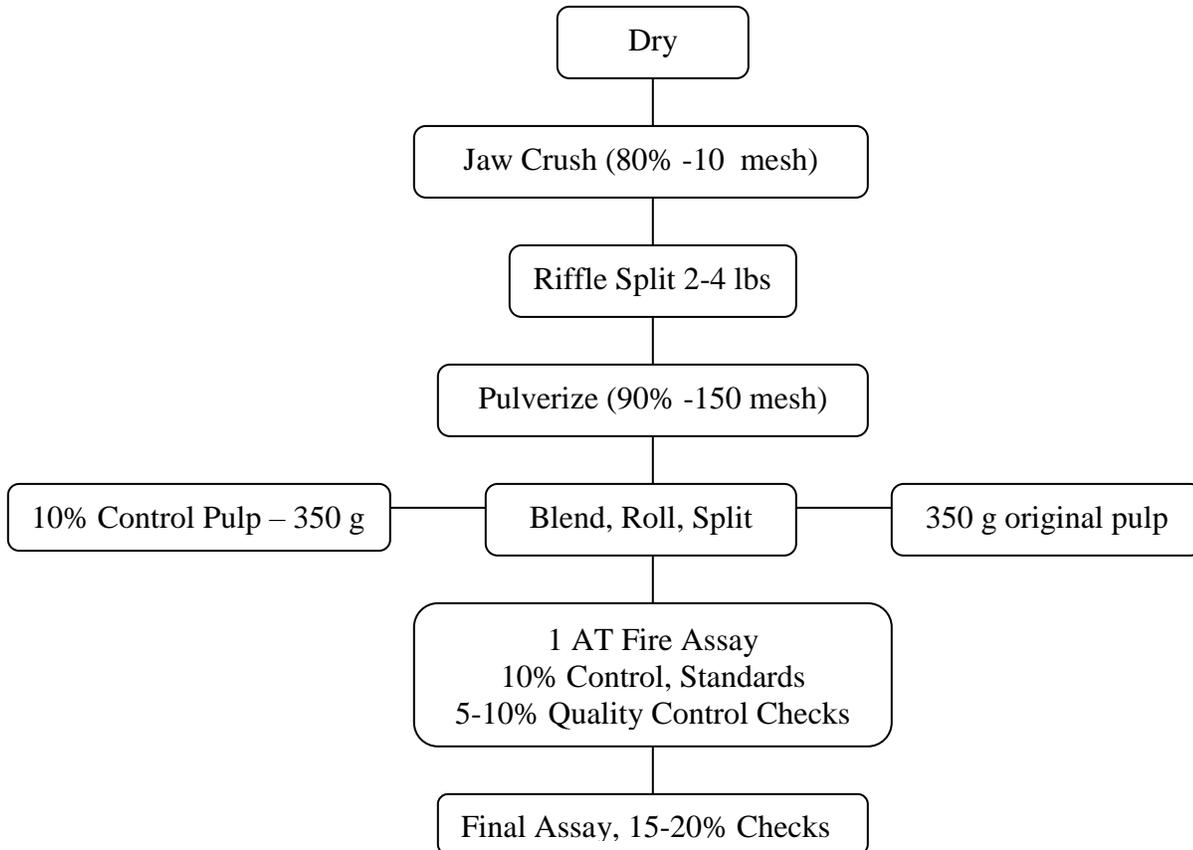
Little is known about the sampling procedures prior to 1994. Freeport's samples were analyzed by Monitor Labs, who used *aqua regia* dissolution, followed by atomic absorption ("AA") analysis of the samples. Monitor Labs was independent of Freeport and all later operators of the project. Battle Mountain used Barringer Laboratories and Bondar Clegg Laboratories for sample preparation and fire assaying (AA finish) of one assay ton pulps. Both of these laboratories were independent of Battle Mountain and later operators of the project. It is not known what certifications, if any, these laboratories maintained at the time.

Sampling procedures starting in 1994 were well documented. Royal Gold's RC samples, taken in five-foot intervals, were collected and bagged at the drill site by taking a 5 to 10-pound split of each sample from the drill holes. Sample bags were sealed by the drill crew and not opened until they reached American Assay Labs ("American Assay") in Sparks, Nevada. The assay lab picked up the samples at the drill site, transported them to the lab, dried the samples, then crushed, split, pulverized, and blended them to obtain assay pulps. Most of the assays were completed by fire assay methods with an AA finish. No duplicate samples were taken routinely at the rig (Martin et al., 1997a). American Assay was independent of Royal Gold and subsequent operators of the project. It is not known what certifications, if any, this laboratory maintained at the time.

American Assay used the flow sheet shown in Figure 11.1 to prepare and assay the samples received from Royal Gold, most of which weighed from five to 10 pounds.



Figure 11.1 American Assay Lab Sample Preparation and Assaying Procedure



A similar procedure was used by Amax, but their samples were analyzed by Chemex Labs (“Chemex”). Amax collected samples that ranged in size from five to 20 lbs at the drill hole, then bagged and shipped the samples to Chemex for sample preparation. The samples were dried, weighed, crushed, blended, split, and pulverized to obtain a 600 g sample to make assay pulps. Chemex completed fire assays with AA finish from one assay ton pulps. Chemex was independent of Amax and subsequent operators of the project. It is not known what certifications, if any, this laboratory maintained at the time.

Royal Gold collected the samples from their first two core holes at the drill site, placed them in core boxes, and sent the whole core to American Assay’s sample preparation facility to split by sawing, prepare, and assay the samples. Half of the core was assayed, and the remaining half in the highly mineralized intervals was used for bottle roll tests. Samples were either grouped by rock type within 5 ft intervals or prepared in 5 ft intervals. The remaining core holes drilled by Royal Gold were large-diameter holes used for metallurgical testing.

Amax prepared assay samples from core holes by crushing whole core and then following the RC sample preparation and assaying methods.



## 11.2 Sample Security

Samples were sealed in bags at the site and collected by commercial laboratory personnel.

## 11.3 Quality Assurance/Quality Control, Check Samples, Check Assays

Freeport completed check assays on about 40 samples, which indicated good agreement (0.011 vs. 0.012 oz Au/t). Several drill holes completed during 1994 by Royal Gold were assayed by using one and two assay-ton pulps for comparison. Table 11.1 shows a comparison of these checks. The one assay ton and two assay ton results compare favorably when one sample is omitted from drill hole LV94-014.

**Table 11.1 Long Valley Check Assays – 1 AT vs 2 AT**

Drill Hole	From	To	1 AT oz Au/t	2 AT oz Au/t
LV94-002	200	225	0.150	0.143
LV94-002	220	225	0.030	0.030
LV94-002	240	245	0.019	0.018
LV94-003	95	100	0.022	0.016
LV94-003	115	120	0.113	0.112
LV94-003	130	135	0.013	0.012
LV94-004	495	500	0.019	0.021
LV94-004	535	540	0.044	0.043
LV94-004	560	565	0.026	0.019
LV94-004	580	585	0.012	0.011
LV94-014	480	485	0.063	0.042
LV94-016	20	25	0.013	0.012
LV94-016	40	45	0.020	0.020
All Checks			0.042	0.038

During Royal Gold's 1996 drilling, six large samples were collected from drill hole LV96-311. Each sample represented about half of the total material collected at the drill hole, to compare a larger sample to the typical 5-10-pound samples. The entire sample was reduced to -85 mesh prior to taking any splits of the sample. The comparison of these samples to the original sample is shown in Table 11.2; these samples compare well as shown in the table.

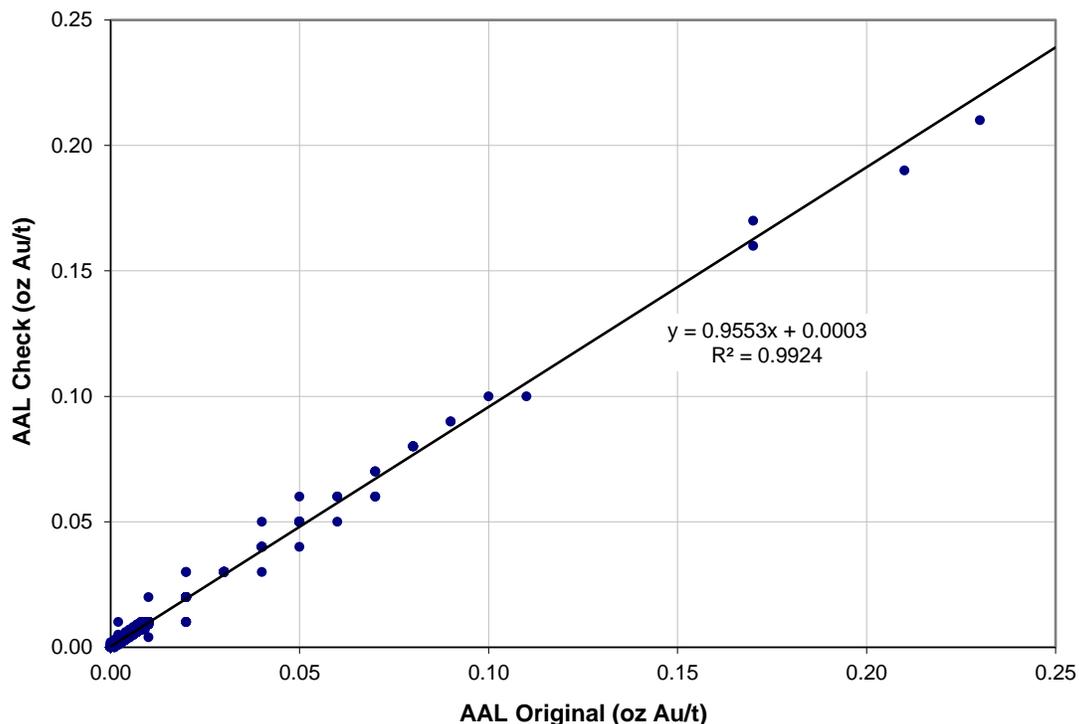


Table 11.2 Long Valley Bulk Sample Assays vs. Original Assays

Sample ID	Original Assay oz Au/t	Bulk Sample Assay oz Au/t
60	0.002	0.004
70	0.046	0.052
85	0.015	0.016
95	0.004	0.003
110	0.046	0.041
125	0.020	0.017
Average	0.022	0.022

Royal Gold used American Assay for all their drill hole sample assaying. American Assay completed 876 duplicate sample checks or repeat assays on the same pulp as part of their normal assay procedure, which indicated good agreement, as shown in Figure 11.2.

Figure 11.2 American Assay Lab Check Assay Results

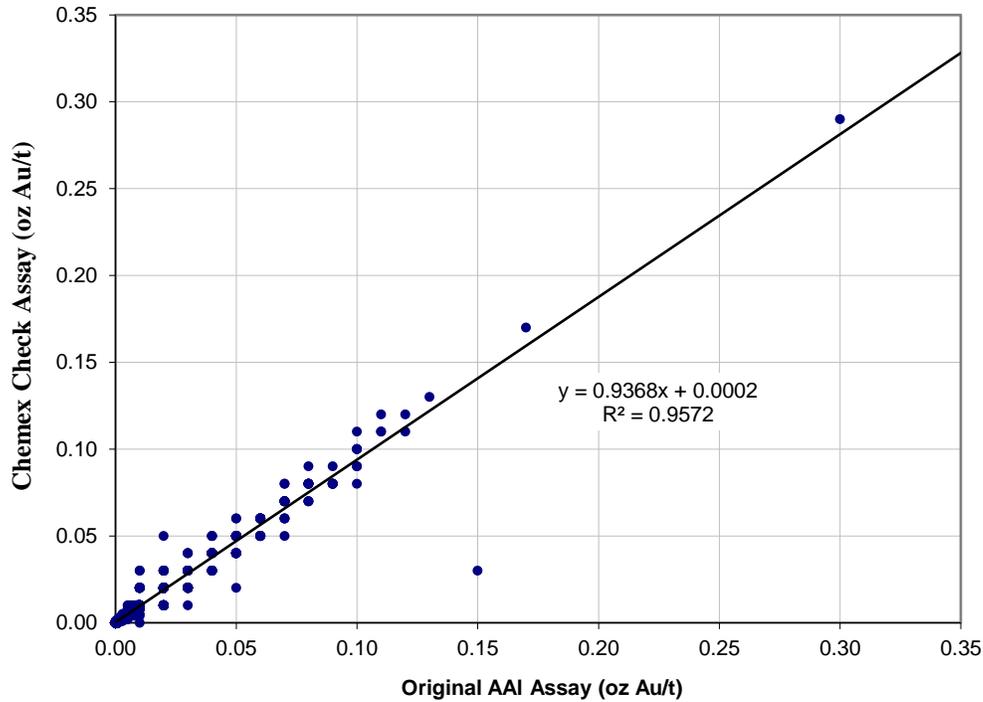


Over 3,300 check assays were completed on sample pulps, and about 350 checks were done on coarse reject material, as shown in Figure 11.3 and Figure 11.4, respectively. These assays were performed by Chemex for Amax and compare well with the American Assay analyses for Royal Gold, although the checks have a tendency to be slightly lower in grade.



