

MINE DEVELOPMENT ASSOCIATES

MINE ENGINEERING SERVICES

# Technical Report and Preliminary Economic Assessment on Wind Mountain Gold Project Washoe County, Nevada



Prepared for

# FORTUNE RIVER RESOURCE CORPORATION

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Appendix A List of Claims



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#### 1.0 SUMMARY

Mine Development Associates ("MDA") has prepared this Technical Report on the Wind Mountain Gold project, Nevada, USA ("Wind Mountain") at the request of Fortune River Resource Corporation ("Fortune River") through its wholly owned subsidiary Rio Fortuna Exploration (US) Inc. The purpose of this report is to provide an update to the Technical Report entitled "*Technical Report on the Wind Mountain Gold Project*" (Noble and Ranta, 2007). MDA"s updated Technical Report includes results of a Preliminary Economic Assessment ("PEA") completed by MDA, as well as updates with respect to permitting and drilling. This report was written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators" National Instrument 43-101, Companion Policy 43-101CP, and Form 43-101F1.

The Wind Mountain epithermal gold deposit was subject to previous open pit mining and heap leaching between 1989 and 1999 by Amax Gold Inc. ("Amax Gold"), through its subsidiary Wind Mountain Gold, Inc. Wind Mountain Gold, Inc. is now a wholly owned subsidiary of Kinross Gold USA, Inc. Fortune River now has control of claims in and around the existing Amax Gold pits, which were abandoned due to low gold prices and unfavorable economics at the time. The PEA is aimed at analyzing the economic potential of mining resources below and around the existing pits considering substantially higher current metal prices.

The resource estimate is left unchanged from the previously reported estimate that was subject of Noble and Ranta's 2007 Technical Report. The resource is based on the geologic interpretation derived from the drilling of all previous owners of the property and supplemented by surface exploration work and drilling completed by Fortune River in 2007. The resource is within the area that was disturbed by previous mining activities and includes both the Wind Pit area to the south and the smaller Breeze Pit area to the north. The deposits within this previously disturbed area are the principal focus of this report. Future resource estimates also may be able to include gold-bearing material in the heaps and dumps, which are located within the boundaries of the disturbed area.

This report was prepared under the supervision of Thomas L. Dyer, Senior Engineer for MDA, who contributed the sections on metallurgy (Section 16.0), the PEA (Section 18.0), and recommendations (Section 20.0). Alan C. Noble, Principal Engineer for Ore Reserves Engineering, is a co-author of this report and contributed the sections on setting, history, geology and mineralization, exploration, drilling and sampling, data verification, and adjacent properties (Sections 5.0 through 15.0) as well as the section on the resource estimate (Section17.0), which forms the basis of the PEA. Mr. Dyer and Mr. Noble share responsibility for the interpretation and conclusions (Section 19.0). Debra Struhsacker, an independent Environmental Permitting and Government Relations Consultant, has contributed Section 4.3 on environmental liabilities and permitting.

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#### 1.1 Location

The Wind Mountain Gold project is located in the northern portion of Washoe County, approximately 20 road miles south of the small town of Gerlach, and approximately 65 road miles north of the larger town of Fernley. It is approximately two hours by car north-northeast of Reno.

The Wind Mountain property is located in Sections 3 and 10, T 29 N, R 23 E, and Sections 20, 21, 22, 27, 28, 29, 33, and 34, T 30 N, R 23 E. of the Mount Diablo Meridian. The property is composed of 147 unpatented lode mining claims that total approximately 2,600 acres. The claims are currently in good standing, and all holding costs have been paid through September 1, 2010. Claims are wholly owned or leased by Rio Fortuna Exploration (US) Inc.

# 1.2 Geology and Mineralization

The Wind Mountain property lies in the Basin and Range physiographic province, a region marked by moderate to high mountain ranges separated by desert valleys. The deposit type is low- to intermediate-sulfidation, and it is located in the highly prospective Walker Lane gold trend in northwestern Nevada.

All of the previously mined gold mineralization at Wind Mountain is contained within a gold-silver epithermal system in late-Tertiary volcanic and volcaniclastic rocks that show substantial evidence of hot spring activity. Older metasedimentary rocks are exposed on the southern portion of the property and crop out within a few hundred feet to the east of the property. These rocks have been intersected in drill holes (Wood, 1990) beneath the Tertiary volcanic section at some places on the property. The geology of the property is well summarized by Wood (1990), and only minor deviations from his published mapping and rock descriptions are included in this report.

The project area is underlain by weakly metamorphosed Mesozoic sedimentary rocks. The upper Miocene volcanic and volcaniclastic rocks exposed at surface host nearly all of the known gold mineralization. Strong hydrothermal alteration of the volcaniclastic rocks is found over an area of 2.5 square miles that is cut by several large north-striking normal faults as well as northeast- and northwest-trending structures. Intense silicification occurs in and adjacent to major structures with broad envelopes of moderate to weak argillization peripheral to the stronger alteration. Both structures and favorable stratigraphic horizons were receptive hosts for mineralizing fluids. Multiple indicators give evidence that: 1) the deposit formed in a near-surface environment from a hot-spring-type geothermal system, 2) it is relatively young (<16ma), and 3) erosion of the deposit has been limited.

The geologic controls of gold mineralization at Wind Mountain are a combination of: 1) proximity to steeply dipping north-trending structural zones that may have been "feeders"; 2) stratigraphic horizons that were favorable (porous and permeable) to mineral deposition; and 3) possibly paleo-elevation. The previously mined Wind and Breeze deposits are pod-like in shape and strike north to northeast, with a shallow plunge to the south. The informally named Deep Min zone is located west of the Wind deposit and is believed to be a portion of that deposit that has been dropped down 700ft along the Wind Mountain fault.



Gold mineralization in the Wind and Breeze deposits occurs as electrum. Oxidation and leaching are strongly developed to depths over 600ft. The degree of oxidation can have significant impact on the metallurgical recovery of gold from material in each of those zones.

# **1.3 Exploration and Mining History**

A progression of companies began conducting modern exploration activities on the Wind Mountain property in 1978. Amax Exploration, Inc. first leased the property in 1980 and drilled 10 holes but relinquished the property in 1982. Several other companies, Santa Fe Pacific and Chevron Resources, conducted exploration programs that included drilling 38 reverse-circulation holes. Amax Gold Inc. acquired the property in 1987 and began two phases of work, which developed precious metal reserves of oxide material. Amax Gold drilled a total of 416 drill holes for a total of 145,590 feet of drilling. Most of the Amax Gold exploration activities were directed toward the discovery and development of relatively shallow oxide gold-silver mineralization that could be mined in two small- to medium-sized open pits (Breeze deposit and Wind deposit) and then heap leached. A total of 433,194 ounces of gold were contained in the mined and processed material, which consisted of approximately 24.6 million tons of ore averaging 0.018oz Au/t. Although silver was recovered from the ore during heap leaching, a premining evaluation of the silver content of the ore was never completed.

Amax Gold produced 299,259 ounces of gold and 1.77 million ounces of silver from the Wind Mountain Mine by open pit mining and heap leaching from 1989 through 1999. The property was considered one of the lowest grade mines of its time but was still profitable because of a combination of factors including low stripping ratio, good cyanide leaching recoveries, and low process costs.

Mining was done by conventional loader and truck operations in two open pits. A mining cutoff grade of 0.010oz Au/t was used. Two leach pads were operated, and 78% of the leached material was run-of-mine while the remaining leach material was crushed before placement on the pads. Total gold recovery was 69% after rinsing of leach pads. Through historic mining, approximately 5.9 ounces of silver were recovered for every recovered ounce of gold.

Prior to completion of permitted pits, mining was stopped in 1992 due to rising costs, low metal prices, and disputes over royalty positions. Gold production continued through 1999 through additional leaching and rinsing of material on the heap leach pads.

#### 1.4 Exploration by Fortune River

Fortune River acquired the property in February 2006. Fieldwork conducted by Fortune River to date includes surface rock-chip sampling, geologic mapping, a ground magnetics survey, dump sampling, and drilling of 13 holes in 2007 and 14 holes in 2008. Fortune River also collected historic data and developed a 3-D computer model of geology and mineralization using Discover 3D and Go Cad computer programs. Crist (2007a) conducted the sampling and mapping for Fortune River as an independent consultant. He collected 168 rock samples from the surface including many from within the pits. A detailed ground magnetics geophysical survey was completed in April 2006. These data indicate that disseminated gold was deposited over a broad area along relatively flat-lying permeable horizons, with higher concentrations along fracture sets and small-scale faults trending north, northeast, and northwest.



Fortune River completed their Phase I reverse-circulation drilling of 13 relatively shallow holes during 2007 at Wind Mountain. Two of these holes and adjacent Amax Gold holes verified that a portion of the original Breeze deposit was not mined, reportedly due to a royalty dispute during mining in the early 1990's. These drill results also confirmed the presence of additional unmined mineralization underneath and adjacent to the existing pits. The program also indicated considerable exploration potential along the entire 1.8 mile-long Wind Mountain fault zone.

Following the completion of the 2007 Phase I drilling and exploration program, Fortune River contracted Alan Noble of Ore Reserves Engineering to complete the resource estimate that was published in 2007 and forms the basis of the PEA in this report.

Additional drilling was done by Fortune River at Wind Mountain in 2008. The drilling was accomplished as Phase II and Phase III, and a total of 16,220 feet of reverse circulation drilling was accomplished in 14 holes that ranged between 420 and 1,520 feet in depth. The vast majority of the drilling was done to test for high-grade precious metal mineralization at depth along a 4,000 foot section of the Wind Mountain fault, including the span between the Wind and Breeze Pits. The fault zone was penetrated by several holes, but no bonanza grade mineralization was encountered.

A new pod of gold mineralization, known informally as Deep Min, was partially defined by the deep drilling on the west side (hanging wall) of the Wind Mountain fault where the mineralization has been dropped down approximately 700ft from the mineralization that was mined in the Wind Pit. Seven holes penetrated thick zones (between 100ft and 500ft) of continuous gold mineralization in the 0.5ppm Au range. No 43-101-compliant resource has been established for Deep Min at this time because of the minimum depth of 465ft to the top of the mineralization, questionable metallurgical characteristics, and other negative factors.

Fortune River also conducted testing of the dump material in 2008 to evaluate the precious metal content and metallurgical characteristics of the dump material. A total of 108 samples were collected from 55 locations. Gold contents ranged from a minimum of 0.0020ppm Au to 0.886ppm Au, and silver ranged from 0.900ppm Ag to 79.00ppm Ag. The average grade was 0.298ppm Au and 9.05ppm Ag for the 108 samples. In order to conduct bulk testing of the Wind Mountain Mine dumps, two 20-ton bulk samples, one of Wind Pit material and the other of Breeze Pit material, were collected, assayed, and metallurgically tested by McClelland Laboratories, Inc.

#### 1.5 Drilling

The drill-hole database for the Wind Mountain Gold project consists of 477 predominantly reverse circulation holes for a total of 189,524 feet of drilling. The drilling by company is as follows: Amax Exploration, Inc (10 holes), Chevron (6 holes), Santa Fe (32 holes), Amax Gold (416 holes), and Fortune River (27 holes). Holes in the mineralized zone have 200ft to 400ft spacing, and reverse circulation sampling interval was 5ft.

Most of the drill-hole assaying was accomplished by major laboratories that were in existence at the time of the drilling programs. Fortune River assayed for gold using a 30g fire assay with an AA finish and a multi-element ICP package that included silver. Samples over 1ppm Au were typically re-run using fire assay with a gravimetric finish, which typically matched the AA finish well.



In addition to the drill-hole data, blasthole data were available in the Amax Gold archives that contained blasthole coordinates with gold and silver assays for 81,275 blastholes. The blasthole data were compared with closely spaced drill-hole composites, and it was shown that blasthole gold grades were unbiased in comparison to drill hole gold assays.

During drilling, groundwater was encountered in many of the deep holes. Discharge from the reverse circulation rig was as much as 120 gallons per minute in one 1,000ft hole, and water temperature as high as 114° F was recorded. Sufficient drilling has been done by Amax Gold and Fortune River to indicate that no geothermal conditions will hinder the mining of the established near-surface resource.

# 1.6 Mineral Processing and Metallurgical Testing

Several metallurgical studies have been completed on the Wind Mountain Gold project, but the most compelling indication for gold and silver recovery is from historical production that occurred between 1989 and 1999.

The most significant metallurgical studies suggested gold recoveries of 51% to 67% would be possible, though most test work anticipated crushing of ore. A McClelland Laboratories study (McClelland, 1990) suggested that gold recoveries of 58% would be possible as well as silver recovery of 17%.

Historic production confirmed the deposit as amenable to leaching with a total recovery of gold of 67%. In addition, a total of 1.77 million ounces of silver was recovered during historical operations; however, the silver grade analysis lacked the confidence to properly track recovery.

In 2008 Fortune River commissioned McClelland Laboratories to conduct column testing of two bulk dump samples from the Wind and Breeze Pits. Leaching of the Wind Pit material for 134 days recovered 60.7% of the gold and 14.6% of the silver. The dump sample from the Breeze Pit had a high clay content which did not allow the leach solutions to pass through the column. A prominent clay layer was encountered within the trench from which the Breeze sample was derived, and no attempt was made to segregate the clay layer from the sample in order to indicate the probable results of a worst case scenario. According to Alan Noble, production records indicate that high-clay material was selectively sent to the waste dump, even if it had ore-grade mineralization.

Fortune River also directed BSI Inspectorate to conduct one-hour cold cyanide extraction tests on the 108 dump samples that were collected from the three largest dumps. Average extraction of 98% of the gold and 104% of the silver was achieved.

Cold cyanide extraction tests were also conducted by BSI Inspectorate and ALS Chemex Labs on intervals of two holes from Deep Min. The mineralization that was tested is not considered a resource by this study. It lies at depths of more than 600 feet beneath the surface and ranges from partially to totally unoxidized. Cold cyanide extraction tests yielded average extraction of between 10- and 41% of the gold and between 31- and 44% of the silver.



#### 1.7 Mineral Resource Estimate

The resource estimate for this report was prepared by Alan Noble of Ore Reserves Engineering in 2007. MDA has used this existing resource estimate to complete the PEA portion of this report. The 2007 estimate was completed using 3-dimensional block modeling methods with inverse-distance-power estimation of gold and silver grades. Grade estimation was controlled using three-dimensional wire-frame interpretations of the gold-grade zoning. Grade estimation parameters were defined based on variogram trends and further optimized so the grade distribution in the mined-out portion of the resource matched closely with a block model that was created from blasthole data. Resource classes were defined based on the spacing of drill holes around the blocks as measured by the kriging variance from a linear variogram. Resource modeling was done using Datamine Studio 3 software and Sage2001 variogram modeling software. The resource estimate is summarized in Table 1.1

Silver resources are not reported in this estimate because of concern regarding silver assays. In addition, the oxidation state of the reported resource has not been defined; cyanide-leaching recovery may be strongly dependent on oxidation state. Although preliminary indications are that much of the resource is oxidized, preparation of an oxidation model is recommended for future estimates.



			,	/	
Class	Zone	Cutoff	Tons	Gold Grade (oz Au/t)	Ounces Gold
	Wind Mineralized	0.008	11,425,342	0.011	128,926
	Breeze Mineralized	0.008	10,170,139	0.014	140,359
Measured	Wind Low Grade	0.008	-	-	-
	Breeze Low Grade	0.008	-	-	-
	Total		21,595,481	0.012	269,285
	Wind Mineralized	0.008	7,805,168	0.011	85,682
	Breeze Mineralized	0.008	4,256,904	0.012	50,576
Indicated	Wind Low Grade	0.008	-	-	-
	Breeze Low Grade	0.008	-	-	-
	Total		12,062,072	0.011	136,258
	Wind Mineralized	0.008	19,230,510	0.011	214,608
Measured	Breeze Mineralized	0.008	14,427,043	0.013	190,935
plus	Wind Low Grade	0.008	-	-	-
Indicated	Breeze Low Grade	0.008	-	-	-
	Total		33,657,553	0.012	405,543
	Wind Mineralized	0.008	983,229	0.011	11,091
	Breeze Mineralized	0.008	1,584,705	0.011	17,084
Inferred	Wind Low Grade	0.008	4,322,918	0.009	37,422
	Breeze Low Grade	0.008	2,867,695	0.009	26,841
	Total		9,758,547	0.009	92,437

#### Table 1.1 Wind Mountain Gold Deposit Resources by Resource Class and Deposit Area (from Noble and Ranta, 2007)

In addition to the resources described above, an evaluation of the existing heaps and dumps may show reworking of these materials to be economic. Evaluation of the heaps and dumps data by an experienced metallurgist is recommended as part of the metallurgical testing program.

#### **1.8 Preliminary Economic Assessment ("PEA")**

At the request of Fortune River, MDA has completed a PEA for the Wind Mountain Gold project. Note that Canadian NI 43-101 guidelines define a PEA as follows:

A preliminary economic assessment is preliminary in nature and it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized.

The PEA assumes open-pit mining using conventional trucks and shovels and run-of-mine leaching of the Measured, Indicated, and Inferred resources summarized in Table 1.1. A gold price of \$850 per ounce and a silver price of \$14.50 per ounce were used for the economic evaluation. The PEA assumes



that all material sent to leach pads is oxidized and amenable to heap leaching. Economic highlights include:

- Life-of-mine pre-tax cash flow of US\$23.5 million
  - This includes a silver credit of 5.9 ounces of silver for each produced ounce of gold based on historical records.
- Net present value (5% discount rate) of US\$13.2 million
- Internal rate of return of 15%
- Payback period of 3.5 years
- Life-of-mine cash cost of \$497 per ounce of gold after silver credit of \$86 per Au ounce is applied
- Total pre-tax cost of \$719 per ounce of gold after silver credit of \$86 per Au ounce is applied
- Pit designs contain 26.9 million tons of leachable material at 0.012oz Au/t or 320,000 ounces of gold. Strip ratio is 0.70 tons of waste for each ton of leachable material.
- 198,000 ounces of gold recovered.

To summarize, the project location and infrastructure are favorable for mine development, including: good access, favorable topography, a sparsely populated region, nearby availability of power and water, and previous disturbance of the site by mining. Should an economic discovery be made, improvements to necessary infrastructure (power, water, access, housing, etc.) should be reasonably inexpensive. Issues of archeological resources, high geothermal temperatures at depth, and a complication of the land status will need to be monitored as the program progresses, but none of these appears to constitute a significant impediment. There are no known environmental, social, or logistical impediments to developing a mine at Wind Mountain.

The following have been identified as risks:

- The remaining resources to be mined in the PEA have a low average gold grade of 0.012oz Au/t. Due to the low grades, the relative accuracy of assays can cause errors in classification. In addition, the lower grades may exhibit lower metallurgical recovery. During operations, ore control will be a critical issue in making a successful operation.
- Leach material in the PEA is assumed to be oxidized. Poor oxidation can result in much lower recoveries. Additional modeling of oxidation levels is needed to reduce this risk.
- A drop in metal prices can adversely impact the ability of the project to create a profit. In order to mitigate the risk due to falling prices, a strategy for forward selling of gold and silver should be sought.



• The PEA uses silver credit. Silver is not listed as a resource, but historic records shows that it is an important contributor to revenues for the mine. Additional leach testing is recommended to ensure optimization of both silver and gold recoveries, and additional work is required to increase the confidence in modeled silver grades.

The following have been identified as opportunities:

- The PEA uses a lagged timing for the production of gold from leach pads. Reduction of the lag time for gold production can be controlled by careful management of leach pads and optimizing the spray time for ore placed.
- Forward sales of gold and or silver can enhance the project economics. A forward selling strategy that would lock in a 20% increase in metal prices could increase the NPV (5%) by \$30.5 million.
- Existing dumps have been mined using a 0.010oz Au/t cutoff grade. It may be possible to process the finer-grained portions (less than 4") of the existing dumps, either by screening or otherwise selectively removing finer-grained areas.
- With the relatively short mine life, there may be a reasonable mining and process equipment salvage value that can help enhance the project economics. Additionally, the project may lend itself to the use of used equipment, which would reduce initial capital requirements.

#### 1.9 Recommendations

- Additional metallurgical studies should be conducted to determine recoveries of gold and silver grades similar to the remaining resources. MDA estimates the cost for these studies to be approximately \$72,000 USD.
- Prior to developing new mining and heap leach facilities at Wind Mountain, Fortune River should collect adequate baseline data to document the extent of the previous mining facilities and to determine whether there are any potential residual effects of the heap leach processing activities. Collection of the baseline data will require the addition of two or more monitor wells at an estimated cost of \$50,000 USD for two wells.
- Additional reconciliation work should be conducted to better understand the bias between the resource model and blasthole silver grades. This should be done to increase the confidence in silver grade estimates with the goal of stating silver as a resource. MDA estimates these costs to be approximately \$40,000 USD.
- As the PEA economics shows a positive return on investment, the project should be elevated to a pre-feasibility level study. The pre-feasibility study should incorporate additional metallurgical studies, potentials of gold and silver extraction from existing dumps, and a pre-feasibility level



geotechnical study. MDA estimates the cost of a pre-feasibility study to be approximately \$200,000 USD.

- Although preliminary indications are that much of the resource is oxidized, preparation of an oxidation model is recommended for future estimates. MDA estimates the cost of this work will be \$20,000.
- Evaluation of the heaps and dumps data by an experienced metallurgist is recommended as part of the metallurgical testing program. This should include a comprehensive review of historical production data. Estimated cost is \$80,000 USD.

Additional drilling is recommended to complete testing of the Deep Min zone, test the bonanza feeder structure, and improve resource definition. Estimated drilling required is 22,000 total feet in 29 holes at a total cost of \$1.4 million USD including road and pad construction and site remediation.



#### 2.0 INTRODUCTION AND TERMS OF REFERENCE

Mine Development Associates ("MDA") has prepared this Technical Report on the Wind Mountain Gold project, located in the state of Nevada, at the request of Fortune River Resource Corporation ("Fortune River") through its wholly owned subsidiary Rio Fortuna Exploration (US) Inc. This report was written in compliance with 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.

Fortune River is listed on the Toronto Venture Stock Exchange ("TSX") under the symbol FRX and on the Frankfurt exchange under the symbol RG7A.