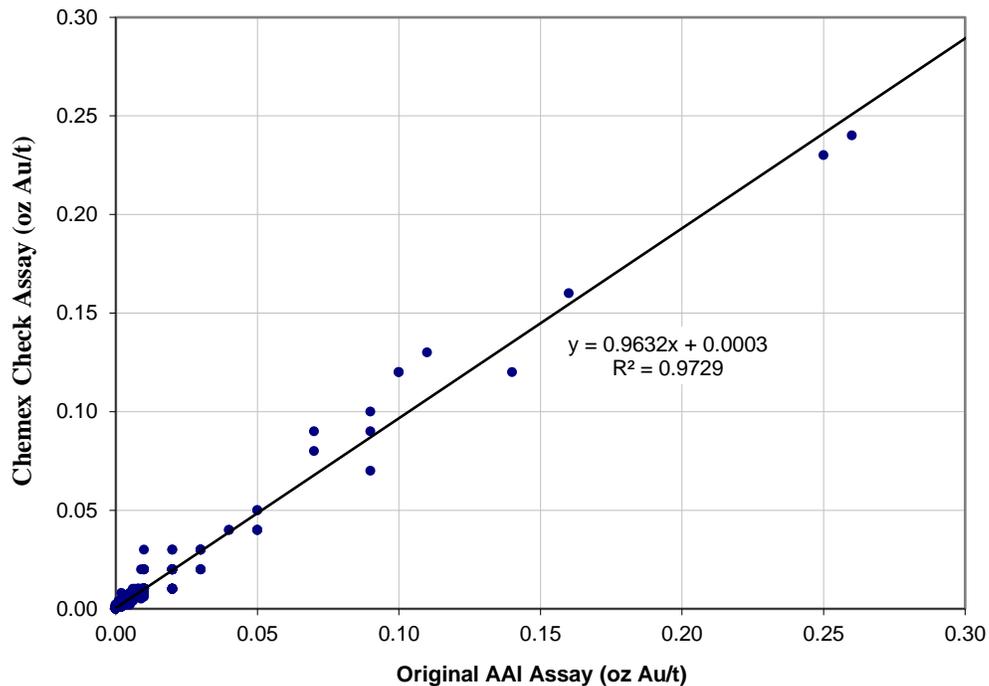
**Figure 11.3 Check Assays on Sample Pulps**

(number of samples = 3,372)



**Figure 11.4 Check Assays on Coarse Rejects**

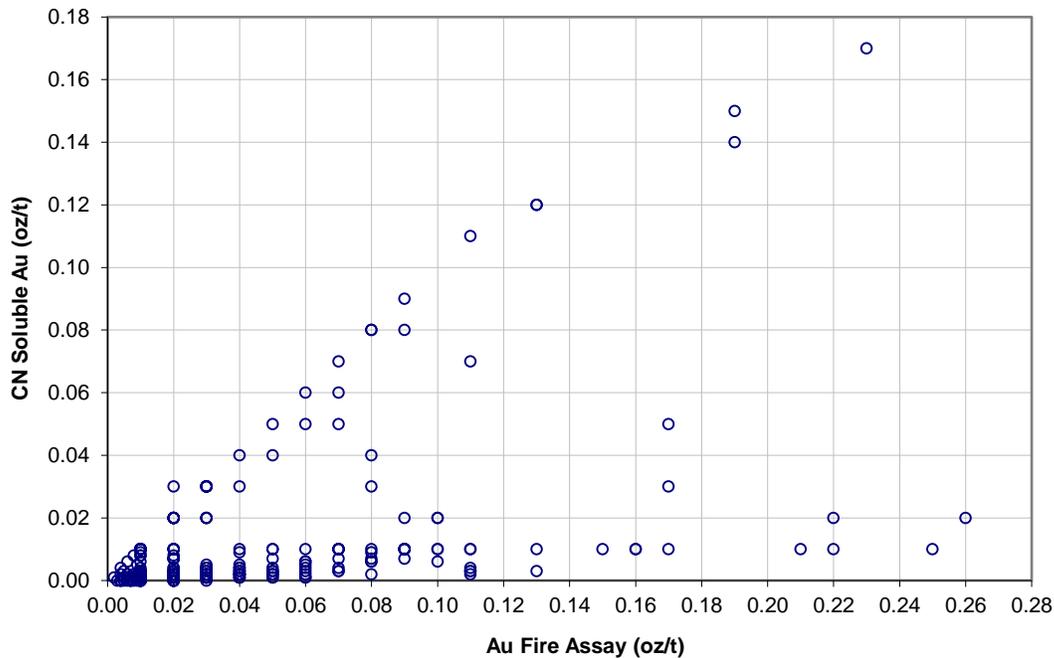
(number of samples = 352)





A total of 305 cyanide soluble test results were compared to American Assay fire assays. This comparison demonstrates a wide range in response, with many of the samples having significantly lower cyanide soluble assay than fire assay, which can be used to indicate metallurgical properties. Further, this suggests that the oxide, mixed, and sulfide boundaries must be carefully drawn as the metallurgical response from sulfides is considerably different than that from oxide materials. This information is shown in Figure 11.5.

**Figure 11.5 American Assay Lab – Au Fire Assay vs. Cyanide Soluble Au**



#### 11.4 Comments

While documentation of sample preparation, analysis, and security for the various companies that operated at Long Valley prior to 1994 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. The assaying described in this report was completed prior to the institution of formal certifications for analytical laboratories.

Mr. Prenn believes the sample preparation, security, and analytical procedures used by previous operators of the Long Valley project were acceptable procedures and the resulting analytical data are of sufficient quality for use in the resource estimation.



## **12.0 DATA VERIFICATION**

In 2003, Mr. Prenn supervised the verification of the Long Valley project database by Mr. Charles Muerhoff, an employee of MDA at that time and a Qualified Person as defined under NI 43-101. Mr. Muerhoff and Mr. Prenn also compiled and evaluated the available drilling assay quality assurance / quality control (“QA/QC”) data, namely the considerable check assay data summarized and evaluated in Section 11.3.

Data verification, as defined in NI 43-101, is the process of confirming that data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used. There were no limitations on, or failure to conduct, the data verification for this report. Additional confirmation on the drill data’s suitability for use are the analyses of the pulp and coarse reject check assays as described in Section 11.3. None of the operators in the 1980s and 1990s used certified reference materials or blank material as part of their QA/QC programs, which was not unusual at the time.

The drilling assay database verification in 2003 by Mr. Muerhoff, under Mr. Prenn’s supervision, involved detailed examination of data from 51 drill holes, or about 6% of the drill holes in the project area. Sample numbers, assays, interval depths in the project database were compared to copies of laboratory assay certificates. Where errors in database entries were found, the database was corrected using values from the assay certificates.

Also for verification, Mr. Prenn observed the reclaimed drill roads and pads and collected 10 surface samples for density verification during the initial site visit in 2002.

Mr. Prenn concludes, based on the site visit in 2002, the database verification with Mr. Muerhoff, and their evaluation of the QA/QC check assay results, that the project drilling data are of sufficient quality and are adequate for the purposes used in this report.



## **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

### **13.1 Introduction**

A moderate amount of metallurgical testing was completed on the Long Valley property from about 1989 through 1997, including cyanide shake leach assays on pulps, bottle roll tests on drill cuttings from numerous RC holes, and long-term column tests on bulk samples from surface and core. The samples were generally classified as to whether they represented oxide material, mixed or transitional material, or sulfide material.

Although the author is not an expert with respect to metallurgy, the author has reviewed the metallurgical test studies and believes the information to be sound and appropriate for the purposes for which it has been used in this report. The data from these studies are used by MDA in this Technical Report solely for the purposes of deriving reasonable and appropriate cutoffs for mineral resource reporting.

### **13.2 Bottle Roll Testing**

The first bottle roll testing on samples from the property was performed by Battle Mountain in 1991 (Olson, 1991) and consisted of 12 different bottle roll tests on samples from five different rotary drill holes. The results of these and the other bottle roll tests are presented in Table 13.1 through Table 13.3, with the samples generally being grouped by classification as to whether they represent oxide, mixed or transitional, and sulfide zone samples.

Royal Gold had American Assay perform 10 bottle roll tests on samples from eight different rotary drill holes, representing both oxide and sulfide type of mineralization (McCrea, 1995). Seventeen additional bottle roll tests were performed by McClelland Labs for Royal Gold in 1996 on rotary drill cuttings from 15 different drill holes (Langhans, 1996).



**Table 13.1 Bottle Roll Tests on Oxide Zone Drill Hole Samples**

Hole	Type	Interval	Lab	Size	Assay Head		Calculated Head		Bottle Roll (72hr) % Recovery	
					oz Au/ton	oz Ag/ton	oz Au/ton	oz Ag/ton	Au	Ag
95-19-ox-sil	RC	140-190	McClelland	10 mesh	0.029	0.57	0.033	0.56	54.2	41.1
95-70-ox-sil	RC	200-235	McClelland	10 mesh	0.014	0.10	0.019	0.05	68.4	7.5
95-75-ox-sil	RC	130-180	McClelland	10 mesh	0.036	0.35	0.039	0.32	63.7	21.9
95-30-ox-arg	RC	70-145	McClelland	10 mesh	0.029	0.20	0.030	0.12	86.7	25.0
95-52-ox-arg	RC	60-120	McClelland	10 mesh	0.036	0.23	0.052	0.15	65.0	26.7
95-63-ox-arg	RC	65-135	McClelland	10 mesh	0.021	0.11	0.027	0.05	74.1	6.5
95-94-ox (SE)	RC	55-170	McClelland	10 mesh	0.015	0.23	0.021	0.11	71.4	9.1
LV94-3-ox	RC	80-150	American Assay Lab	10 mesh	0.035		0.051		79.2	
LV94-10 -ox	RC	60-130	American Assay Lab	10 mesh	0.023		0.035		77.6	
LV94-16-ox	RC	0-45	American Assay Lab	10 mesh	0.013		0.028		88.1	
91-32-ox	RC	15-30	Battle Mtn. Gold*	10 mesh	0.031		0.037	0.03	96.5	24.1
91-33-ox	RC	20-40	Battle Mtn. Gold*	10 mesh	0.044		0.048	0.11	67.1	18.8
91-37-ox	RC	110-130	Battle Mtn. Gold*	10 mesh	0.026		0.027	0.18	88.2	28.9
91-38-ox	RC	70-100	Battle Mtn. Gold*	10 mesh	0.034		0.038		94.8	
Average of Oxide Tests (14)			* 24 hr tests		0.027	0.25	0.035	0.17	76.8	21.0

The bottle roll tests on the oxide samples in Table 13.1 have an average gold extraction of about 77 % for the gold and 21 % for the silver over the 72 hour test duration. These results demonstrate the good leaching characteristics of the gold in this material, and most of the samples give fairly consistent results through the 14 tests and three different labs.

**Table 13.2 Bottle Roll Tests on Mixed or Transition Zone Drill Hole Samples**

Hole	Type	Interval	Lab	Size	Assay Head		Calculated Head		Bottle Roll (72hr) % Recovery	
					oz Au/ton	oz Ag/ton	oz Au/ton	oz Ag/ton	Au	Ag
95-62-mix-sil	RC	165-215	McClelland	10 mesh	0.016	0.32	0.016	0.31	61.9	22.6
95-68-mix-sil	RC	190-280	McClelland	10 mesh	0.018	0.09	0.019	0.12	52.4	25.0
95-36-mix-arg	RC	175-215	McClelland	10 mesh	0.010	0.16	0.013	0.13	69.2	15.4
95-67-mix-arg	RC	175-200	McClelland	10 mesh	0.046	0.10	0.050	0.07	22.8	14.3
95-87-mix-arg	RC	105-230	McClelland	10 mesh	0.004	0.13	0.006	0.06	50.0	16.7
95-94-mix (SE)	RC	170-225	McClelland	10 mesh	0.013	0.18	0.015	0.11	31.4	18.2
Average of Mixed Tests(6)					0.018	0.16	0.020	0.13	48.0	18.7

The bottle roll tests on the mixed samples in Table 13.2 have an average gold extraction of about 48 % for the gold and 19 % for silver over the 72-hour test duration. These results are consistent with this type of material, which is intermediate between oxide and sulfide. These seven test results also show more extreme variability than the oxide samples.



**Table 13.3 Bottle Roll Tests on Sulfide Drill Hole Samples**

Hole	Type	Interval	Lab	Size	Assay Head		Calculated Head		Bottle Roll (72hr) % Recovery	
					oz Au/ton	oz Ag/ton	oz Au/ton	oz Ag/ton	Au	Ag
95-35-sul-sil	RC	225-270	McClelland	10 mesh	0.028	0.41	0.022	0.31	0.0	32.3
95-67-sul-arg	RC	210-290	McClelland	10 mesh	0.029	0.29	0.027	0.26	17.5	30.8
95-84-sul-arg	RC	195-300	McClelland	10 mesh	0.023	0.08	0.022	0.07	21.6	28.6
95-93-sul (SE)	RC	210-330	McClelland	10 mesh	0.014	0.20	0.013	0.16	15.4	25.0
LV94-2 -sul	RC	155-245	American Assay Lab	10 mesh	0.026		0.036		17.7	
LV94-3 -sul	RC	170-190;205-220	American Assay Lab	10 mesh	0.026		0.035		34.1	
LV94-4 -sul	RC	525-615	American Assay Lab	10 mesh	0.033		0.043		22.8	
LV94-9 -sul	RC	260-320	American Assay Lab	10 mesh	0.025		0.035		29.9	
LV94-12-sul	RC	220-250	American Assay Lab	10 mesh	0.016		0.038		81.3	
LV94-14-sul	RC	470-500	American Assay Lab	10 mesh	0.023		0.017		51.7	
LV94-16-sul	RC	400-425	American Assay Lab	10 mesh	0.026		0.040		36.6	
91-32-sul	RC	165-185	Battle Mtn. Gold	10 mesh	0.016		0.017	0.30	9.4	17.5
91-34-sul	RC	100-105; 135-145	Battle Mtn. Gold	10 mesh	0.048		0.054		19.8	
91-37-sul	RC	245-260	Battle Mtn. Gold	10 mesh	0.044		0.046	0.37	1.4	18.2
91-38-sul	RC	230-250	Battle Mtn. Gold	10 mesh	0.029		0.029	0.21	2.1	12.8
Average of Sulfide Tests (15 tests)					0.027	0.24	0.032	0.24	24.1	23.6

The bottle roll tests on the sulfide samples in Table 13.3 show a wide range in test results over the 15 samples tested in three different labs, with gold extractions from 0.0 % to over 50 %, which is likely a consequence of inconsistent sulfide classification criteria applied from sample to sample. The average extraction over the 72-hour test duration is about the same for both gold and silver at 24 % and would suggest that the sulfide material is not readily amenable to conventional heap leach processing.

Also in 1996, Hazen Research performed scoping-type bottle roll tests to help establish testing parameters for subsequent column leach tests (Rak and Hazen, 1997). Composites for testing were made from core hole 95-C1 in the Hilton Creek zone as well as core hole 95-C2 in the Southeast zone. Both of these composites were tested in five different bottle roll tests at particle sizes ranging from one inch to 400 mesh. In addition, Hazen performed a single bottle roll test on the bulk sample prepared from large diameter core which was used for several column tests. The results of these bottle roll tests are presented in Table 13.4.



**Table 13.4 Bottle Roll Tests on Miscellaneous Drill Hole Samples**

Hole	Type	Interval	Lab	Size	Assay Head		Calculated Head		Bottle Roll (72hr) % Recovery	
					oz Au/ton	oz Ag/ton	oz Au/ton	oz Ag/ton	Au	Ag
91-33-ox	RC	20-40	Battle Mtn. Gold	Grind	0.044		0.049	0.11	64.4	
91-37-sul (roasted)	RC	245-260	Battle Mtn. Gold	10 mesh	0.044		0.052	0.16	77.9	44.3
95-C2-Mix?	Core	105-215	Hazen	400 mesh	0.025	0.18	0.055	0.28	81.9	46.7
95-C2-Mix?	Core	105-215	Hazen	150 mesh	0.025	0.18	0.028		57.1	
95-C2-Mix?	Core	105-215	Hazen	1"	0.025	0.18	0.028	0.22	48.5	28.1
95-C2-Mix?	Core	105-215	Hazen	1/2"	0.025	0.18	0.028	0.15	45.9	54.5
95-C2-Mix?	Core	105-215	Hazen	1/4"	0.025	0.18	0.028	0.015	47.6	58.0
95-C1-Sul (Mostly)	Core	47-106; 167-242	Hazen	400 mesh	0.025	0.25	0.025	0.26	23.0	45.4
95-C1-Sul (Mostly)	Core	47-106; 167-242	Hazen	150 mesh	0.025	0.25	0.027	0.25	29.0	39.2
95-C1-Sul (Mostly)	Core	47-106; 167-242	Hazen	1"	0.025	0.25	0.026	0.25	10.5	24.6
95-C1-Sul (Mostly)	Core	47-106; 167-242	Hazen	1/2"	0.025	0.25	0.026	0.33	12.6	24.5
95-C1-Sul (Mostly)	Core	47-106; 167-242	Hazen	1/4"	0.025	0.25	0.026	0.25	10.5	34.4
91-38-sul	RC	230-250	Battle Mtn. Gold	CIL	0.029		0.029	0.20	5.4	18.7
91-38-sul	RC	230-250	Battle Mtn. Gold	Grind	0.029		0.033	0.19	9.2	10.0
1996- ox	Bulk	6 in core	Hazen	2"	0.023	0.17	0.025	0.14	85.5	11.3
1996-ox	Bulk	6 in core	Hazen	150 mesh	0.023	0.17	0.025		68.0	
Averages					0.028	0.21	0.032	0.20	42.31	33.82

All of the test results presented in Table 13.1, Table 13.2, and Table 13.3 represent material from RC drill cuttings, which have been crushed to a maximum particle size of 10 mesh but likely have an average particle size of much smaller than this. Typically most of this material would have a particle size of less than 24 mesh or finer. Samples at coarser and finer particle sizes are found in Table 13.4.

The test results in Table 13.4 generally show that both gold and silver extractions increase at smaller particle sizes, ranging from 400 mesh to 2 inch particle size, for all types or classes of material. Also, the sulfide material responds to roasting to increase gold extraction. Lastly, the oxide material does respond quite well to alternative gold lixivants, such as ammonium thiosulfate (“ATS”), giving extractions comparable to cyanide, as shown in Table 13.5.

**Table 13.5 Bottle Roll Tests with Alternative Gold Lixivants**

Hole	Type	Interval	Lab	Size	Assay Head		Calculated Head		Bottle Roll (72hr) % Recovery	
					oz Au/ton	oz Ag/ton	oz Au/ton	oz Ag/ton	Au	Ag
1996-ox NaCN	Bulk	6 inch core	McClelland	10 mesh	0.016		0.016		87.5	
1996-ox ATS leach	Bulk	6 inch core	McClelland	10 mesh	0.016		0.016		81.3	
1996-ox ATS leach	Bulk	6 inch core	McClelland	10 mesh	0.016		0.015		80.0	

Based mostly on the bottle roll test results for the oxide samples in Table 13.1, there does appear to be a fairly consistent bias between the assay head grades (lower) than the calculated head grades (higher). There are not sufficient data to fully document this trend, and hence no basis to correct or modify the overall assays, but it should be monitored during future work. In addition, screen tests indicate that a considerable portion of the gold values are found in the fines fraction.



### 13.3 Column Leach Testing

In 1989, Kappes, Cassidy and Associates performed three column leach tests on a single bulk sample collected from surface cuts in the South zone. A single column test was performed on material crushed to -3 inches, -1 ½ inches, and -½ inches, with column diameters measuring 11.5 inches, 10 inches, and 8 inches, respectively, with column heights of about 10 ft. The results of these column tests are shown in Table 13.6. Cyanide consumption ranged between 0.25 and 0.51 lbs/ton for the tests.

**Table 13.6 Column Test Results**

Date	Sample	Lab ID	Head		Lab	Calc. Head		Particle Size	% Recovery		Time Days	Notes
			oz Au/ton	oz Ag/ton		oz Au/ton	oz Ag/ton		Au	Ag		
1989	Bulk	10818	0.031	0.05	Kappes	0.030		3"	86.6		30	agglomerated
1989	Bulk	10820	0.031	0.05	Kappes	0.028		1.5"	92.9		30	agglomerated
1989	Bulk	10822	0.031	0.05	Kappes	0.029		0.5"	93.1		30	agglomerated
1996	Bulk	C1	0.023	0.17	Hazen	0.025		4"	63.2		23	Low pH, not agglomerated
1996	Bulk	C2	0.023	0.17	Hazen	0.028	0.15	4"	89.4	8.0	55	Normal pH, not agglomerated
1996	Bulk	C3	0.023	0.17	Hazen	0.026	0.15	4"	92.5	7.3	51	agglomerated with cement, CaO
1996	Bulk	C4	0.023	0.17	Hazen	0.024	0.16	4"	83.4	5.9	183	Large; not agglomerated; 17 day wash
1996	Bulk	C5	0.023	0.17	Hazen	0.027	0.14	4"	80.8	9.2	87	Large; agglomerated; 17 day wash
Averages			0.026	0.12		0.027	0.15		85.2	7.6	61.1	

During 1996-1997, Hazen performed a total of five large diameter column leach tests on a single bulk sample prepared from seven large diameter (6 inch) core holes drilled in the Hilton Creek and Southeast zones (Rak and Hazen, 1997). The sample intervals used from each of these core holes represent material classed as oxide with a grade exceeding 0.010 oz Au/t gold. The total sample weight of the core intervals listed below is approximately 5,000 kg or 11,000 lbs:

- Hole 96-C3 40 to 160 ft
- Hole 96-C4 30 to 150 ft
- Hole 96-C5 60 to 150 ft
- Hole 96-C6 52 to 94 ft
- Hole 96-C7 30 to 145 ft
- Hole 96-C8 30 to 150 ft
- Hole 96-C9 10 to 50 ft

The grade of the bulk sample is relatively close to the overall grade of the deposit and assays 0.028 oz Au/t gold and 0.15 oz Ag/t. The particle size analysis of the bulk sample as prepared for testing indicated about 25% by weight of the sample was between 4 and 6 inches in size, 37% was between ½ and 4 inches in size, 14% was between 28 mesh and ½ inch, 7% was between 65 and 28 mesh, and 17% was less than 200 mesh in size. Assays were performed on each of the size fractions. These results showed a significant tendency for the gold to occur with the finer size fractions, with about 48% of the gold in the entire sample in the minus 200 mesh fraction and only about 9% of the gold in the coarsest fraction.

Three of the five columns tested at Hazen (columns CL-1,-2 and -3) were moderate diameter (10 to 12 inches) with column heights of about six ft. These columns evaluated the impact of the addition of lime and/ or agglomeration with cement on the overall gold extraction and the extraction rate. Columns CI-4



and CI-5 were of large diameter (24 inches) and had column heights of about 20 ft. These two columns evaluated the impact of agglomeration with lime and cement versus no agglomeration.

The results of the column tests performed at Hazen are also shown in Table 13.6. Taken as a whole, all of the tests show that the oxide type material at Long Valley is amenable to heap leaching at coarse particle sizes, exhibiting rapid leaching of gold with low consumption of the leaching reagents sodium cyanide and lime, generally in the range of 0.4 lbs/t and 4.0 lbs/t respectively. Most columns returned gold extractions between 80 and 90 % over leach times of between 30 and 70 days. In addition, the column gold extractions were generally some 5 to 10 % better than the bottle roll extractions on similar oxide type material.

Agglomeration of the columns appeared to help maintain solution permeability and limit slumping of the columns but did not appear to enhance gold extraction. Silver extraction in all columns was quite low, at less than 10 %.

### 13.4 Mineralogical Observations

Samples of leached and unleached, predominantly sulfide-rich material have been examined to discern the presence and nature of gold mineralization in the samples and to better understand their leaching behavior. Several different studies have shown that the predominant sulfide mineral present in the unoxidized samples is pyrite, with lesser amounts of arsenopyrite. The sulfides are commonly fine-grained, ranging from 5 to 70 microns, and are typically locked in a gangue of silicate minerals including quartz, feldspar, and kaolinite clay.

Sulfides in the samples are both widely disseminated as well as found in clusters. Pyrite in the samples is generally poorly crystalline and has framboidal textures, with lesser amounts of well crystallized, euhedral pyrite. Other investigations have shown the common occurrence of submicroscopic gold associated with the poorly crystallized, framboidal varieties of pyrite. This would explain the general lack of gold observed in these samples even using powerful electron microprobes. Where gold grains have been observed, the grains are very small, from 1 to 6 microns, and have low amounts of contained silver. The conclusion is that most of the gold is submicroscopically bound to the poorly crystalline varieties of pyrite and, hence, is generally refractory and unavailable to direct cyanidation. Testwork is suggested on the sulfide materials to determine process methods, recoveries and reagent consumption.