The Wind Mountain Gold project had prior mining under ownership of Amax Gold Inc. ("Amax Gold") through its subsidiary Wind Mountain Mining, Inc. ("WMMI"). WMMI is now a wholly owned subsidiary of Kinross Gold USA, Inc. ("Kinross"). The project has been previously described in a 2007 Technical Report (Noble and Ranta, 2007) prepared for Fortune River. This Technical Report relies on the resource estimation of the Noble (2007) report and provides a Preliminary Economic Assessment for the project.

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

The purpose of this report is to provide an updated technical summary, including a newly completed Preliminary Economic Assessment ("PEA"), of the Wind Mountain Gold project for Fortune River. This report was prepared under the supervision of Thomas L. Dyer, Senior Engineer for MDA. Mr. Dyer contributed Section 16.0, Mineral Processing and Metallurgical Testing; Section 18.0, Other Relevant Data and Information (PEA); and Section 20.0, Recommendations. Alan C. Noble, Principal Engineer for Ore Reserves Engineering, is a co-author of this report and contributed Section 5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography; Section 6.0 History; Section 7.0 Geologic Setting; Section 8.0 Deposit Types; Section 9.0 Mineralization; Section 10.0 Exploration; Section 11.0 Drilling; Section 12.0 Sampling Method and Approach; Section 13.0 Sample Preparation, Analysis and Security; Section 14.0 Data Verification; Section 15.0 Adjacent Properties; and Section 17.0 Mineral Resource Estimate. Mr. Dyer and Mr. Noble share responsibility for Section 19.0 Interpretation and Conclusions. Mr. Noble and Mr. Dyer are qualified persons under NI 43-101 and have no affiliations with Fortune River except that of independent consultant/client relationships. The Mineral Resources and PEA reported herein for the Wind Mountain Gold Project are estimated to the standards and requirements stipulated in NI 43-101.

The scope of this study included a review of pertinent technical reports and data provided to the authors by Fortune River relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. The authors have relied on the data and information provided by Fortune River for the completion of this report and each author completed his/her respective parts based on this available data.

This report uses the previous Technical Report: *Technical Report on the Wind Mountain Gold Project* (Noble and Ranta, 2007) as the basis for this report. Updates have been made to reflect developments

with respect to permitting issues, land status, additional drilling, and analysis through the PEA. Significant references are cited in the text and listed in Section 21.0.

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

In this report, measurements are given in English units except where the original information was reported in metric units (geophysics). Assays have been reported in the manner in which they were received; all early work is in English units (oz/t), and more recent work is reported in ppm.

Currency, units of measure, and conversion factors used in this report include:

Linear Measure					
1 centimeter	= 0.3937 inch				
1 meter	= 3.2808 feet	= 1.0936 yard			
1 kilometer	= 0.6214 mile				
Area Measure					
1 hectare	= 2.471 acres	= 0.0039 square mile			
Capacity Measure (liquid)					
1 liter	= 0.2642 US gallons				
Weight					
1 tonne (metric)	= 1.1023 short tons	= 2,205 pounds			
1 kilogram	= 2.205 pounds				

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



Frequently used acronyms and abbreviations				
AA	atomic absorption spectrometry			
Ag	silver			
Au	gold			
ft	feet			
g/t	grams per tonne			
in.	inches			
km	kilometer			
lb	pound (2000 lbs to 1 ton, 2204.6 lbs to 1 tonne)			
m	meters			
OZ	troy ounce (12 oz to 1 pound)			
ppm	parts per million (1ppm to 0.0292 oz/t)			
RC	reverse circulation drilling method			
t	short (imperial) ton			
ton	short (imperial) ton			
tonne	metric ton			
tpd	(short) tons per day			
BLM	United States Department of the Interior, Bureau of Land Management			
FRX	Fortune River Resource Corporation			
MDA	Mine Development Associates, the authors of this Technical Report			
USGS	United States Geologic Survey			



#### **3.0 RELIANCE ON OTHER EXPERTS**

This report has been prepared by MDA for Fortune River with contributions from Alan C. Noble and Thomas. L. Dyer. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to the authors at the time of preparation of this report;
- Assumptions, conditions, and qualifications as set forth in this report; and
- Data, reports, and other information supplied by Fortune River and other third-party sources.

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. Fortune River provided information regarding the status of mining rights of the Wind Mountain Gold project to MDA; the information provided was compiled, researched, and approved by Fortune River. Documentation regarding these matters has been provided by Fortune River and is referenced or included in this report.

The authors did not conduct any investigations of the social-economic issues associated with the Wind Mountain Gold project, and the authors are not experts with respect to this issue.

The authors are not experts with regard to environmental permitting or liabilities. For Section 4.3 Environmental Considerations, MDA has relied on Debra W. Struhsacker, an independent Environmental Permitting and Government Relations Consultant, who provided expertise for environmental and permitting issues. Ms. Struhsacker is a Certified Professional Geologist, Licensed Geologist, and Nevada Certified Environmental Manager (EM No. 1078), as defined by Nevada revised statutes and as designated by the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection.

The authors have relied almost entirely on data and information derived from work done by Fortune River and previous companies involved with the project, a small portion of which has been verified by independent sampling experts. The authors have reviewed much of the available data, 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. If materiality was uncertain with respect to underlying data quality, recommendations were made to modify that data"s use.



#### 4.0 **PROPERTY DESCRIPTION AND LOCATION**

#### 4.1 **Property Location**

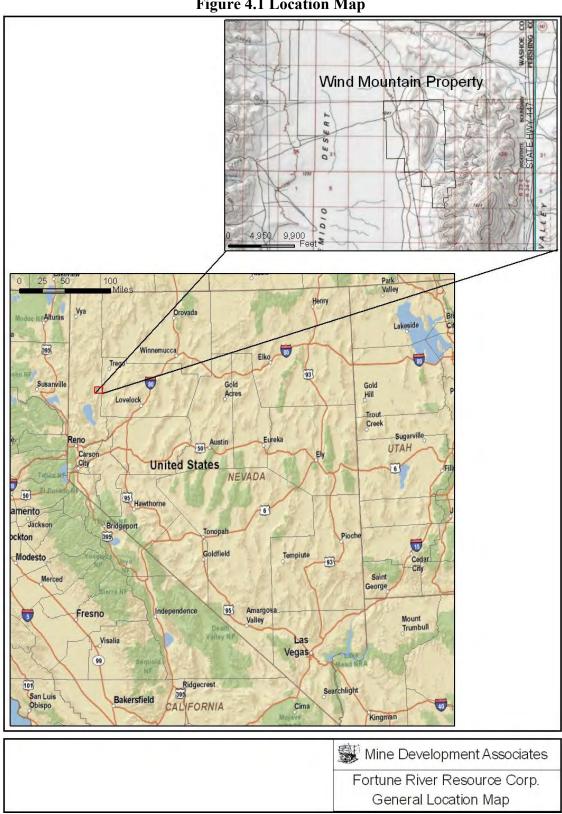
The Wind Mountain Gold project is located in the northern portion of Washoe County, northwest Nevada (Figure 4.1), at the northern end of the Lake Range and north-northeast of Pyramid Lake. The project area is flanked to the west and north by the San Emidio Desert. Wind Mountain lies approximately 20 road miles south of the small town of Gerlach and approximately 65 road miles north of the larger town of Fernley. It is approximately 2 hours by car north-northeast of Reno, which has many of the services required by the exploration and mining industry. Access to the property is from State Route 447 west approximately 5.5 miles via a well-maintained gravel road.

#### 4.2 **Property Description and Ownership**

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. This section is based on information provided to the authors by Fortune River. The authors present this information to fulfill reporting requirements of NI 43-101 and express no opinion regarding the legal status of the Wind Mountain property.

The project area comprises 147 unpatented lode mining claims covering an area of approximately 2,600 acres (Figure 4.2, Appendix A). The approximate center of the project area is latitude 40° 25.75" north and longitude 119° 23.6" west. All claims are located on U.S. federal land managed by the Battle Mountain District of the Bureau of Land Management ("BLM"). The claims are in a contiguous block that is located in Sections 3 and 10, T 29 N, R 23 E, and in Sections 20, 21, 22, 27, 28, 29, 33, and 34, T 30 N, R 23 E, of the Mount Diablo Meridian. Each claim within the property boundary is identified by 2 by 2-inch by 4-foot wood posts marked with a scribed aluminum tag as required by Nevada statutes. The claims have not been surveyed by a mineral land surveyor, but they are registered and recorded with both the BLM and Washoe County. All federal and county fees to maintain the claims for another year have been paid through September 1, 2010.





**Figure 4.1 Location Map** 



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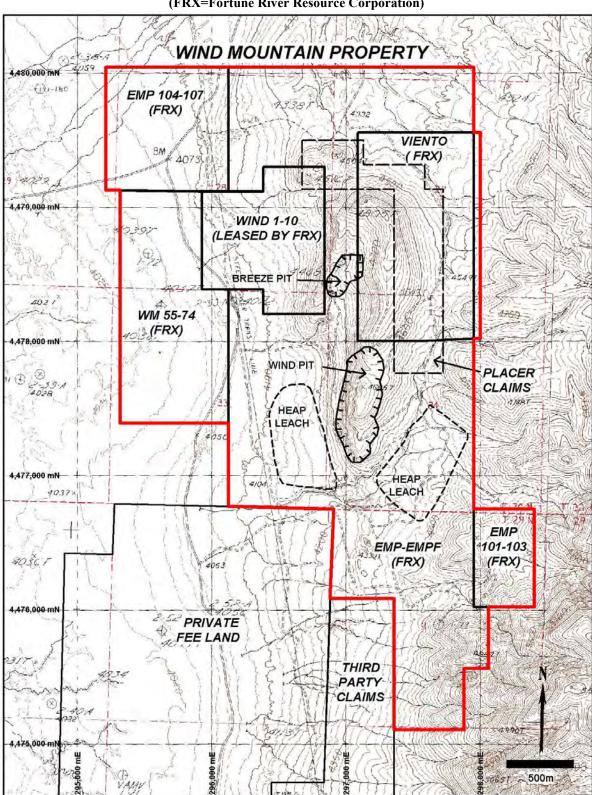


Figure 4.2 Land Status Map (FRX=Fortune River Resource Corporation)



Fortune River initially acquired 86 unpatented claims (1,760 acres) in February 2006 from Agnico-Eagle (USA) Ltd., a subsidiary of Agnico-Eagle Mines Ltd., which staked the property in January 2004 sometime after Amax Gold had abandoned its claims. This agreement created a 1-mile area-of-interest around the 86 lode claims, and under the terms of the agreement, Fortune River acquired a 100% interest in these claims by spending in excess of US\$2.0 million. Agnico-Eagle held a right to either accept a 2% net smelter return royalty (NSR), of which 1% can be purchased for \$1.0 million, or elect to earn back 60% interest by spending \$4.0 million over a four-year period and producing a bankable feasibility document. Agnico-Eagle could have earned another 10%, for a total of 70%, by loaning or arranging for financing of Fortune River's share of capital required for mine development and construction costs. Fortune River spent approximately \$2.2 million fulfilling their obligations to earn 100% interest in the project. On November 26, 2008, Agnico-Eagle acknowledged Fortune River's fulfillment of the agreement and stated in writing that they "have decided not to exercise our back-in option. Instead we elect to reduce our interest to a royalty position as described in our exploration agreement".

Fortune River has also leased 10 "Wind" unpatented claims that lie along the western portion of the Wind Mountain property. The lease agreement requires annual minimum payments beginning at US\$3,000 on signing and escalating to a maximum of \$25,000 on the fifth anniversary date of the agreement, and payment of a 3% NSR royalty. All annual payments subsequent to the initial payment are advanced minimum royalties, which can be subtracted from any future royalty payment. Up to 2% of the NSR royalty may be purchased at the rate of US\$1 million per percentage point. The Wind claims are within the Agnico-Eagle / Fortune River 1-mile area-of-interest of the Agnico-Eagle property and, at their discretion, would be included in the terms of the Agnico-Eagle agreement.

There are no known conflicts, or potential conflicts, of land ownership in the immediate project area, with the exception of a private owner who has submitted a filing for placer claims to the BLM (in the general location east and north of the Breeze Pit). These claims were apparently abandoned in September 2006 due to a lack of payment, but a similar group of placer claims with slightly different boundaries was again submitted to the BLM in October 2006. No field evidence of their location was discerned during an extensive search by two Fortune River consultants and an employee. With an abundance of caution, Fortune River"s legal counsel advised them to stake a second layer of lode claims over the area that BLM records show as being partially covered by the placer claims. This was done by filing of 17 claims (Viento 1 through 17) by Fortune River in November 2006.

In 2007 Fortune River staked and filed an additional 14 unpatented claims southeast and northwest of the project in order to cover projections of mineralized structures, along with a recent registration and filing of 20 unpatented claims in March 2010 required to cover potential leach pad locations.

Current holding costs for unpatented mining claims are \$140 Maintenance Fee per claim each year to the BLM and \$10.50 Intent to Hold Fee per claim each year to Washoe County. In addition, there is a onetime fee of \$85 per claims enacted by the Nevada Legislature in March 2010. The company has a Notice approved and bonded with the Bureau of Land Management. A Notice is a required permit that must be acquired prior to surface disturbance and drill testing. Drill sites were prepared and 27 reverse circulation (RC) drill holes were drilled in 2007 and 2008. All but one site have been reclaimed and the bond has been reduced to \$6,840 pending reclamation of the final site and additional revegetation at some other sites.



#### 4.3 Environmental Considerations

Debra Struhsacker, an independent Environmental Permitting and Government Relations Consultant, provided the following information on environmental liabilities and permitting.

# 4.3.1 Environmental Liabilities

There are no known environmental liabilities associated with Fortune River's exploration activities at the Wind Mountain site. Fortune River conducted much of its exploration activities on previously disturbed land and is responsible for the limited, new, surface disturbance that it created in conjunction with its exploration drilling activities. Fortune River obtained approval from the U.S. Bureau of Land Management ("BLM") for these activities. The company has already reclaimed some of the surface disturbance it created during its exploration program. Reclamation of the remaining unreclaimed surface disturbance for which Fortune River is responsible is guaranteed by a \$6,840 reclamation bond that Fortune River has provided to BLM.

In the 1980s – early 1990s timeframe, Wind Mountain Mining, Inc. ("WMMI") developed the Wind Mountain mining and heap leach processing project. WMMI was then a subsidiary of Amax Gold, Inc. and is now a wholly owned subsidiary of Kinross Gold USA, Inc. ("Kinross"). Kinross has successfully closed and reclaimed the Wind Mountain heap leach facilities. In 2009, the Nevada Division of Environmental Protection/Bureau of Mining Regulation and Reclamation ("NDEP/BMRR") closed the Water Pollution Control Permit for the site and authorized Kinross to plug and abandon the monitoring wells and the dosing tanks at the leach field down gradient from the reclaimed heaps. According to Kinross personnel, Kinross remains responsible for ensuring successful revegetation of approximately 10 acres and still maintains a bond to cover this reclamation obligation (personal communication, Kinross, March 2010). With the closure of the Water Pollution Control Permit and abandonment of the monitoring wells, Kinross is no longer responsible for collecting groundwater monitoring data. The only remaining reclamation obligation is to make sure that the revegetation effort complies with revegetation success criteria.

Prior to developing new mining and heap leach facilities at Wind Mountain, Fortune River should collect adequate baseline data to document the extent of the previous mining facilities and to determine whether there are any potential residual effects of the heap leach processing activities. These data should include information about the depth to groundwater and groundwater quality, the amount of previous surface disturbance which has been reclaimed, the footprints associated with the existing open pit mines, and waste rock dumps, and the success of the revegetation efforts associated with WMMI/Kinross<sup>\*\*</sup> facilities.

# 4.3.2 Permits Required

Like all Nevada mining projects on BLM-administered public land, renewed mining and mineral processing activities at the Wind Mountain Gold project will require a number of federal and state permits. A new project will also require several permits from Washoe County including a Special Use Permit and an Air Quality Operating Permit. Table 4.1 lists the permits that are likely to be required to build and operate new surface mining and heap leaching facilities at Wind Mountain.



As shown in Figure 18.1, a power line separates the two proposed heap leach pads. The current design for these facilities does not encroach upon the power line right-of-way. Any proposed project facilities within this easement, like the solution channel shown in Figure 18.1, will have to be included in the Plan of Operations and authorized by BLM.

In addition to the permits listed in Table 4.1, Fortune River will have to acquire water for the project. Kinross transferred ownership of the two water wells that were used to support the previous mining and heap leaching operation to the nearby Empire Farms. The most expeditious way for Fortune River to obtain water will probably be to negotiate a water purchase agreement from nearby sources.

Permits, Licenses, and Approvals that are Likely to be Required for New Mining and Heap Leach Processing Facilities at the Wind Mountain Project					
Permit/Approval Granting Agency Permit Purpose					
	Federal Permits				
Plan of Operations	U.S. Bureau of Land Management	Authorize use of public lands for mining purposes under the General Mining Law and 43 CFR 3809 regulations and to impose mitigation measures to prevent undue & unnecessary degradation. BLM will probably prepare an Environmental Impact Statement to evaluate the Plan. Coordinated with NDEP Reclamation Permit.			
Explosives Permit	U.S. Bureau of Alcohol, Tobacco & Firearms	Storage and use of explosives			
EPA Hazardous Waste ID No.	U.S. Environmental Protection Agency	Registration as a small-quantity generator of wastes regulated as hazardous			
Notification of Commencement of Operations	Mine Safety & Health Administration	Mine safety issues, training plan, mine registration			
Nationwide Section 404 Permit	U.S. Army Corps of Engineers	Could be necessary if project facilities affect water of the U.S.			
Endangered Species Act Consultation & Biological Assessment	U.S. Fish & Wildlife Service	Required if project affects species listed as threatened or endangered			
Federal Communications Commission	FCC	Frequency registrations if project includes radio and/or microwave communication facilities			
State Permits					
Nevada Mercury Control Program Permit	NV Division of Environmental Protection/Bureau of Air Quality Planning	Regulates mercury emissions from thermal units like retorts, furnaces, electrowinning circuits. Would be required if project emissions exceed the <i>de minimis</i> level of 5 pounds of mercury/year			

#### Table 4.1 Required Permits, Licenses, and Approvals



Permits, Licenses, and Approvals that are Likely to be Required for New Mining and Heap Leach				
Processing Facilities at the Wind Mountain Project				
Permit/Approval	Granting Agency	Permit Purpose		
Reclamation Permit	NV Division of Environmental Protection/Bureau of Mining Regulation & Reclamation	Reclamation of surface disturbance due to mining and mineral processing. Includes financial assurance requirements. Coordinated with BLM Plan of Operations		
Water Pollution Control Permit	NV Division of Environmental Protection/Bureau of Mining Regulation & Reclamation	Establishes minimum facility design and containment requirements to prevent degradation of waters of the state from mining.		
Petroleum-Contaminated Soil Management Plan	NV Division of Environmental Protection/Bureau of Mining Regulation & Reclamation	On-site treatment and management of hydrocarbon- contaminated soils		
Solid Waste Class III Landfill Waiver	NV Division of Environmental Protection/Bureau of Solid Waste	On-site disposal of non-mining, non-hazardous solid wastes		
General Stormwater Discharge Permit	NV Division of Environmental Protection/Bureau of Water Pollution Control	Management of site stormwater		
Permit to Appropriate Water	NV Division of Water Resources	Water appropriation		
Permit to Construct Impoundments	NV Division of Water Resources	Design and construction of embankments or other structures with a crest height 20 feet or higher, as measured from the downstream toe to the crest, or that impound 20 acre-feet or more		
Industrial Artificial Pond Permit	NV Department of Wildlife	Ponds containing chemicals directly associated with the processing of ore.		
Liquefied Petroleum Gas License	NV Board of the Regulation of Liquefied Petroleum Gas	Tank specification and installation, handling, and safety requirements		
Potable Water System Permit	NV Bureau of Safe Drinking Water	Water system for drinking water and other domestic uses (e.g., lavatories)		
Radioactive Materials License	NV Bureau of Safe Drinking Water	Nuclear flow and mass measurement devices if used in the lab/mineral processing facility.		
Septic Treatment Permit Sewage Disposal System	NV Division of Environmental Protection/Bureau of Water Pollution Control	Design, operation, and monitoring of septic and sewage disposal systems. (Washoe County may also regulated septic systems.)		
Hazardous Materials Storage Permit	Nevada Fire Marshall	Hazardous materials safety		



Permits, Licenses, and Approvals that are Likely to be Required for New Mining and Heap Leach					
Processing Facilities at the Wind Mountain Project					
Permit/Approval	Granting Agency	Permit Purpose			
	Local Permits				
Air Quality Operating Permit	Washoe County Health District Air Quality Management Division	Air quality monitoring, air pollution control and compliance with federal, state, and local environmental laws governing air quality			
Building or Zoning Permits	Washoe County Department of Building and Safety	Compliance with national and local building codes			
Special Use Permit	Washoe County Department of Planning and Board of County Commissioners	Compliance with land use designations and other county requirements, compatibility with the Washoe County Regional Open Space Program.			
County Road Use and Maintenance Permit	Washoe County Public Works Department/Roads Division	Maybe required for use and maintenance of county roads			



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

The information in this section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting.

#### 5.1 Accessibility

Access to the Wind Mountain Gold project is very good (Figure 4.2), and the property is accessible year round barring any unusual snow accumulation. The project is accessible from either the north or the south via Route 447. For access from Reno, Nevada, proceed east on I-80 for approximately 30 miles to the Wadsworth exit. From this exit, follow Route 447 northward for about 65 miles through the small towns of Wadsworth and Nixon to a paved west-trending road to Empire Farms and Empire Energy. From this intersection, proceed approximately 3.5 miles west on the paved road, which becomes gravel, towards Empire Farms, and at the next intersection with another good gravel road continue 2 miles south to the project area.

Direct access to the property is by existing roads that are permitted and bonded by the Notice filed with the BLM provide access to the property. Most of the project area is inside a fenced enclosure which includes the Wind and Breeze Pits and is controlled by Kinross and Fortune River.