Fortunately, a significant portion of the gold resource at Long Valley is present in material which has been at least partly oxidized. In this material, the pyrite which may have originally contained most of the gold is preferentially oxidized to iron oxide minerals (goethite) wherein it releases the gold and renders it available for leaching.



## 14.0 MINERAL RESOURCE ESTIMATE

### 14.1 Introduction

Mineral resource estimation described in this section for the Long Valley project follows the guidelines of Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”). The gold grade model for this resource estimate was completed by Charles Muerhoff, MDA Senior Geologist in 2003, who was considered a Qualified Person by the definitions and criteria set forth in NI 43-101, supervised by Neil Prenn, Principal MDA Engineer. The gold resource estimate for this report was completed by Neil Prenn on April 25, 2018 using the 2003 MDA model and a March 2018 optimized pit. There is no affiliation between Mr. Muerhoff or Mr. Prenn and Eureka or Kore except that of an independent consultant/client relationship. Silver resources were not estimated and there are no mineral reserves estimated for the Long Valley project as part of this report.

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

The effective date of the mineral resource estimate is April 25, 2018. The drilling analyses, database verification, and resource modeling were completed according to the guidelines specified by Canadian National Instrument 43-101 (“NI 43-101”).

The author 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) and therefore Canadian National Instrument 43-101. 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.

The author 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, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.”

## **14.2 Data**

The author created a model for estimating the gold resources for the Long Valley project from data provided to MDA by Vista for the 2003 report (Prenn and Muerhoff, 2003). Hardcopy and digital data received from Vista included: drill hole database with collar locations, down hole survey data, analytical data; topographic data, drill hole location maps, drill hole cross sections, geologic drill logs, and numerous in-house reports.

The drill hole data were checked prior to loading the data into a database; a few minor errors were discovered and corrected prior to importing the data into a Surpac<sup>®</sup> mining software database. Analytical results that were less than the detection limit were set to zero. All subsequent modeling of the Long Valley resource was performed using Surpac<sup>®</sup>.

## **14.3 Density**

The densities of the rocks present in the Long Valley deposit are highly variable, with density test results ranging from 0.93 to 2.83 g/cm<sup>3</sup>. The results of 12 density tests completed by Royal Gold on core from seven drill holes are summarized in Table 14.1. Amax completed 93 tests on core from 10 drill holes; results are summarized in Table 14.2. Figure 14.1 is a plot comparing density to depth; the graph indicates there is a trend of increasing density with increasing depth; however, the correlation is very poor, using both the Amax and Royal Gold test results. MDA took 10 samples during the 2002 site visit for density verification; results are shown in Table 14.3.



Table 14.1 Royal Gold Density Tests

Drill Hole - Footage	Density		Tonnage Factor ft <sup>3</sup> /ton
	grams/cm <sup>3</sup>	lbs/ft <sup>3</sup>	
C1 - 165'	1.80	112.3	17.8
C1 - 175'	1.63	101.7	19.7
C2 - 120'	1.25	78.0	25.6
C2 - 175'	1.26	78.6	25.4
C2 - 195'	2.80	174.7	11.4
C3 - 140'	1.54	96.1	20.8
C3 - 148'	2.43	151.6	13.2
C4 - 135'	2.03	126.7	15.8
C5 - 148'	2.47	154.1	13.0
C7 - 99'	2.44	152.3	13.1
C8 - 115'	2.12	132.3	15.1
C8 - 148'	1.82	113.6	17.6
Average	1.97	122.7	16.3



Table 14.2 Amax Density Tests

Hole	Depth ft	Density		T.F. ft <sup>3</sup> /ton	Hole	Depth ft	Density		T.F. ft <sup>3</sup> /ton
		grams/cm <sup>3</sup>	lbs/ft <sup>3</sup>				grams/cm <sup>3</sup>	lbs/ft <sup>3</sup>	
LV97-C11	35.6	1.28	79.9	25.0	LV97-C15	125.3	1.81	112.9	17.7
LV97-C11	55.5	1.12	69.9	28.6	LV97-C15	151.3	1.52	94.8	21.1
LV97-C11	94.3	1.48	92.4	21.6	LV97-C15	178	1.48	92.4	21.6
LV97-C11	115.5	1.73	108.0	18.5	LV97-C15	203.5	1.80	112.3	17.8
LV97-C11	148.5	1.72	107.3	18.6	LV97-C15	227.5	1.80	112.3	17.8
LV97-C11	174.8	1.86	116.1	17.2	LV97-C16	24	1.52	94.8	21.1
LV97-C11	199.1	1.68	104.8	19.1	LV97-C16	50.2	1.35	84.2	23.8
LV97-C11	222.6	1.73	108.0	18.5	LV97-C16	72.6	1.76	109.8	18.2
LV97-C11	247.1	1.84	114.8	17.4	LV97-C16	103	1.74	108.6	18.4
LV97-C11	273	1.67	104.2	19.2	LV97-C16	129.5	2.52	157.2	12.7
LV97-C11	298	1.55	96.7	20.7	LV97-C16	155.2	2.36	147.3	13.6
LV97-C12	8.1	1.71	106.7	18.7	LV97-C16	177.7	2.42	151.0	13.2
LV97-C12	36.9	1.05	65.5	30.5	LV97-C16	195.3	2.64	164.7	12.1
LV97-C12	91	1.75	109.2	18.3	LV97-C17	28.2	1.31	81.7	24.5
LV97-C12	127	2.37	147.9	13.5	LV97-C17	51.2	1.68	104.8	19.1
LV97-C12	151.4	1.58	98.6	20.3	LV97-C17	73.8	1.68	104.8	19.1
LV97-C12	171.4	1.84	114.8	17.4	LV97-C17	94.1	2.06	128.5	15.6
LV97-C12	187.8	1.70	106.1	18.9	LV97-C17	108.9	1.58	98.6	20.3
LV97-C12	207	1.58	98.6	20.3	LV97-C17	130.2	1.69	105.5	19.0
LV97-C12	218.5	1.88	117.3	17.1	LV97-C17	153.1	1.50	93.6	21.4
LV97-C12	248.7	1.92	119.8	16.7	LV97-C18	26.4	2.22	138.5	14.4
LV97-C13	2	1.72	107.3	18.6	LV97-C18	51.8	2.16	134.8	14.8
LV97-C13	18	1.13	70.5	28.4	LV97-C18	79.2	2.50	156.0	12.8
LV97-C13	43.7	1.22	76.1	26.3	LV97-C18	101	2.26	141.0	14.2
LV97-C13	67.1	1.83	114.2	17.5	LV97-C18	126.3	2.25	140.4	14.2
LV97-C13	113.3	1.84	114.8	17.4	LV97-C18	153.4	2.16	134.8	14.8
LV97-C13	148.6	1.29	80.5	24.8	LV97-C18	176.5	2.49	155.4	12.9
LV97-C13	177.1	2.14	133.5	15.0	LV97-C18	201.8	2.54	158.5	12.6
LV97-C13	198	1.66	103.6	19.3	LV97-C18	222.5	2.15	134.2	14.9
LV97-C13	222.6	1.48	92.4	21.6	LV97-C19	27.5	1.06	66.1	30.3
LV97-C13	252	1.94	121.1	16.5	LV97-C19	45	1.39	86.7	23.1
LV97-C13	274.9	1.80	112.3	17.8	LV97-C19	73.8	2.53	157.9	12.7
LV97-C13	295.1	2.08	129.8	15.4	LV97-C19	109.5	2.83	176.6	11.3
LV97-C14	29.7	1.58	98.6	20.3	LV97-C19	129.5	2.42	151.0	13.2
LV97-C14	45.4	1.22	76.1	26.3	LV97-C19	154.2	2.20	137.3	14.6
LV97-C14	73.7	1.65	103.0	19.4	LV97-C19	178.8	2.31	144.1	13.9
LV97-C14	125.6	1.41	88.0	22.7	LV97-C19	211.5	1.29	80.5	24.8
LV97-C14	153.4	1.54	96.1	20.8	LV97-C19	263.9	1.34	83.6	23.9
LV97-C14	167.2	1.76	109.8	18.2	LV97-C20	30.2	0.93	58.0	34.5
LV97-C14	195.8	1.76	109.8	18.2	LV97-C20	50.9	2.47	154.1	13.0
LV97-C14	222.2	1.71	106.7	18.7	LV97-C20	73.8	2.21	137.9	14.5
LV97-C14	242.8	1.94	121.1	16.5	LV97-C20	102.1	1.45	90.5	22.1
LV97-C14	277.1	2.07	129.2	15.5	LV97-C20	125.6	1.49	93.0	21.5
LV97-C14	298.4	1.67	104.2	19.2	LV97-C20	150.4	1.67	104.2	19.2
LV97-C15	2.8	1.73	108.0	18.5	LV97-C20	174.5	2.04	127.3	15.7
LV97-C15	31.7	1.56	97.3	20.6					
LV97-C15	46.7	1.00	62.4	32.1	Averages	93 samples		111.6	17.9
LV97-C15	99.8	1.95	121.7	16.4					



Figure 14.1 Density vs Depth

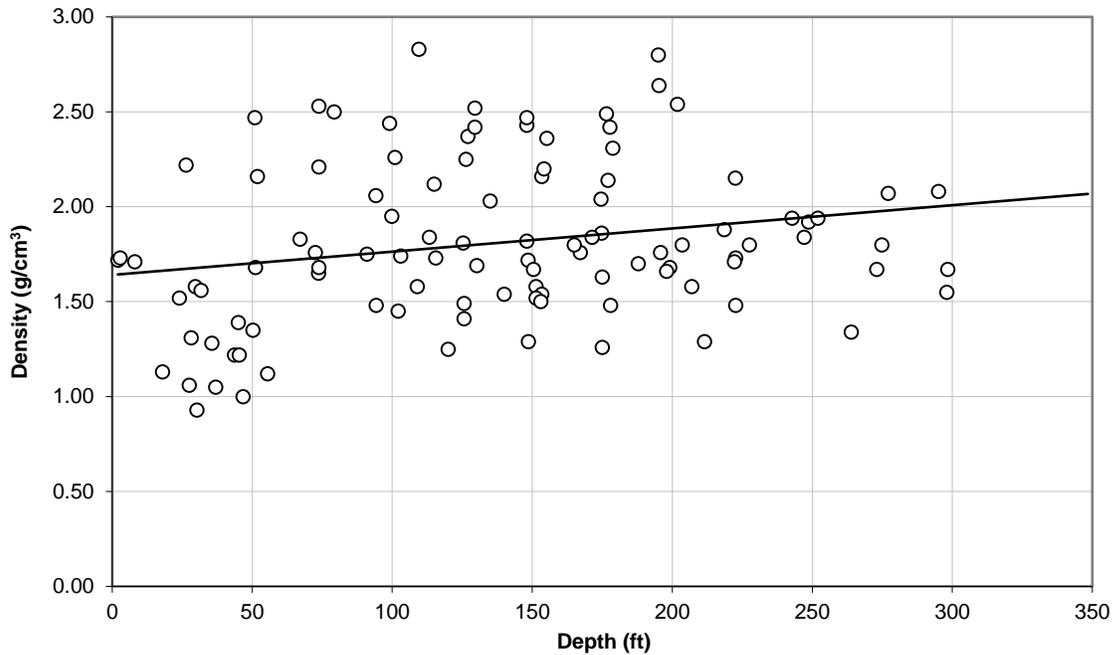


Table 14.3 MDA Density Tests (Surface Samples)

KCA Test No.	Sample Location	Density		T. F. ft <sup>3</sup> /ton
		grams/cm <sup>3</sup>	lbs/ft <sup>3</sup>	
30565A	Western Hilton Creek	2.54	158.6	12.6
30564B	Northern Hilton Creek	2.40	150.0	13.3
30565B	Northern Hilton Creek	2.00	124.9	16.0
30565B	Northern Hilton Creek	1.48	92.3	21.7
30565B	Northern Hilton Creek	1.53	95.7	20.9
30565B	Northern Hilton Creek	1.67	103.9	19.2
Average	Northern Hilton Creek	1.82	113.3	17.6
30565C	Southeast Zone	1.91	118.9	16.8
30565C	Southeast Zone	1.92	120.1	16.7
30565C	Southeast Zone	2.31	144.2	13.9
30565C	Southeast Zone	2.30	143.8	13.9
Average	Southeast Zone	2.11	131.8	15.2
Average	All Samples	2.01	125.2	16.0

In 2003, the author discussed the density variability with Royal Gold’s consulting geologist, Roger Steininger. Mr. Steininger believed that Amax may have over-weighted the core drilling in areas with

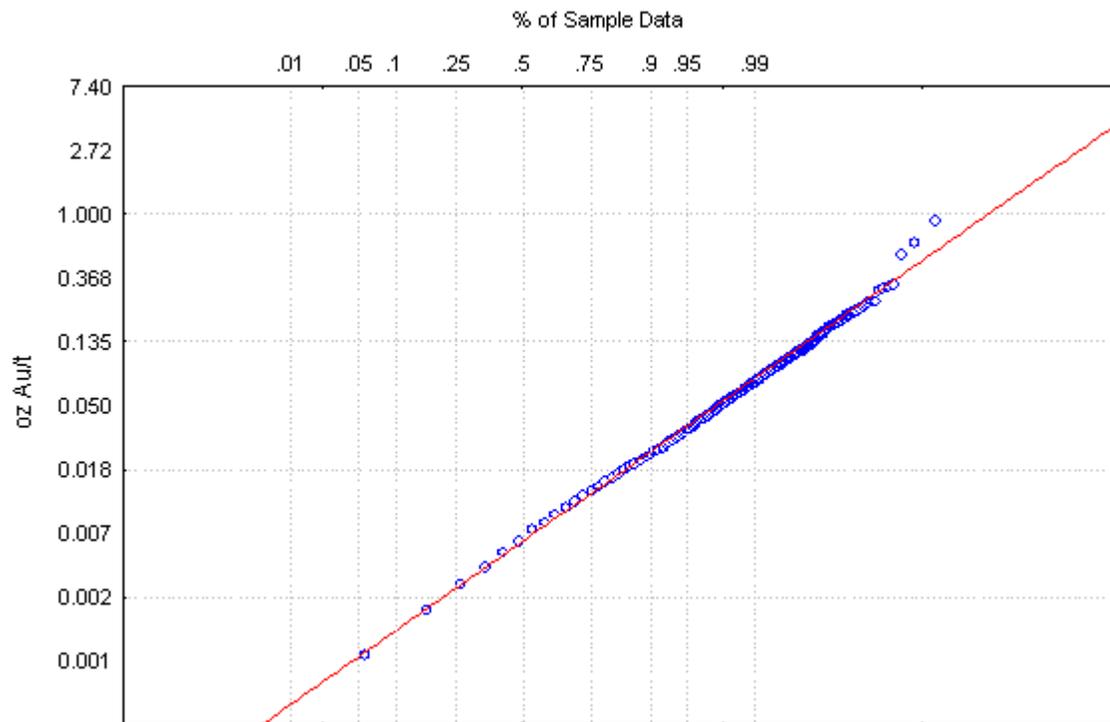


low density values. After these discussions, Mr. Prenn determined that a density of 15.5 cubic ft/t was reasonable to use for the resource estimate.

#### 14.4 Long Valley Resource Model

Resources modeled and estimated for the Long Valley project are contained within the Hilton Creek, South, and Southeast zones. MDA plotted the gold grade distribution of all drill sample data (excluding air track samples) from these three zones to help identify grade populations to aid in the resource modeling. As shown in Figure 14.2, the overall distribution of gold grades is somewhat linear, with subtle breaks around 0.01, 0.02, 0.05, 0.10, and 0.15 oz Au/t and a distinct break at about 0.25 oz Au/t. Nine samples above this break were capped to 0.25 oz Au/t prior to compositing and grade estimation.

**Figure 14.2 Long Valley Sample Data**  
Hilton Creek, South, and Southeast Zones (excl. airtrack data)



Summary statistics of the sample assays within the model extents of the Hilton Creek, South, and Southeast zones are shown in Table 14.4. Since the South zone appears to be the northern extension, or continuation, of the Hilton Creek zone, it was decided to model these two zones together.

East-west cross sections were plotted on 100 ft intervals through the Hilton Creek, South, and Southeast areas. The topographic profile and drill hole traces were plotted on each cross section, with gold sample assays, overburden-bedrock contact, and oxide-sulfide contact plotted along the drill hole traces. The cross sections were reviewed to determine if the gold grade populations identified in the grade distribution



plot (Figure 14.2, above) represented continuous zones of mineralization. The author found that grade zones of ~0.009 to 0.02, 0.02 to ~0.10, and greater than 0.10 oz Au/t showed the best continuity between drill holes and from section to section, and constructed mineral envelopes using these three grade ranges.

**Table 14.4 Long Valley Sample Statistics**  
Samples within Resource Model Extents

All Samples within Model Extents	No. Samples	Mean	Minimum	Maximum	Std. Dev.	C.V.
Sample Length (ft)	42,084	5.0	0.9	10.0	0.04	0.01
Au Grade (oz/ton)	42,084	0.009	0	0.890	0.016	1.655
Capped Au Grade (oz/ton)	42,084	0.009	0	0.250	0.014	1.471
AuCN Grade (oz/ton)	695	0.008	0	0.065	0.012	1.461

Hilton Creek / South Zone Samples	No. Samples	Mean	Minimum	Maximum	Std. Dev.	C.V.
Sample Length (ft)	34,352	5.0	1.0	5.0	0.01	0.00
Au Grade (oz/ton)	34,352	0.010	0	0.530	0.015	1.585
Capped Au Grade (oz/ton)	34,352	0.010	0	0.250	0.014	1.480
AuCN Grade (oz/ton)	695	0.008	0	0.065	0.012	1.461

Southeast Zone Samples	No. Samples	Mean	Minimum	Maximum	Std. Dev.	C.V.
Sample Length (ft)	7,732	5.0	0.9	10.0	0.10	0.02
Au Grade (oz/ton)	7,732	0.008	0	0.890	0.016	2.026
Capped Au Grade (oz/ton)	7,732	0.008	0	0.250	0.010	1.342
AuCN Grade (oz/ton)	0	-	-	-	-	-

The cross sectional grade model was digitized and transferred to 10 ft spaced level maps for the final interpretation and refinement. A three-dimensional block model was made of the deposit area with blocks 20 ft x 20 ft x 10 ft vertical in size. The model blocks were coded to the appropriate gold zone, as listed in Table 14.5. Background mineralization is that mineralization outside of the defined grade zones, but within the model extents.

**Table 14.5 Long Valley Gold Grade Envelopes**

Hilton Creek / South Zone		Southeast Zone	
Au Zone	Au Grade	Au Zone	Au Grade
1	~0.009 - 0.02	21	~0.009 - 0.02
2	0.02 ~ 0.10	22	0.02 ~ 0.10
3	> 0.10	23	> 0.10
99	background	99	background

Bedrock drill samples were composited down hole into 10 ft composites. Down hole composites were used, rather than compositing strictly within each grade envelope, in order to better model the apparent gradational contacts between grade populations, as suggested by the distribution plot of the sample data and supported by review of the data on cross section. Summary statistics of the composite data are



presented in Table 14.6. Due to the few composites > 0.10 oz Au/t in the Southeast zone, zones 22 and 23 were combined and modeled together.

**Table 14.6 Long Valley Composite Statistics**

<b>All Composites</b>		No. Comps	Mean	Minimum	Maximum	Std. Dev.	C.V.
All Zones	Length (ft)	21,456	9.9	1.0	10.0	0.7	0.1
	Au Grade (oz/ton)	21,456	0.009	0	0.452	0.014	1.498
	Capped Au Grade (oz/ton)	21,456	0.009	0	0.250	0.013	1.369
<b>Hilton Creek / South Zone</b>		No. Comps	Mean	Minimum	Maximum	Std. Dev.	C.V.
Au Zone 1	Length (ft)	4,293	10.0	5.0	10.0	0.4	0.0
	Au Grade (oz/ton)	4,293	0.012	0.001	0.046	0.005	0.371
	Capped Au Grade (oz/ton)	4,293	0.012	0.001	0.046	0.005	0.371
Au Zone 2	Length (ft)	2,179	10.0	5.0	10.0	0.4	0.0
	Au Grade (oz/ton)	2,179	0.033	0.003	0.265	0.018	0.545
	Capped Au Grade (oz/ton)	2,179	0.032	0.003	0.146	0.016	0.502
Au Zone 3	Length (ft)	70	10.0	10.0	10.0	0.0	0.0
	Au Grade (oz/ton)	70	0.122	0.068	0.323	0.047	0.383
	Capped Au Grade (oz/ton)	70	0.105	0.067	0.250	0.031	0.297
<b>Southeast Zone</b>		No. Comps	Mean	Minimum	Maximum	Std. Dev.	C.V.
Au Zone 21	Length (ft)	962	9.9	5.0	10.0	0.5	0.1
	Au Grade (oz/ton)	962	0.012	0.002	0.029	0.004	0.361
	Capped Au Grade (oz/ton)	962	0.012	0.002	0.029	0.004	0.361
Au Zone 22	Length (ft)	241	9.9	5.0	10.0	0.8	0.1
	Au Grade (oz/ton)	241	0.030	0.000	0.149	0.017	0.560
	Capped Au Grade (oz/ton)	241	0.030	0.000	0.109	0.015	0.512
Au Zone 23	Length (ft)	3	10.0	10.0	10.0	0.0	0.0
	Au Grade (oz/ton)	3	0.308	0.132	0.452	0.135	0.438
	Capped Au Grade (oz/ton)	3	0.133	0.121	0.147	0.011	0.081
<b>Background</b>		No. Comps	Mean	Minimum	Maximum	Std. Dev.	C.V.
Au Zone 99	Length (ft)	13,708	9.9	5.0	10.0	0.8	0.1
	Au Grade (oz/ton)	13,708	0.003	0	0.075	0.003	0.983
	Capped Au Grade (oz/ton)	13,708	0.003	0	0.054	0.003	0.975

Variography was initially performed separately on composites from each gold zone, using various lag distances and numerous directions, but none showed sufficient structure that could be modeled. MDA then constructed variograms using the combined composites from zones 1 to 3 (Hilton Creek / South zone) and combined composites from zones 21 to 23 (Southeast zone) and were able to construct variograms that showed good continuity. The variogram results are shown in Table 14.7. Figure 14.3 illustrates the variogram (major axis) used to model the Hilton Creek / South zone. Figure 14.4 illustrates the omnidirectional variogram for the Southeast zone is considerably shorter.



Three kriging passes were used to estimate the gold resources within the Hilton Creek / South zone and Southeast zone; gold zones 1 to 3 and 21 to 23, respectively. The first pass was done to estimate blocks within the variogram range; the second pass was done to avoid over-smoothing and better honor the local data; and the third pass was done to fill in the portions of the zones left unestimated by passes one and two with inferred material. All blocks that received estimated grades during the third pass are considered Inferred. The background mineralization (zone 99) was estimated in two passes to restrict the over-extrapolation of higher grade values that would be unrestrained by their exclusion from the grade envelopes. The estimation parameters used for the Long Valley resource model are listed in Table 14.8.