#### 5.2 Climate and Physiography

The elevation on the property ranges from approximately 4,000 to 4,800 feet above sea level; the currently identified gold deposits are located between 3,900 to 4,800 foot elevation. Topography varies from moderate and hilly terrain with rocky knolls and peaks, to steep and mountainous terrain in the nearby higher elevations of the Lake Range. The site is located in the arid San Emidio Desert, with 4-6 inches of precipitation annually, and evaporation well in excess of 40 inches. This relatively low elevation produces hot dry summers with high temperatures in the 90-110°F range. Winters can be cold and windy with temperatures dropping to -30°F, with most precipitation falling as snow in the winter months. Historically, during the period from 1989 through 1992, the mine operated throughout the year with only limited weather-related interruptions. The published topographic map covering the project area is the San Emidio Desert North quadrangle, Nevada 1:24,000-scale, U.S. Geologic Survey.

The vegetation throughout the project area is typical of lower elevations of the Basin and Range Province. The property is also within the Great Basin salt desert shrub ecological zone typified by alkaline to saline soils and low shrubs such as: greasewood, shadscale, rabbitbrush, sagebrush, and fourwing saltbush. Cheat grass is prevalent throughout the area, and there are no trees on the site. Disturbed portions of the project area have been ripped and seeded. Cheat grass, and forbs in some areas, have been established.

#### 5.3 Local Resources and Infrastructure

A motel, restaurant and gas station are available 20 miles north on Route 447 in the nearby town of Gerlach. A greater variety of accommodations are available in Fernley about 65 miles to the south on



Route 447, which has the nearest available services for both mine development work and mine operations. It is likely that Fernley has housing, adequate fuel supplies, and sufficient infrastructure to take care of basic needs. Necessary infrastructure, such as housing, etc., would be available in either town, or possibly in the Pyramid Lake Paiute Tribes' reservation towns of Nixon and Wadsworth. High-capacity water wells are known to exist in the nearby San Emidio Desert and a major power line runs within the western boundary of the project. Transportation of supplies would be primarily by truck from Fernley, which is located on Interstate 80. Rail service is available in both Gerlach and Fernley. Reno and Sparks are about 100 miles from the project area by road and would be major logistics centers for any materials required for mine development at Wind Mountain.

The Wind Mountain Gold project site has been reclaimed to modern standards. The project boundary is fenced for public safety, and access to the pits and heap leach areas is gained through a locked gate controlled by Fortune River and Kinross. No buildings or power lines remain, although a major electrical transmission line exists near the western boundary of the fenced area, and an electrical substation is located on the south end of the project. Water for the historical mining operations was supplied from a well field in the valley approximately 3,500 feet south of the former mine site.

#### 5.4 Geothermal Issues

Empire Energy operates a geothermal plant approximately 4.3 miles south of the property and produces electricity from water as hot as 300° F, according to E. M. Crist (2007a) based on his personal communication with Empire Energy personnel. A linear trend of recent surficial deposits of tufa (calcareous precipitate), native sulfur, and cinnabar, and Empire's geothermal well, define a north-trending segment of a range-front fault approximately 4.5 miles long. Two wells, located approximately 3,500 feet southwest of the Wind Pit, produced water for the mine and are within this trend. The casing of one of these wells leaks steam and is coated with native sulfur. Crist's conversations with Empire Energy personnel indicate that the temperature of the water in these two wells is approximately 240° F. He interprets these features to denote a north-trending modern water-saturated geothermal fault zone. All of the Wind Mountain Gold project targets are at least 1,800 feet east of this fault zone.

The Wind Mountain Fault zone is about 3,300 feet east of the range front fault and contains banded calcareous fault fill. This calcareous deposit is mostly within an open fracture within Tertiary volcanic sedimentary rocks. The calcareous deposits along the Wind Mountain Fault zone have undergone an unknown amount of erosion. Horizontal dips of some of the banding suggest that the calcareous precipitates were either deposited at the paleo-surface, or in a very wide, open fracture. The age of the Wind Mountain Fault zone is uncertain; however, Crist (2007a) interprets it to be older than those structures described on the range-front fault.

No direct evidence suggests that hot water prohibitive to underground mining is present at depths that will be explored or mined. The elevation of the two former mine wells and the Quaternary calcareous deposits on the range-front fault is approximately 4,100 feet, and the lowest bottom elevation of the main pit is approximately 4,200 feet. Despite the similar elevation, no evidence of recent hot spring activity was seen in any of the extensive examinations of the pit. Fortune River contractors and employees have visited the pit several times on days when the temperature was below 32° F and no evidence of steam effluent was seen from any of the walls or from the bottom of the pit. In fact, Crist<sup>\*</sup>s (2007a) personal communication with the former exploration and mine staff of Amax Gold indicates



that no significant water, either cold or hot, was intersected in drilling under the deposit. The water table appears to be generally more than 500 feet below the former surface.

Fortune River drilled several relatively deep drill holes on the Wind Mountain fault zone in 1998. At depths below about 500 feet, several holes penetrated strongly fractured silicified rock near the Wind Mountain fault zone that was saturated with ground water. The water effluent from the reverse circulation drill rig was crudely measured at as much as 120 gallons/minute at depths of about 1,000ft by recording the length of time to fill a 5 gallon bucket. International Directional Services (IDS) conducted downhole surveying of the holes that included temperature measurements. The highest temperature measurement made by IDS was 114° F at a true depth of 1,235ft in a hole that explores the DeepMin mineralization. Sufficient drilling has been done by Amax Gold and Fortune River to indicate that no geothermal conditions will hinder the mining of the established near-surface resource. Downhole temperature measurements of future deep drill holes should continue to be made to determine if geothermal conditions could be a threat to mining deep mineralization that may be discovered in the future.

The possibility of high geothermal temperatures beneath the Wind Mountain property cannot be totally discounted, but at this time there is no evidence that would indicate such conditions exist to discourage exploration and potential future development of the property.



#### 6.0 HISTORY

The information in this section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting.

#### 6.1 Regional History

The property is not located near any of the established mining districts of Nevada. No record of prospecting activities is known until 1978. At that time, a progression of companies, including Amax Exploration, Inc ("Amax Exploration") (10 drill holes in 1982), Sante Fe Pacific Gold Corp ("Santa Fe") (32 drill holes in 1983-86), and Chevron Resources ("Chevron") (6 holes during 1983-86), began conducting modern exploration activities. A total of 464 holes were drilled on the property from 1980 through 1991.

Amax Gold and its subsidiary, WMMI, were purchased by Kinross in 1998 and production records, received from Kinross, indicate that a total of 299,259 ounces of gold and 1,769,426 ounces of silver were produced and sold from 1989 through 1999, when all heap leaching, rinsing, and final carbon cleanup were completed. Total recovery of gold was 69% of a total of 433,194 contained gold ounces mined and placed on leach pads. The percent recovery of silver has not been determined because silver head grade was not reported in the production records, but based on resource reconciliations was probably less than 25%.

The claims at Wind Mountain were dropped by Kinross and Agnico-Eagle (USA) staked claims in January 2004 covering the disturbed mine site and adjacent prospective ground. Fortune River acquired the property in February 2006 through an earn-in agreement with Agnico-Eagle. Fortune River completed its obligations to earn 100% interest in the project subject to a 2% royalty payable to Agnico-Eagle, which can be bought down to 1%. Kinross provided Fortune River with digital data for most of the exploration, development and blasthole drilling conducted by Amax Gold and additional paper files were acquired from a previous land owner.

Many significant intercepts of gold are reported in the Amax Gold drill-hole data and a substantial portion of this mineralized material was mined, but a significant portion was not. Many drill intercepts of near-surface gold and silver are found beneath or lateral to the mined areas. At this time Fortune River is focusing on exploring for both near-surface oxide gold mineralization and deeper high-grade precious-metal mineralization.

#### 6.2 Historic Mineral Resources and Reserve Estimates

Amax Gold conducted the most aggressive exploration program, beginning in 1987, and announced a reserve of 15 million tons averaging 0.021oz Au/t and 0.42oz Ag/t in 1988 (Nevada Bureau of Mines and Geology, 1995). Note that their statement of reserves was issued prior to the inception of NI 43-101 reporting standards.



#### 6.3 Historic Production

In the Wind Mountain Gold project area, both the Breeze and Wind deposits have been defined by drilling and partially mined. The annual gold and silver production from two pits at Wind Mountain, as reported by Amax Gold, is tabulated in Table 6.1.

IVIIIle 1989-1999					
		Gold	Silver	Ag:Au Ratio	
	Year	Ounces	Ounces	<b>Ozs Produced</b>	Comments
	1989	30,903	334,768	10.83	Mining & Leaching
	1990	81,733	560,802	6.86	Mining & Leaching
	1991	91,063	405,149	4.45	Mining & Leaching
	1992	54,689	297,403	5.44	Mining & Leaching
	1993	19,296	86,514	4.48	Leaching
	1994	10,513	72,609	6.91	Leaching
	1995	5,312	7,487	1.41	Rinsing
	1996	4,205	1,731	0.41	Rinsing
	1997	964	202	0.21	Rinsing
	1998	-	-	0.00	Heavy Precipitation
	1999	581	2,760	4.75	Rinsing
	Total	299,259	1,769,425	5.91	

# Table 6.1 Wind Mountain Gold Deposit Annual Gold and Silver Production, Wind Mountain \_\_\_\_\_\_\_Mine 1989-1999\_\_\_\_

Highlights of the historical mining are as follows:

- Mining took place from April 1989 through January 1992 by conventional loader and truck operations in two open pits. Prior to completion of permitted pits, mining was stopped due to rising costs, low metal prices, and disputes over royalty positions.
- The waste: ore stripping ratio was very low and only 0.41 tons of waste were mined for each ton of ore.
- Approximately 24.6 million tons of ore averaging 0.018oz Au/t for a total of 433,194 ounces of gold was placed on the heaps.
- Two leach pads were operated, and 22% of the material placed on leach pads was crushed; 78% of the material was run-of-mine.

Crushed ore	5.4 million tons (Pad 1)
Run-of-mine ore	19.2 million tons (Pads 1 & 2)
TOTAL	24.6 million tons @ 0.018oz Au/t



- Leaching and gold production took place from the spring of 1989 through June 1997; cyanide was added to leach solutions for two years (into 1994) after mining ceased, then rinsing and residual gold recovery continued for about three more years (until June 1997).
- Historical gold recovery was 67% through active leaching. Total gold recovery was 69% after rinsing of leach pads.
- Gold leaches relatively quickly. Over 85% of the gold production was recovered during active mining and placement of material onto the pads.
- A heavy snow year in 1998 caused additional water to migrate through the heaps, and the water was collected into 1999, resulting in an unplanned recovery of 581 ounces of gold in 1999.



#### 7.0 GEOLOGIC SETTING

The section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting. The information was compiled in association with Fortune River"s geologic staff and their consultants, including Elliott M. Crist, Licensed Professional Geologist (Utah), the Chief Consulting Geologist for Fortune River.

# 7.1 Regional Geology

The Wind Mountain gold property lies in the Basin and Range physiographic province, a region marked by moderate to high mountain ranges separated by desert valleys. All of the previously mined mineralization at Wind Mountain is in late-Tertiary volcanic and volcaniclastic rocks.

The geologic setting of the Lake Range, which includes Wind Mountain and the surrounding region, is dominated by Triassic and Jurassic metamorphic rocks of the Nightingale Sequence (Bonham and Papke, 1969). These rocks are exposed along the northwest side of the range and consist of phyllite and minor slate and schist. Regional metamorphism, faulting, and erosion of these rocks occurred by the Tertiary period and a well-developed pediment formed in the Wind Mountain area prior to Miocene volcanism and volcaniclastic deposition (Wood, 1990). Dacitic to basaltic composition volcanic rocks of the Miocene Pyramid Sequence overlie the Mesozoic rocks on the south and east sides of the Lake Range. In the northern part of the range, the Pyramid Sequence is overlain by volcaniclastic sedimentary rocks correlative with the Truckee Formation of upper Miocene epoch (Bonham and Papke, 1969). The western margin of the Lake Range is bounded by a major fault zone which has hosted extensive geothermal activity that resulted in extensive hydrothermal alteration and the Wind Mountain gold deposit (Wood, 1990).

Older Nightingale Sequence metasedimentary rocks are exposed on the southern portion of the Wind Mountain property and crop out within a few hundred feet to the east and north of the property. These rocks have been intersected in drill holes (Wood, 1990) beneath the Tertiary volcanic section at some places on the property. The geology of the property is well summarized by Wood (1990), and only minor deviations from his published mapping and rock descriptions are included in this report.

# 7.2 Project Geology

The geology at the Wind Mountain Gold project is illustrated in Figure 7.1.

# 7.2.1 Older Rocks

<u>Nightingale Sequence:</u> Exposures of Triassic to Jurassic rocks occur on the southern portion of the project and consist of low-grade metamorphic rocks including slate, phyllite and chloritic schist of the Nightingale Sequence (Wood, 1990). Crist (2007a) conducted mapping on the southern portion of the property, where he found a silicified fault zone, more or less northeast trending, separating the Nightingale Sequence from Tertiary volcanic rocks. This zone is as much as 50 feet wide and drops down the Tertiary section, to the north, along a normal fault. The fault zone is intensely silicified and



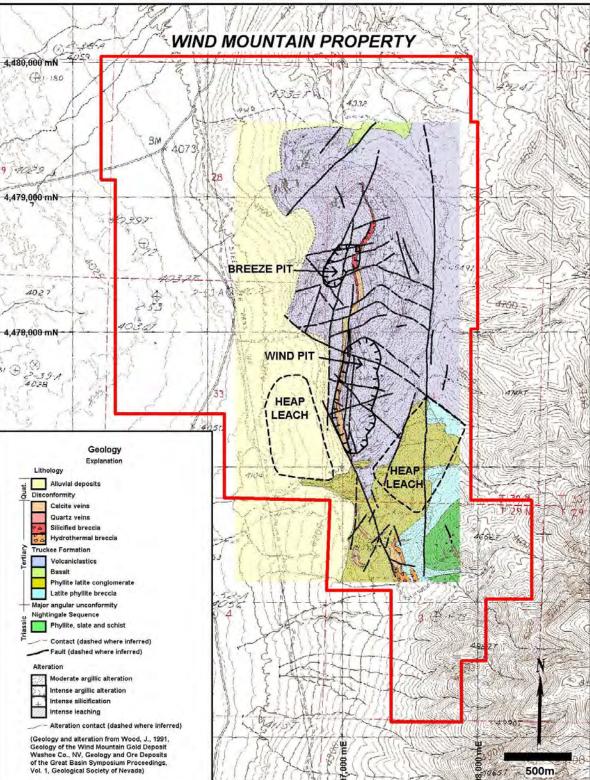
brecciated and is composed of both fragments of metasedimentary rocks and/or Tertiary volcanic rocks in a siliceous matrix. The breccia is weakly anomalous in gold and other elements.

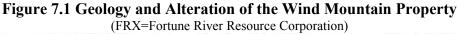
# 7.2.2 Tertiary Volcanic and Volcaniclastic Rocks

**Pyramid Sequence:** Tertiary (Miocene?) dacitic to basaltic lava flows and other volcanic units overlie Mesozoic rocks. This unit is shown as "basalt, phyllite latite conglomerate, and latite phyllite breccia" of Figure 7.1. A strongly flow-foliated dacite at the top of this unit is exposed in the northern portion of the claim block and has been intersected in deeper drill holes. Immediately overlying this unit is a distinctive weathering horizon formed during the unconformity with overlying rocks, and it is an important marker horizon. Modeling this marker horizon in 3-D suggests the horizon dips gently to the south. It is identified by its rounded pebbles of flow-foliated dacite in a dull hematitic-red clay-rich matrix. The underlying unconformable contact with Mesozoic rocks has not been observed in the mineralized region; however, such unconformities can be attractive sites for mineralization, particularly where overlying dense rocks may act as aquitards. This unconformity should exist at a relatively shallow depth in the area of the Breeze Pit, and is one of the sites for a deep hole proposed by Fortune River"s geologic team in that area.

<u>**Truckee Formation:**</u> Tertiary (late Miocene?) volcanic and volcaniclastic units exposed on or near the property are primarily tuffaceous conglomerate, finer-grained tuffaceous sedimentary rocks, and sinter; these are the primary host-rocks to known mineralization. One relatively small high-level flow-banded rhyolitic intrusion or lava flow crops out on the northern portion of the property. Hot-spring sinter and other units constitute a large portion of the sedimentary volcanic units locally, particularly in the Wind Pit. Several extensive fault-controlled, linear bodies of banded carbonate, some more than 100-feet wide, also occur. All of these units, except for the rhyolite unit, are discussed in Woods" (1990) report, and the descriptions presented herein follow his stratigraphic nomenclature.









#### 7.2.3 Rock Types

- **Rhyolite** (**Tr**): A couple of small hills on the northern portion of the property host exposures of flowbanded rhyolite. Flow banding and quartz phenocrysts are common features of the unit. Gold and silver are weakly to moderately anomalous in this unit, which is pervasively altered. Outcrops are variably silicified and iron-oxide stained, and may contain chalcedonic veinlets and pyrite.
- **Tuffaceous Sedimentary Rocks (Ts):** The most extensive unit aerially on the property is composed of coarsely to finely bedded volcanic sedimentary rocks. This unit is composed mostly of volcanic siltstone and sandstone. Cross bedding is apparent in some of the sandy portions of the unit. Tuffaceous sedimentary rocks hosted all of the mined precious metal mineralization at Wind Mountain. Hydrothermal alteration (silicification and argillization) has strongly affected most of the unit. The beds have been strongly silicified in the mine area and commonly are dark gray and contain a few percent pyrite, except where oxidized. Clay alteration has affected large areas in both the mined area and the adjacent rock. Fossil reeds are present in the unit in several layers from the top of a ridge, overlooking the main pit, down to the deepest levels of the mine, a topographic difference of about 165 meters (540 feet). Some of the reeds are preserved in an upright position, indicating that they were probably buried in an environment that was undergoing rapid burial.

These reed-bearing beds, and other beds that exhibit flowage features and horizontal zones of vugs, are interpreted as hot-spring sinter and related sedimentary deposits. Crist (2007a) states that the majority of the unit may be strongly silicified tuffaceous sediments with substantial interlayers of sinter.

- **Basalt and Siltstone (Tb):** A minor unit composed of basalt and volcanic siltstone crops out in a small area on the northern portion of the property and its stratigraphic relations are unclear. The extent of this unit is unknown, but it may be encountered in drilling.
- **Conglomeratic Breccia:** Conglomeratic breccia forms the base of the known volcanic section, and unconformably overlies, or is in fault contact with the Nightingale Sequence (Wood, 1990). The unit is coarsely bedded, well indurated and contains fragments of both volcanic and metasedimentary rocks as well as fairly abundant white "bull" quartz. Crist (2007a) interprets the source of the quartz in this unit to be from the prolific quartz veins in the adjacent Nightingale Sequence, rather than from the opaline silica that is associated with the gold mineralization. He sampled several of the "bull" quartz veins in the Nightingale and has substantiated that they are not anomalous in precious metals.
- Latite (Tl and Tlbx): Latite units underlie a large area of the southern portion of the property and are distinguished mostly by the presence of brecciation or crude bedding. Both contain fragments of latite as well as fragments of metasedimentary rocks. The latite (latite fragments in the brecciated portions) consists of earthy latite which is gray in color and has small (2mm) plagioclase phenocrysts. The brecciated portions exhibit both mosaic textures and rotated



fragments. The southern hydrothermal breccia unit (Tbx) also resembles this unit, except that it has been more extensively brecciated, contains a few percent chalcedonic veinlets, and is pyritized or strongly iron-oxide stained. All three of these units are compositionally similar. Wood (1990) indicates that some of the latite breccia (Tlbx) grades into true massive hydrothermal breccia bodies at depth in drill holes that are near the north and northwest-trending faults in the area. Gold is anomalous in all three of these units where they are altered. Crist (2007a) states that the various latite units, as well as the southern hydrothermal breccia, may all have a common origin. The units may represent an eruptive setting that produced both intrusive and extrusive phases.

# 7.2.4 Hydrothermal Deposits

Silicified Hydrothermal Breccia Bodies (Tsbx): Hydrothermal breccia bodies are exposed in the open pit and in fault zones on the southern portion of the property between the Nightingale Sequence and the Tertiary volcanic rocks.

Breccia bodies within the Wind Pit occur in several discrete zones that are generally associated with the north-trending structural zones. Monolithic silicified volcanic siltstone and sandstone fragments are cut by a light to dark gray siliceous matrix. Breccia textures are typically mosaic, but rotated fragments are also common in some bodies.

Another hydrothermal breccia body fills a northeast-trending fault zone that separates the Nightingale Sequence from the Tertiary volcanic rocks on the southern portion of the property. This zone is as much as 50 feet wide and drops the Tertiary section down to the north along a normal fault. The fault and the breccia can be traced for a distance of about 3,300 feet. The fault zone is intensely silicified and brecciated and is composed of fragments of metasedimentary rocks and/or Tertiary volcanic rocks in a siliceous matrix. The fault breccia is weakly anomalous in gold and other elements.

**Calcareous and Silicified Breccia Bodies (C, S):** Much of the Wind Mountain fault zone along a distance of about 6,600 feet is occupied by fracture fillings of a silicified breccia and banded calcareous material. This body is adjacent to both of the open pits. Both of these types of fracture fillings attain widths in excess of 100 feet. Wood (1990) interprets the silicified breccia portion to be the product of alluvium falling into an open fracture. Silicification occurred later, but only at the upper levels. He indicates that at depth the silicified breccia turns into a unit rich in gray clay. The southern 4,300 feet of this fracture-fill zone are dominated by a banded calcareous material. At the entrance to the main pit, an exposure displays vertical banding of the calcareous unit rotating to a nearly horizontal attitude at the surface. This fault zone is immediately west of the Wind Pit and immediately east of the Breeze Pit, and may have been a feeder zone of the gold mineralization or a parallel fault to the feeders. The Wind Mountain fault also may have had post-mineralization movement causing the displacement of the formerly contiguous Wind and Breeze deposits.

Recent drilling by Fortune River demonstrates that with depth calcite decreases and silica increases, both as silicification of wall rocks and as discrete quartz/chalcedony veins. The deepest intercepts of the



Wind Mountain fault zone to date, approximately 800 feet below current surface, contain veinlets with crude quartz-after-calcite development and weak compositional banding within a zone of strong oxidation containing local concentrations of gold in the range of 0.5 to 1.0ppm Au. The fault is probably an important feeder structure. More recent drilling of this feeder by Fortune River discovered the Deep Min zone of mineralization.