**Table 14.7 Long Valley Variogram Parameters**

		Hilton Creek / South Zone		Southeast Zone	
Au Zone		1 - 3	99	21 - 23	99
C <sub>0</sub>		0.112	0.06	0.068	0.07
C <sub>1</sub>		0.07	0.04	0.157	0.06
C <sub>2</sub>		n/a	n/a	n/a	0.02
Azimuth	major	120°	omni	omni	omni
	semimajor	30°			
	minor	0°			
Range <sub>1</sub> (ft)	major	200	300	50	110
	semimajor	140	300	50	110
	minor	25	300	50	110
Range <sub>2</sub> (ft)	major	n/a	n/a	n/a	500
	semimajor	n/a	n/a	n/a	500
	minor	n/a	n/a	n/a	500



**Table 14.8 Long Valley Estimation Parameters**

<b>Hilton Creek / South Zone</b>	Au Zones 1 - 3			Au Zone 99	
Estimation Pass	1	2	3	1	2
No. of Composites min.	2	2	1	2	2
max.	10	6	10	10	10
Max. Composites per drill hole	3	2	3	3	3
Search Direction major	120°	120°	0°	0°	0°
semimajor	30°	30°	0°	0°	0°
minor	0°	0°	0°	0°	0°
Search Distance (ft) major	200	120	500	300	25
semimajor	140	84	500	300	25
minor	25	15	500	25	25
Grade Restriction (oz Au/ton)	none	none	none	≤ 0.02	none

<b>Southeast Zone</b>	Au Zones 21 - 23			Au Zone 99	
Estimation Pass	1	2	3	1	2
No. of Composites min.	2	2	1	2	2
max.	10	6	10	10	10
Max. Composites per drill hole	3	2	3	3	3
Search Direction major	0°	0°	0°	0°	0°
semimajor	0°	0°	0°	0°	0°
minor	0°	0°	0°	0°	0°
Search Distance (ft) major	200	120	500	300	25
semimajor	200	120	500	300	25
minor	25	25	500	25	25
Grade Restriction (oz Au/ton)	≤ 0.05	none	≤ 0.05	≤ 0.02	none



Figure 14.3 Hilton Creek / South Zone Variogram (Major Axis)

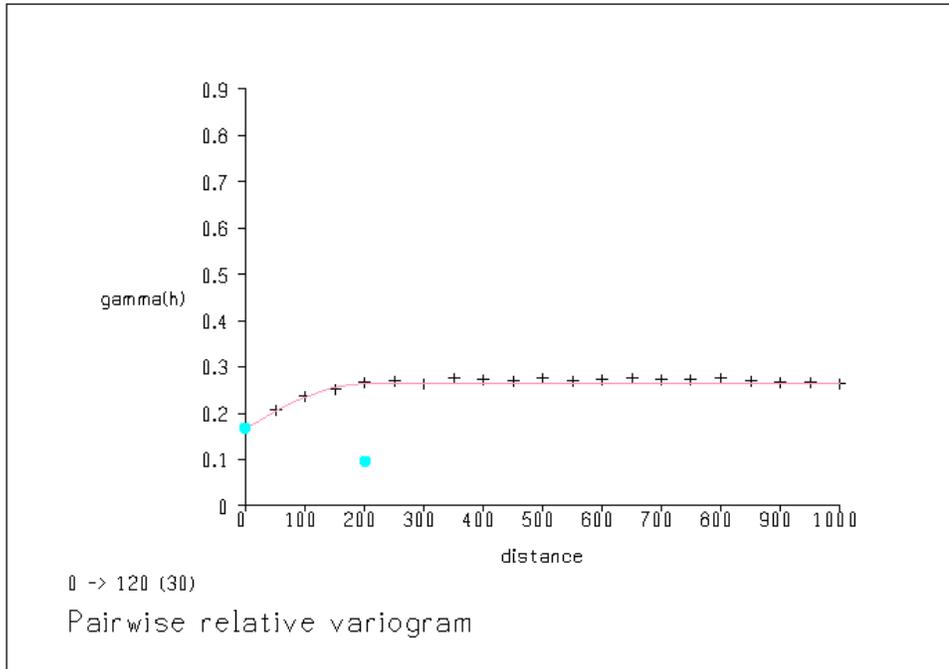
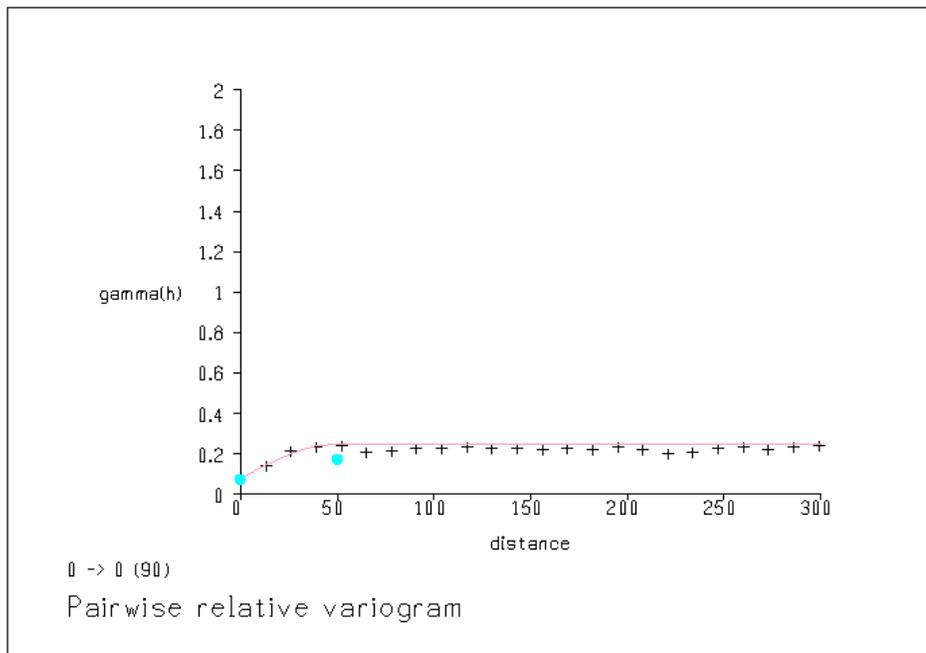


Figure 14.4 Southeast Zone Variogram (Omni-Directional)





## 14.5 Long Valley Resource Classification

Gold mineral resources for the Long Valley property were classified based on the average distance of the composites used to estimate the model blocks, as shown in Table 14.9. For any given model block to be classified as Measured or Indicated, the grade of the block had to be estimated from at least two composites. Silver was not estimated.

**Table 14.9 Long Valley Resource Classification Parameters**  
Average Composite Distance

Area	Au Zone	Measured (ft)	Indicated (ft)	Inferred (ft)
<b>Hilton Creek / South Zone</b>	1	0 - 100	100 - 200	> 200
	2	0 - 75	75 - 150	> 150
	3	0 - 50	50 - 100	> 100
	99	0 - 50	50 - 100	> 100
<b>Southeast Zone</b>	21	0 - 50	50 - 100	> 100
	22 - 23	0 - 25	25 - 50	> 50
	99	0 - 50	50 - 100	> 100

MDA completed a nearest neighbor model of the deposit as a check of the kriged model. The results of the nearest neighbor model compared favorably, as shown in Table 14.10.

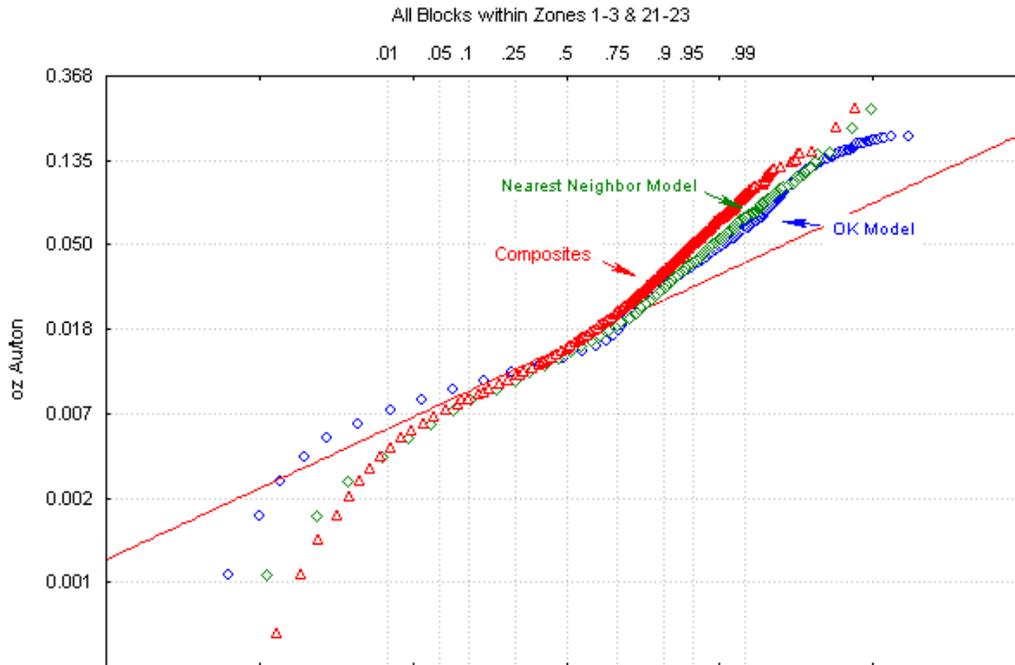
**Table 14.10 Comparison of Nearest Neighbor Model with Ordinary Kriging Model (all material)**

Model Type	Cut off (oz Au/ton)	Tons	Au Grade (oz/ton)	Au Ounces
Ordinary Kriging (reported M&I)	0.010	68,276,000	0.018	1,211,200
	0.015	27,809,000	0.026	727,700
	0.020	15,924,000	0.034	533,900
	0.050	1,584,000	0.065	102,300
	0.100	77,000	0.123	9,500
Model Type	Cut off (oz Au/ton)	Tons	Au Grade (oz/ton)	Au Ounces
Nearest Neighbor (check)	0.010	70,507,000	0.018	1,246,000
	0.015	28,433,000	0.026	740,000
	0.020	15,999,000	0.033	533,000
	0.050	1,588,000	0.064	101,000
	0.100	77,000	0.114	9,000
% Diff	Cut off (oz Au/ton)	Tons	Au Grade (oz/ton)	Au Ounces
	0.010	3%	0%	3%
	0.015	2%	-1%	2%
	0.020	0%	-1%	0%
	0.050	0%	-1%	-1%
	0.100	0%	-8%	-5%



Figure 14.5 compares the distribution of the kriged and nearest neighbor models and the drill composites for zones 1-3 and 21-23.

**Figure 14.5 Distribution of Block Models and Composites**



### 14.6 Long Valley Resource Estimate

A pit was optimized so that resources could be reported based on calculated cutoff grades of the material contained within the optimized pit. The parameters used to generate the optimized pit are shown in Table 14.11.

**Table 14.11 Pit Optimization Parameters**

Item	Units	Parameter
Pit Slope	degrees	45°
Gold Price	\$ per ounce gold	\$ 1,500
Mining	\$/ton mined	\$ 1.70
Crushing	\$/ton processed	\$ 1.40
Heap Leach	\$/ton processed	\$ 1.80
Sulfide Plant	\$/ton processed	\$ 8.60
G&A per Ton	\$/ton processed	\$ 0.63
Refining Cost	\$/oz Au Produced	\$ 5.00
Recovery (Oxide - Less than 150' below surface)	% Heap Recovery	80%
Recovery (Transition - 150-200' below surface)	% Mill Recovery	90%
Recovery-Plant (Sulfide - Below sulfide surface)	% Mill Recovery	90%



The Long Valley gold resources are tabulated in Table 14.12. The estimated resources are reported at cutoffs that are reasonable given anticipated mining methods, processing costs, and economic conditions, which fulfills regulatory requirements that a resource exists “in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.”

The material contained in the optimized pit at a \$1500 gold price above the cutoff grades based on the parameters in Table 14.11 is reported as the current resource effective April 25, 2018. These resources are summarized in Table 14.12. Representative block-model cross sections of the Hilton Creek, Southeast, and South zones are shown in Figure 14.7, Figure 14.8, and Figure 14.9, respectively.

**Table 14.12 Long Valley Resources (Imperial Units)**

Ore Type	Cutoff (oz Au/ton)	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
		K Tons	oz Au/t	K ozs Au	K Tons	oz Au/t	K ozs Au	K Tons	oz Au/t	K ozs Au	K Tons	oz Au/t	K ozs Au
Oxide	0.005	15,923	0.016	258	20,022	0.019	378	35,945	0.018	636	9,192	0.020	185
Transition	0.00639	2,007	0.014	27	2,256	0.014	32	4,263	0.014	59	1,314	0.016	21
Sulfide	0.00639	12,349	0.016	196	21,079	0.017	356	33,428	0.017	552	15,464	0.018	280
Total	Variable	30,279	0.016	481	43,356	0.018	766	73,635	0.017	1,247	25,970	0.019	486

**(Metric Units)**

Ore Type	Cutoff (oz Au/ton)	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
		K Tonnes	g Au/t	Kg Au	K Tonnes	g Au/t	Kg Au	K Tonnes	g Au/t	Kg Au	K Tonnes	g Au/t	Kg Au
Oxide	0.156	14,445	0.556	8,031	18,164	0.647	11,747	32,608	0.607	19,778	8,339	0.690	5,750
Transition	0.187	1,821	0.463	843	2,046	0.492	1,007	3,867	0.478	1,850	1,192	0.540	643
Sulfide	0.187	11,203	0.544	6,100	19,122	0.579	11,071	30,325	0.566	17,171	14,028	0.622	8,722
Total	Variable	27,469	0.545	14,974	39,332	0.606	23,825	66,801	0.581	38,799	23,560	0.642	15,116

Of note are three items that the author believes needs improved definition, in regards to resource modeling, and need further work – the metallurgical, density, and geologic models.

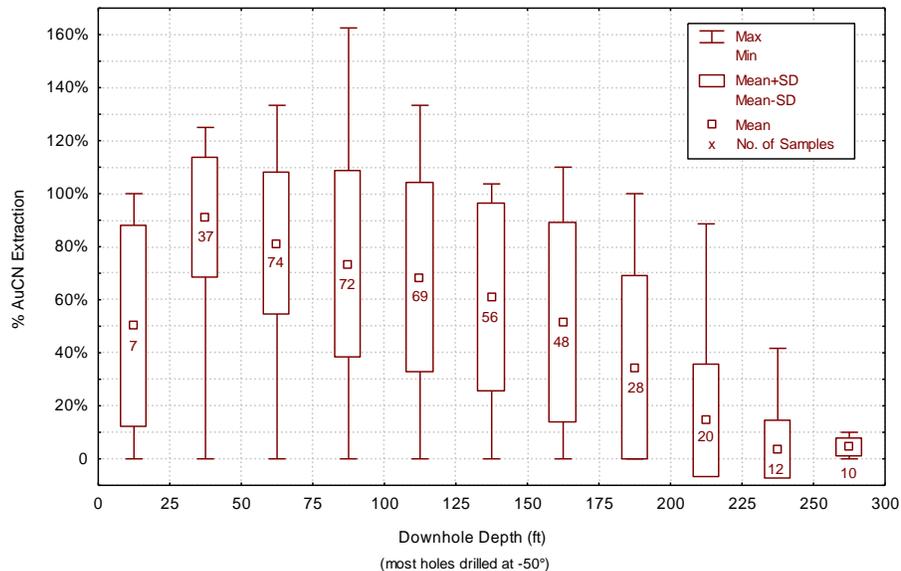
Metallurgical Model

Resources reported as *oxide* in this report is that material situated above an oxide-sulfide boundary that was provided to MDA by Vista for the 2003 report (Prenn and Muerhoff 2003). The surface was created by R. Steininger, consultant to Royal Gold and Mono County Mining Company, who generally determined the boundary location by recording the last occurrence of oxide minerals observed in the drill cuttings or core (Steininger, pers. comm.). This boundary represents the deepest limits of oxidation.

To test the validity of this boundary, MDA reviewed the cyanide bottle roll leach assays results from samples coded as oxide in the database; the results are shown graphically in Figure 14.6.



Figure 14.6 AuCN Extraction Data for Samples Logged as Oxide



As illustrated in Figure 14.6 the cyanide bottle roll assays show that a portion of the samples do not exhibit gold recovery indicative of oxide mineralization. The oxide-sulfide boundary provided by Vista to MDA for use in the resource model was not based on analytical data and, as a result, resources reported as *oxide* include some portion of mixed oxide-sulfide, and sulfide material. Further work is needed to better define and model the oxide, mixed, and sulfide zones, in a metallurgical context.

### Density Model

The density of the ore and waste materials vary considerably as indicated in Section 14.3. Additional testing is required to develop a higher-confidence density model for the deposit.

### Geologic Model

While there has been a significant amount of geologic study and geologic data collected, as far as MDA can ascertain, very little interpretive geologic modeling has been done for the Long Valley deposit in regards to resource modeling and the understanding of geologic controls on the mineralization. Much of the impact of this on the resource is offset by the close, systematic drill spacing and generally flat-lying, tabular nature of the mineralization. However, a considerable amount of the Indicated and Inferred resources would likely be placed into higher-confidence resource categories if the controls on mineralization were better understood.

Also, there is general agreement among geologists who have been involved with the Long Valley project that there is likely a high-angle structural control on higher grade (+ 0.1 oz Au/t) mineralization. In lieu of hard data to support this, MDA modeled the high grade zones with the same geometry as the lower grade mineralization. As a result, the inclusion of this higher grade material in the Measured and Indicated resource categories was more restrictive than if there were better geologic support.



Figure 14.7 Hilton Creek Block Model Section, Looking North

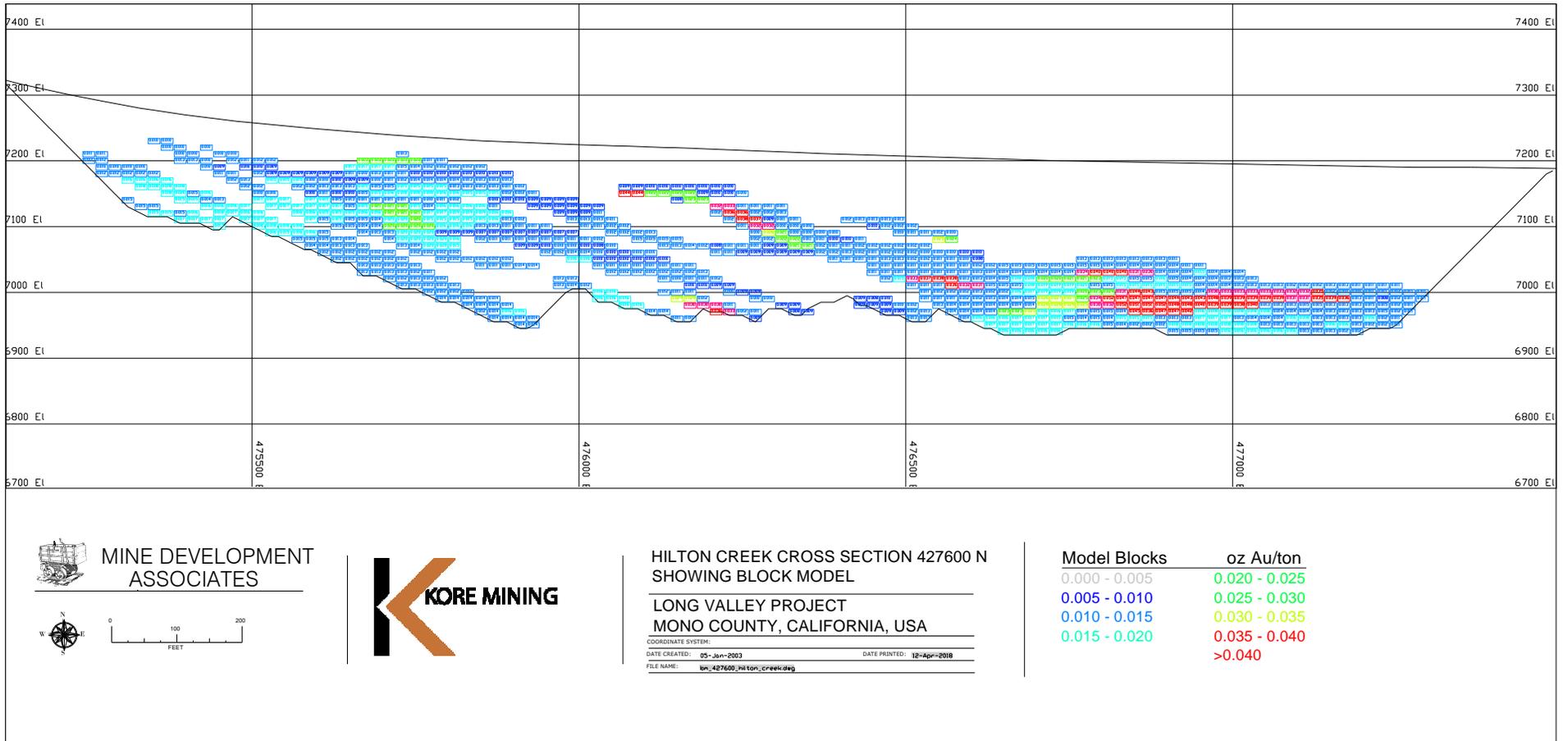




Figure 14.8 Southeast Zone Block Model Cross Section, Looking North

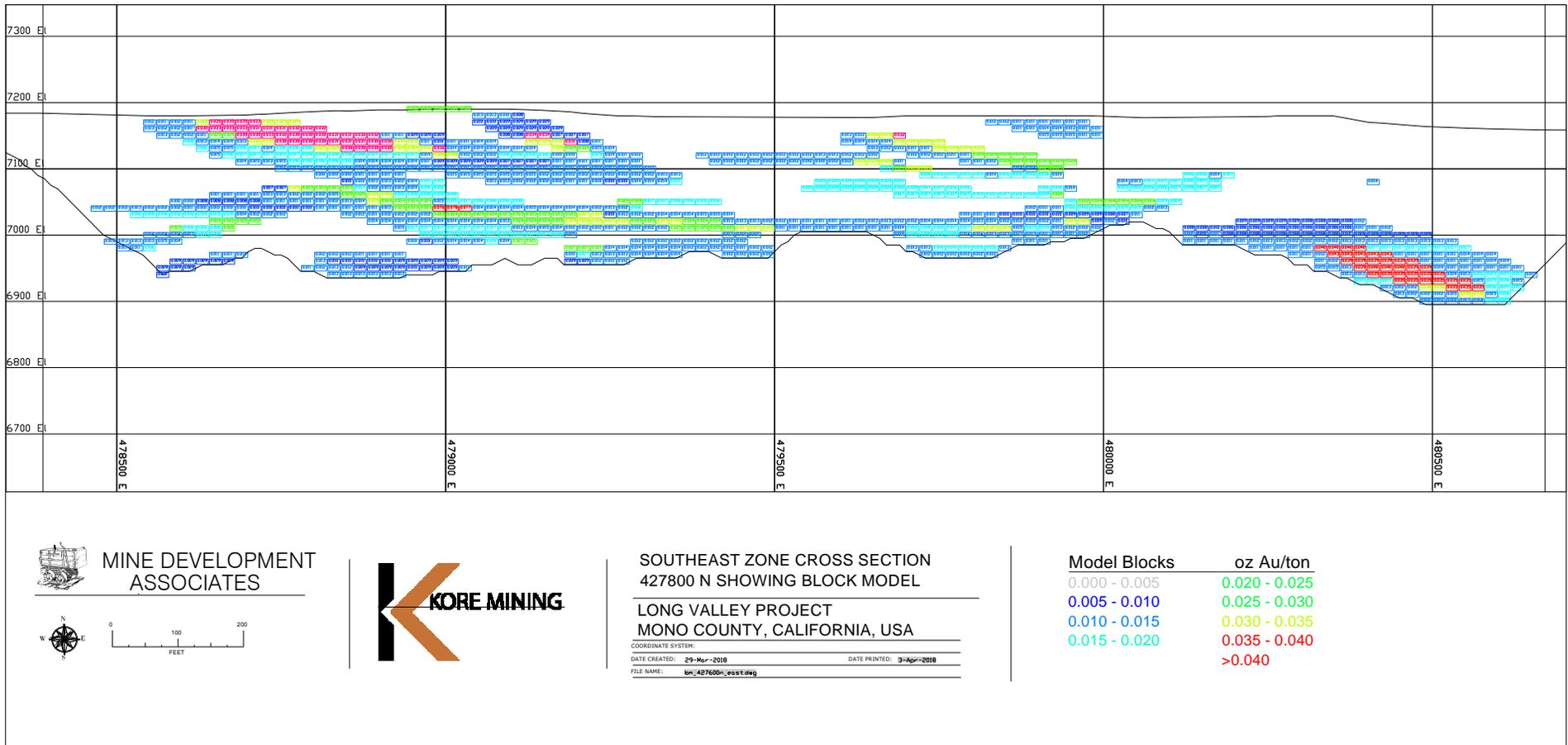
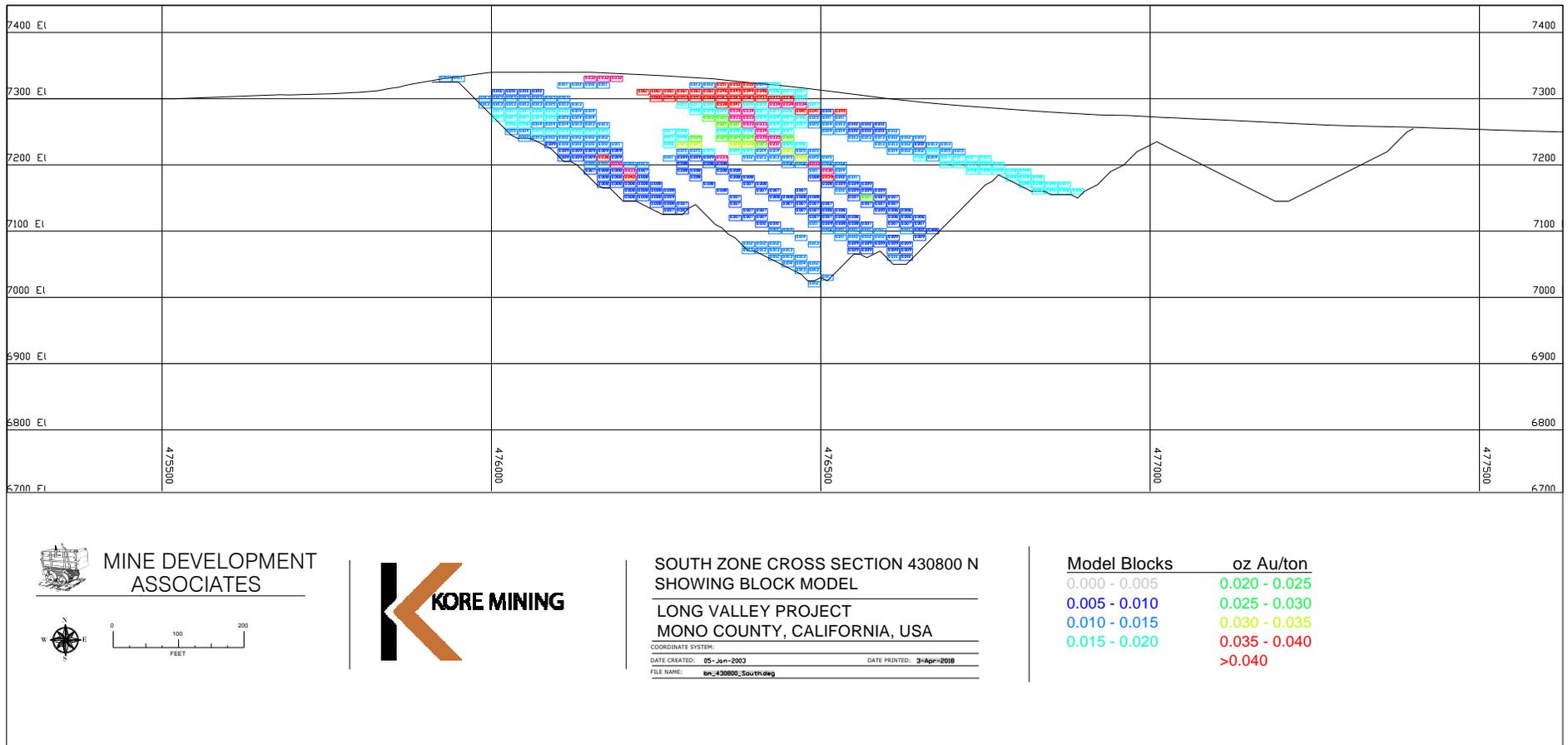
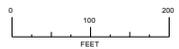