#### 8.0 **DEPOSIT TYPES**

The section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting. The information was been compiled in association with Fortune River"s geologic staff and their consultants, including Elliott M. Crist, Licensed Professional Geologist (Utah), the Chief Consulting Geologist for Fortune River.

Gold and silver at Wind Mountain were deposited in a low- to intermediate-sulfidation, hot spring-type epithermal system. In this type of hydrothermal system, gold and silver are transported through open fault zones and deposited where fluid chemistry, temperature, and/or pressure changed in such a way to make gold less soluble. Often, the deposition of gold occurs within a boiling zone that is attributable to fluids traveling to lower pressure regimes, which might be closer to the surface or in more permeable zones. Other factors that may affect gold deposition are cooling, ground water mixing, chemical interaction of hydrothermal fluids with wall rock, or some combination of these factors. Precious metals in epithermal systems are usually preferentially deposited within a selective interval of elevation of the paleo-system. The productive portions of precious metal deposits may be at the paleo-surface or at an elevation interval that begins below the surface. Stacked precious metal horizons are present in some mining districts and may reflect multiple paleo-environments that were favorable for precious metal deposition.

Most of the gold was probably precipitated following the deposition of sediment and sinter. If the gold had been deposited synonymously with the sinter and silicification, silica encapsulation could have been a major metallurgical problem and would have resulted in a much lower recovery of gold than was obtained by Amax Gold. The relatively high metallurgical recovery of nearly 70% suggests that the majority of the gold was deposited on pervasive fractures, or within thin coatings on other minerals such as pyrite.

Volcanic epithermal deposits have been lumped into two geologic models, low sulfidation and high sulfidation, based on characteristic mineralogy and textures. Recently, the term intermediate sulfidation has been added to indicate a type of deposit intermediate between the two end members. Highly profitable production has been won from all three of these types. The precious metal system at Wind Mountain is most likely of the low-sulfidation or intermediate-sulfidation type.

Silicification and clay formation (argillization) are characteristics of both low-sulfidation and intermediate sulfidation vein deposits. Quartz deposition often coincides with the productive elevations of vein deposits of both types. High-grade, precious-metal-bearing bodies may be massive banded veins composed mostly of quartz, or strongly altered fault zones, sometimes called lodes, which have only minor quartz.

Common anomalous elements in these types of epithermal systems include mercury, arsenic and antimony. Selenium is anomalous at some important epithermal precious metal deposits in northern Nevada, such as Midas. Base metals are usually strongly anomalous only at the deeper levels of precious-metal deposition in low-sulfidation deposits, but may occur throughout the productive precious metal horizons in intermediate-sulfidation systems.



Epithermal precious metal deposits can be either disseminated or vein-like bodies. Disseminated deposits, such as Round Mountain, Nevada (>15 million ounces Au), are generally low-grade deposits in which the gold was deposited in a large body of permeable rock attributable either to primary host rock porosity or the presence of a wide zone of open fractures. Disseminated deposits are usually bulk mined through open-pit mining methods. Low-grade disseminated deposits may overlie higher grade more tightly controlled vein deposits, but do not necessarily indicate the presence of deeper high-grade mineralization.

Vein deposits, such as Midas Nevada (>2 million ounces Au), are tightly confined deposits that are controlled by individual open fractures, which are generally mined through underground mining methods. Profitable veins rarely exceed 15 m (50 feet) in width and the average width may be less than 3 m (10 feet). The volume of mineralized rock contained by vein deposits is much less than that of disseminated deposits, but the grade is generally much higher. Round Mountain has a grade of  $\leq 0.020z$  Au/t while Midas has an average grade of > 0.500z Au/t (Meeuwig, 2005).

All of the past mining at the Wind Mountain gold deposit has utilized open-pit methods. Exploration for deep vein deposits, beneath the disseminated mineralization in the deposit, has not been aggressively pursued by any previous program and is the focus of part of the Fortune River exploration program.



#### 9.0 MINERALIZATION

The section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting. The information was been compiled in association with Fortune River"s geologic staff and their consultants, including Elliott M. Crist, Licensed Professional Geologist (Utah), the Chief Consulting Geologist for Fortune River.

The geologic controls of gold mineralization at Wind Mountain are a combination of: 1) proximity to steeply dipping north-trending structural zones that may have been "feeders"; 2) stratigraphic horizons that were favorable (porous and permeable) to mineral deposition; and 3) possibly paleo-elevation. The known gold deposits remaining at the property are oriented north to northeast and include the Wind deposit, which is approximately 5,000 feet long by 1500 feet wide by 600 feet thick, and the Breeze deposit, which is 4000 feet long by 1500 feet wide by 350 feet thick. Both deposits plunge to the south at about 10 degrees from horizontal.

Continuity of gold mineralization within these deposits is excellent for cutoff grades in the range of 0.005 to 0.015oz Au/t. Higher-grade mineralization is also relatively continuous, forming in pods with lateral dimensions up to 500 feet or greater. Gold occurrences continue sporadically for thousands of feet beyond the known deposits and these may present opportunities for further exploration. The "feeder" structures have not been sufficiently drilled below 1000 feet depth beneath the current surface; thus, deeper drilling is recommended to test these structures for possible high-grade, vein-controlled mineralization.

According to Wood (1990), within the near-surface oxide zone at Wind Mountain a small percentage of the rocks have traces of pyrite encapsulated in silica. Native sulfur is present in strongly bleached and leached zones within the deposit. Pyrite and minor marcasite are the most common sulfide minerals found within the gold deposit and at depth; traces of cinnabar also have been found. Gold mineralization occurs as electrum and also may be associated with pyritic coatings on an early barren form of pyrite, prior to oxidation. Disseminated pyrite, in abundances of 0.5 to 3 percent, is found in shallow bedrock beneath the pediment surrounding Wind Mountain.

Oxidation and leaching are strongly developed to depths over 600ft. Surface leaching of rocks occurred throughout the deposit area and resulted in goethite, jarosite and hematite after sulfide minerals. The depths of strong oxidation and partial oxidation versus no oxidation can have significant impact on the metallurgical recovery of gold from material in each of those zones.

Geochemical sampling of rocks and drill samples at Wind Mountain show that gold, silver, mercury and selenium are all strongly anomalous. Other anomalous elements include arsenic and antimony. Base metals are not anomalous at the levels of exposure and drilling of the deposit. Selenium is anomalous at some important epithermal precious metal deposits in northern Nevada, such as Midas. Base metals are usually strongly anomalous only at the deeper levels of precious-metal deposition in low-sulfidation deposits, but may occur throughout the productive precious metal horizons in intermediate-sulfidation systems.



Crist (2007a) reports that he sampled material (talus) left behind at the toes of benches and at other surface locations in pits after mining and received several assays that exceed 1ppm Au from the formerly mined areas. The content of the highest gold grade sample taken by him from the property was 2.056 ppm Au and the lowest gold grade was below the detection limit of 3ppb Au. Nearly all of the 168 samples taken by Crist were weakly to strongly anomalous in gold and attest to the wide distribution of anomalous gold on the property throughout an area of approximately 2.5 square miles. Unfortunately, the surface sampling was unsuccessful in delineating high-grade veins within the pits. Crist also received silver values as high as 50ppm, mercury values as high as 9ppm, and selenium values as high as 104ppm. Wood (1990) reports a 5-foot intercept in a drill hole of 161ppm Au (4.7oz Au/t), but these intercepts are very rare and the down-hole gold intercepts normally reflect the overall low grade of the deposit that was mined. Outside the broadly defined north- trending mineralized zones, gold values that are greater than 0.27ppm Au (0.008oz Au/t) are rare, and background levels of gold occur over broad intervals.

#### 9.1 Breeze Pit Area

The Breeze Pit is the northern and smaller of the two open pits. Silicified volcanic sedimentary rocks host gold, though the degree of silicification is not as strongly developed as that in the Wind Pit. A vague network of more or less north- to north-northeast-trending fractures run through the pit, but the locations of the feeder structures for the Breeze Pit mineralization have not been identified with certainty.

A gold mineralized area defined by numerous drill holes is situated approximately 575 feet to the southwest of the Breeze Pit and may be continuous with the Breeze deposit. A third pit was actually planned to mine this material, but this mining never took place, so the mineralized material remains in situ.

East of the Breeze Pit, the Wind Mountain fault zone lies west of, and parallel to, a long north-trending ridge capped by silicified, precious-metal-bearing rocks. No deep drilling has been conducted under this ridge, although mineralization occurs in many of the shallow holes along the ridge.

#### 9.2 Wind Pit Area

The axis of the Wind Pit is oriented north-northeast and a vague network of clay-filled vertical fractures of roughly this orientation run through the pit. The blasthole data, when viewed 3-dimensionally with the help of a computer, indicates several plumes and shells of higher-grade gold mineralization that shift position from bench to bench rather than defining any through-going control, indicating lateral flow along permeable horizons. No obvious feeder structure is apparent from the data, and drilling below these fractures indicates that the fractures do not contain enriched gold mineralization. It is probable that the fractures were not feeder structures, but rather open conduits that allowed higher fluid flow once the hydrothermal fluids entered favorable stratigraphic horizons. Selective sampling from the walls and bottom of the pit has been unsuccessful in delineating any gold mineralization that is notably greater than that mined.



The Wind Mountain fault zone is adjacent to and slightly offset from the deepest parts of the pit. This fault zone was an obvious feeder for calcite that was probably deposited following gold deposition. It may have also been open during gold deposition. If so, then paleo-boiling zones may exist at depth within this fault and offer attractive exploration targets. The Wind Mountain fault zone has not been tested below about 1000 feet, and is an attractive target for high-grade precious-metal mineralization throughout its entire strike length of 6,600 feet, but particularly between Fortune River holes WM07006 and WM07009 where the dip of the Wind Mountain fault appears to steepen from around 60 degrees to 70 degrees. At least one of the deep holes being considered by Fortune River will test this fault down dip in this area.

A new pod of gold mineralization, known internally within Fortune River as Deep Min, was partially defined by deep drilling on the west side (hanging wall) of the Wind Mountain Fault where the westward extension of the mineralization has been dropped down approximately 700 feet. Seven holes penetrated thick zones of continuous gold mineralization ranging from 110ft of 0.448ppm Au to 540ft of 0.535ppm Au.

#### 9.3 Wind Deposit North

A possible extension of the Wind deposit occurs to the north-northeast beneath a long north-trending ridgetop capped by silicified precious-metal bearing rocks; this area is east of the Wind Mountain fault zone and east of the Breeze deposit. Several drill holes in this area have good grades of gold mineralization and broad drill-hole spacing, so an opportunity exists to develop additional resources. No deep drilling has been conducted under this ridge, although mineralization occurs in many of the shallow holes along the ridge.

#### 9.4 South Breccia Targets

Similar north-trending structurally controlled calcareous bodies lie to the south of the Wind Pit along an additional 4,000 feet of strike length, and limited drilling has encountered narrow, generally low-grade gold intercepts. Deeper testing along this fault to the south may be justified.

Amax Gold drilled a few holes on the southern portion of the property that intersected gold values of greater than 0.01oz Au/t (Figure 4.2). Fortune River<sup>\*</sup>s hole WM07010 offset an attractive historic intercept, but failed to improve upon grade and thickness of mineralization.