Figure 14.9 South Zone Block Model Cross Section, Looking North



MINE DEVELOPMENT ASSOCIATES



SOUTH ZONE CROSS SECTION 430800 N  
 SHOWING BLOCK MODEL  
 LONG VALLEY PROJECT  
 MONO COUNTY, CALIFORNIA, USA

COORDINATE SYSTEM:  
 DATE CREATED: 05-Jun-2003 DATE PRINTED: 3-Apr-2018  
 FILE NAME: km\_430800\_South.dwg



### **23.0 ADJACENT PROPERTIES**

There are no other gold or silver properties known in the general area of the Long Valley property. About one-half mile north of the claim block is an area of previous mining activity by Standard Industrial Minerals for the extraction of kaolinite clay that was mined from a series of small open pits and trucked off-site for processing. Although Standard was actively mining kaolinite at the time MDA last prepared a report on the Long Valley property (Prenn and Dyer, 2008), they are not currently active.



## **24.0 OTHER RELEVANT DATA AND INFORMATION**

Obtaining operating permits for the project may be more difficult than normal due to the project's proximity to the town of Mammoth Lakes, California, where the predominant source of revenue is derived from tourism. The main anticipated issues relating to the future development of a mining operation at Long Valley would likely be the impact on the current tourism-based economy and particularly the potential visual impacts, impacts to ground water in the area, and the use and containment of cyanide solutions.

The author knows of no current impediments to or impacts from the recommended work programs that would keep the company from completing the Phase 1 and Phase 2 work programs as outlined in Section 26 of this report.



## 25.0 INTERPRETATION AND CONCLUSIONS

The Long Valley property is a property of merit with a large, potentially bulk-mineable, open-pit gold resource which is well defined by a large drill hole database. The drill sample collection and assaying were performed to industry standards at the time, and provide a good basis for any future work to be performed on the property.

The deposit is open to depth and also in several areas along strike for resource expansion.

Mr. Prenn believes that three models need to be developed to better characterize the deposit and that these should be developed prior to a more extensive economic evaluation of the deposit. First, a geologic model needs to be prepared for the deposit. This will likely entail additional core drilling and relogging of drill hole cuttings. Within the geologic model, rock type boundaries need to be developed, the angles of the mineralization to the core axis need definition, and the structural features of the deposit need to be developed.

Second, a metallurgical model needs to be developed. The present oxide/sulfide boundary includes material as oxide that has low cyanide soluble gold. The present boundary is based on the last occurrence of oxide. Two boundaries need to be developed that divide the deposit into areas of high, medium, and low cyanide soluble areas.

Third, the density of the deposit needs to be modeled. The tests have shown densities that vary between 58 and 175 lbs/ft<sup>3</sup>. The density needs to be related to the rock types developed for the geologic model. The tests performed so far suggest an increase of density with depth.

The author has reviewed the project data, including the Long Valley drill hole database, and visited the project site. The author believes that the data provided by Kore and Kore's predecessor, Vista, are generally an accurate and reasonable representation of the Long Valley project.

### 25.1 Risks and Uncertainties

As described above, it is important that geologic, metallurgic, and density models be developed for the deposit. There is a risk that the more detailed future work will reveal currently unsuspected metallurgical problems or geological issues that could reduce the potential for the Long Valley deposit to be exploited profitably.

Additional geological detail is required that can be generated by relogging of existing drill chips and by infill drilling, but such work may show that the continuity of the mineralization is less than has been modeled using the current information. This could result in reductions in the estimated tonnages and/or grades of mineralization. The author emphasizes that this is a normal exploration risk, and that the uncertainty could lead to both downside risk and upside potential.

The area of the current resource is open to expand at depth and to the south, north, and east. Although future exploration could lead to the discovery of additional mineralization with the potential to add to the currently estimated resource, there is no certainty that future exploration will lead to such discoveries. This is a normal exploration risk.



## **26.0 RECOMMENDATIONS**

Additional data need to be obtained to better define the geologic, metallurgical, and density models for the deposits. For Phase 1, the first step is relogging of the existing drill chips to create a uniform geologic database and to delineate oxide, mixed, and sulfide boundaries that will more accurately represent the various metallurgical domains of the deposits. Additional work will include geophysical surveying and interpretation, geochemical sampling, and testing of pulps for silver using 4-acid digestion. Based on results of these activities, a drill program will be designed and a drilling permit obtained. Phase 1 will determine the drill targets for Phase 2 and will aid in the decision-making process for the ultimate size and scope of Phase 2. The Phase 2 program is conditional on obtaining successful results from the Phase 1 program. The second phase is drilling additional core holes to obtain data to supplement, complete, and verify the models. This is expected to involve 10,000-20,000 ft of core drilling. The deposit is open in several areas, but modeling is more critical at this point than developing additional resources.

The area of the current resource is open to expand at depth and to the south, north, and east, but refining the geologic, metallurgical, and density models is more critical at this time than developing additional resources.

Table 26.1 shows the estimated cost of a program that will develop the geologic, metallurgical, and density models as well as update the resources for the deposit.



**Table 26.1 Estimated Cost of Recommended Program**  
(All costs are in US dollars.)

Item	Number	Units	Rate	Total
<b>Phase 1</b>				
Relog Drill Holes & Develop Geologic Map	125	Days	\$800	\$100,000
Drilling Permit	1	1	\$30,000	\$30,000
Drill Hole Targeting & Drill Program Design	62.5	Days	\$800	\$50,000
Geophysics & Interpretation	1	Lot	\$120,000	\$120,000
Geochemical Sampling	1	Program	\$50,000	\$50,000
Testing Pulps for Ag Using 4-acid Digestion	1	Lot		\$50,000
<b>Subtotal Phase 1</b>				<b>\$400,000</b>
<b>Phase 2</b>				
Environmental Studies	2	1	\$40,000	\$80,000
Core Drill Holes	15,000	Feet	\$100	\$1,500,000
Density Testing	3,000	Samples	\$50	\$150,000
Shaker Cyanide Extraction	2,000	Samples	\$20	\$40,000
Sulfide Metallurgical Testing	1	Lot	\$30,000	\$30,000
Grade and other Models	1	Lot	\$80,000	\$80,000
<b>Subtotal Phase 2</b>				<b>\$1,880,000</b>
<b>Total Program</b>				<b>\$2,280,000</b>

After this work has been completed, the results of the program should be assessed to determine if a preliminary economic assessment should be completed for the property.



## 27.0 REFERENCES

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## **28.0 DATE AND SIGNATURE PAGE**

Effective Date of report: April 25, 2018

The data on which the contained resource estimates are based were current as of the Effective Date.

Completion Date of report: April 25, 2018

**“Neil Prenn”**

Neil Prenn, P.E.

Date Signed:  
April 25, 2018

**“Steven I. Weiss”**

Steven I. Weiss, C.P.G.

Date Signed:  
April 25, 2018



## 29.0 CERTIFICATE OF AUTHOR

I, Neil Prenn, P.E., do hereby certify that I am currently employed as Principal Mining Engineer with Mine Development Associates, Inc., 210 South Rock Blvd, Reno, Nevada 89502, USA, and;

1. I am a graduate of the Colorado School of Mines with an Engineer of Mines degree, 1967. I have practiced my profession continuously since 1967. I have been an independent consultant for over 31 years;
2. I am a Registered Professional Mining Engineer in the state of Nevada, USA (#7844). I am a registered 'QP' member with the Mining and Metallurgical Society of America (MMSA-01283QP). I am a member of the Society for Mining, Metallurgy, and Exploration, Inc. (SME). I have worked in technical, operations and management positions at mines in the United States;
3. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101;
4. I visited the Long Valley project site on October 30, 2002 and on February 21, 2018;
5. I am responsible for all sections of this report, except Sections 7 and 8, titled, *Technical Report and Resource Estimate for the Long Valley Project, Mono County, California, USA* for Kore Mining Ltd. ("Technical Report"), with an effective date of April 25, 2018.
6. My prior involvement with the Long Valley project includes preparation of a previous Technical Report titled *Technical Report, Long Valley Project, Mono County, California USA* dated February 20, 2003, of which portions were prepared by Charlie Muerhoff, who was an employee of MDA at the time, and co-author of *Technical Report, Preliminary Assessment, Long Valley Project, Mono County, California USA* dated January 9, 2008.
7. I am independent of Eureka Resources Inc., Kore Mining Ltd. and all of its affiliates and subsidiaries, and the Long Valley Property, as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.
8. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the technical report not misleading;
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

Dated April 25, 2018.

***Neil Prenn***

Neil Prenn, P.E.



## CERTIFICATE OF QUALIFIED PERSON

**STEVEN I. WEISS, PH.D., C.P.G.**

I, Steven I. Weiss, C.P.G., do hereby certify that:

- I am currently a self-employed Senior Associate Geologist for Mine Development Associates, Inc., located at 210 South Rock Blvd., Reno, Nevada, 89502; and
- I graduated with a Bachelor of Arts degree in Geology from the Colorado College in 1978, received a Master of Science degree in Geological Science from the Mackay School of Mines at the University of Nevada, Reno in 1987, and hold a Doctorate in Geological Science from the University of Nevada, Reno, received in 1996.
- I am a Certified Professional Geologist (#10829) with the American Institute of Professional Geologists and have worked as a geologist in the mining industry and in academia for more than 35 years.
- I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”). I have previously explored, drilled, evaluated and reported on gold-silver deposits in volcanic and sedimentary rocks in Nevada, California, Canada, Greece, and Mexico. I certify that by reason of my education, affiliation with certified professional associations, and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
- I am a co-author of this Technical Report titled “*Technical Report and Resource Estimate for the Long Valley Project, Mono County, California, USA*” prepared for Kore Mining Ltd., and with an effective date of April 25, 2018. Subject to those issues discussed in Section 3.0, I am responsible for Sections 7 and 8 of this Technical Report.
- I had involvement with the property that is the subject of this Technical Report, working as a contract geologist for Royal Gold Inc. on the property in 1996. I last visited the Long Valley project site for two weeks in November of 1996.
- I am independent of Eureka Resources Inc., Kore Mining Ltd. and, and all of their respective subsidiaries, and the Long Valley Property, as defined in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.
- To the best of my knowledge, information and belief, as of the effective date the Technical Report contains the necessary scientific and technical information to make the Technical Report not misleading.
- I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with the requirements of that instrument and form.

Dated this 25<sup>th</sup> day of April, 2018

“*Steven I. Weiss*”

Signature of Qualified Person  
Steven I. Weiss, Ph.D., C.P.G.