#### **10.0 EXPLORATION**

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Historic exploration of the Wind Mountain property is summarized well by Wood (1990) and the reader is referred to his published report on the past exploration activities and results.

#### **10.1** Fortune River's Exploration

Fieldwork conducted by Fortune River to date includes surface rock-chip sampling, geologic mapping, detailed ground magnetic surveys, and drilling of 13 holes in 2007 and 14 holes in 2008. Fortune River also collected historic data, and developed a 3-D computer model of geology and mineralization using Discover 3D and Go Cad computer programs. Crist (2007a) conducted the sampling and mapping for Fortune River as an independent consultant. He collected 168 rock samples from the surface including many from within the pits. Follow-up sampling designed to identify cross faults that may control gold mineralization was conducted in 2007 by Fortune River's consulting geologist, Dr. Ellie Leavitt. Although several northeast- and northwest-trending faults were sampled, and some contain enrichment of gold, projections of those faults in 3D, where they were cut by historic drill holes, indicate that most are probably not important feeder faults.

Fortune River's surface-sample spacing (Crist, 2007a) was determined by the distribution of rock exposures and float of altered rock. The purpose of the surface-sampling program was to identify and confirm the presence and strength of gold anomalies on the property in order to identify higher-grade "feeder" structures and determine if metal zoning is present. The samples are believed to be representative of the mineralized material exposed. Some samples from the open-pit benches were collected over measured distances, but the results are general in nature and do not demonstrate any specific width or length of mineralized material.

Fortune River has completed detailed 3D modeling (through the services of V. Chevillon, consultant for Fortune River) of extensive data derived from blastholes and exploration drill holes carried out by previous holders of the ground when it was being explored and then operated as an open-pit mine. In addition, sampling and mapping of accessible portions of the open pit and a detailed ground magnetics geophysical survey have also been accomplished. These data indicate that disseminated gold was deposited over a broad area along relatively flat-lying permeable horizons, with higher concentrations along fracture sets and small-scale faults trending north, northeast, and northwest.

The geometric distribution of gold on the property has been plotted from drill-hole data generated by Amax Gold and reported by Wood (1990). Fortune River"s sampling has confirmed the presence of anomalous gold in these gold-mineralized areas, and a few other areas as well. Crist"s (2007a) and, more recently by consulting geologist Dr. E. Leavitt"s, geologic mapping and sampling have enhanced the understanding of gold targets suggested by this previously generated surface showing gold distribution and by drill-hole data.



Fortune River completed reverse-circulation drilling of 13 relatively shallow holes during 2007 at Wind Mountain (Crist, 2007b). Two of these holes and adjacent Amax Gold holes verified that a portion of the original Breeze deposit was not mined, reportedly due to a royalty dispute during mining in the early 1990's. These drill results also confirmed that potentially leachable gold and silver remain unmined underneath and adjacent to the existing pits. The program also indicated that there is considerable exploration potential along the entire 1.8 mile long Wind Mountain fault zone. The pod of mineralization at Breeze is very close to surface and has the potential to be profitable if extracted as a limited open-pit mine/leaching operation.

Additional drilling by Eklund Drilling Company was contracted by Fortune River at Wind Mountain in 2008. The drilling was accomplished in two stages and began on January 14 and ended on August 10, 2008. Fortune River employed a geologist or field agent trained in industry-standard practices to monitor the rig and to log the holes. Crist monitored the drilling program and was frequently on site. A total of 16,220 feet of drilling was accomplished in 14 holes that ranged between 420 and 1,520 feet in depth. The vast majority of the drilling was done to test for high-grade precious metal mineralization at depth along a 4,000 foot section of the Wind Mountain fault including the span between the Wind and Breeze Pits. The fault zone was encountered in several holes, but no bonanza grade mineralization was encountered in several holes and establish an untested target at depth where fluid flow along the Wind Mountain fault may have been more constrained in the less permeable lava flows.

A new pod of gold mineralization, known internally within Fortune River as Deep Min, was partially defined by deep drilling on the west side (hanging wall) of the Wind Mountain fault where the westward extension of the mineralization has been dropped down approximately 700 feet. Seven holes penetrated thick zones of continuous gold mineralization ranging from 110ft of 0.448ppm Au to 540ft of 0.535ppm Au. No 43-101 compliant resource has been established for Deep Min at this time because of the minimum depth of 465ft to the top of the mineralization and questionable metallurgy. Future drilling, metallurgical studies and economic studies of this mineralization are not considered as a high priority at this time due to the depth, questionable metallurgical characteristics and presence of ground water within the highly fractured mineralized rock. None of the Deep Min mineralization is considered as resource at this time.

#### **10.1.1 Surface Dump Sampling**

Fortune River sampled three major dumps at the Wind Mountain Mine between March 3 and March 6, 2008. The objective of this program was to evaluate the average gold and silver grades of the dumps and determine if any difference in grade exists based on size distribution. (<4in and >4in). A total of 108 samples were collected from 55 locations. Sample sites were pre-selected on a grid with roughly 200ft spacing

At each site, two samples were collected from within a measured one-meter square area. A sample designated as F, or fine, was collected of <4in material that would pass through lateral 4in spaces between re-bar mounted in a wooden frame. Material that would not pass through the 4in-spaced bars was collected as a separate coarse sample.



The samples were taken to BSI Inspectorate ("BSI") for analysis of gold and silver from a 500g pulp. Gold was analyzed by fire assay with an AA finish and silver was assayed by AA. All samples were weighed at the lab. Gold and silver were also analyzed by a one hour shaker test using cold cyanide extraction with an AA finish.

The surface dump sampling program indicated the dumps may contain some gold mineralization which may be amenable to heap leaching. These results were used to design a bulk sampling study of the dumps as described in the following section.

# **10.1.2 Bulk Dump Sampling**

In 2008 Fortune River commissioned McClelland labs to conduct column testing of two bulk dump samples from dumps of the Wind and Breeze Pits in 2008. The samples weighed approximately 20 tons each and were split at the lab to 2.5 tonnes and dumped into 30in columns. The head grade of the South Dump, from the Wind Pit, was 0.445ppm Au and 15.06ppm Ag. Leaching of this material for 134 days recovered 60.7% of the Au and 14.6% of the Ag. The dump sample from the Breeze Pit had a head grade of 0.445ppm Au and 10.27ppm Ag. Unfortunately, a high clay content of the Breeze Dump sample apparently did not allow the leach solutions to pass through the column. A prominent clay layer was encountered within the trench from which the Breeze sample was derived and no attempt was made to segregate the clay layer from the sample in order to indicate the probable results of a worst case scenario.

# **10.2** Ground Magnetics Survey

A ground magnetics survey program was conducted over the Wind Mountain property in April 2006 by Chris Magee (Crist, 2007b). Consulting Geophysicist Bob Ellis reviewed and approved the quality of the data and then manipulated it, but did not provide a formal interpretation. Ground coverage did not include the Wind and Breeze Pits due to safety considerations.

The dominant feature defined by the magnetic survey is a north-south trending, rhombic-shaped magnetic low with dimensions of about 3.5 by 2.0km elongate along trend (Figure 10.1). This magnetic anomaly, when integrated with geologic data, can be interpreted to define the boundaries of a postulated graben that is filled with volcanic sedimentary rocks. The Wind Pit is near the center of this broad low and the Breeze Pit occupies the northernmost corner.

An intense northeast-trending magnetic low defines the northwest margin of the rhomb and trends into the Breeze Pit. Only one shallow drill hole (300 feet deep) is known to have tested the heart of this intense magnetic low anomaly, and low-level gold was encountered in the hole. This magnetic low target offers a possible extension of the unmined mineralization already known to occur southwest of the Breeze Pit.

A prominent, northwest-trending magnetic anomaly break appears to cut across the southwest portion of the Breeze Pit and southeastward across the north-trending ridge north of the Wind Pit. This possible structure also coincides with a prominent jog in the Wind Mountain (Calcite Vein) fault zone.



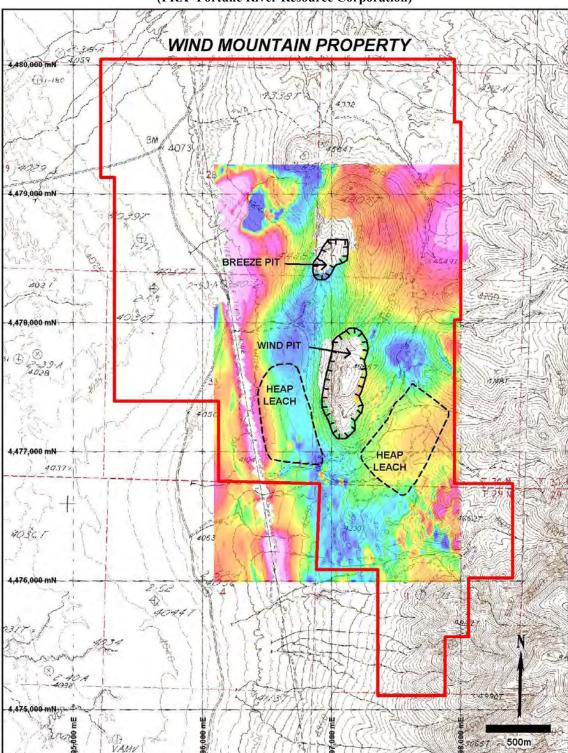


Figure 10.1 Ground Magnetics Survey of the Wind Mountain Gold Property (FRX=Fortune River Resource Corporation)



#### 11.0 DRILLING

The section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting. The information has been compiled in association with Fortune River"s geologic staff and their consultants, including Elliott M. Crist, Licensed Professional Geologist (Utah), the Chief Consulting Geologist for Fortune River.

Figure 11.1 shows the location of drill holes on the Wind Mountain property as well as the outlines of the Wind and Breeze resource areas.

# 11.1 Historic Drilling

The historic Wind Mountain drill-hole database consists of 464 holes, including those drilled by Amax Exploration, Santa Fe, Chevron, and Amax Gold, and 163,539 feet of drilling. The historical drilling grid is generally less than 200ft in the better mineralized parts of the deposits. Moving outward from the mineralized zones, drill spacing is generally no better than 300ft to 400ft centers. The majority of historical drilling is reverse circulation, but a limited amount of core drilling was completed.

Gold and silver assays on generally 5ft intervals are available for nearly all holes, and induced coupled plasma (ICP) analyses for other elements are available for selected holes. A digital record of these holes is available and has been established that it was derived from Amax Gold. Some of the drill chips from Sante Fe and Chevron were included in samples and data purchased from a previous land owner, but these have not been examined. Copies of summary drill logs have been obtained as part of the same purchase. Information such as depth of oxidation and presence of clay should be useful in evaluating resource modeling, metallurgy, and mining characteristics of the mineralization.

# 11.2 Fortune River's Drilling

Phase I drilling conducted by Fortune River at Wind Mountain began on January 29, 2007 and ended on May 4, 2007. A total of 9,755 feet was completed in 13 holes ranging in depth from 265 to 1,005 feet. E. Crist (2007b) was present at or near the drill rig for the majority of the drilling; and when he was unavailable, another geologist experienced in industry-standard drilling practices was on site.

Drilling in the 2007 program was accomplished using a track-mounted MD-50 reverse-circulation drill rig owned by Drift Drilling. The rig was equipped with a rotating splitter for wet samples and a Gilson splitter for dry samples. Shallow portions of some of the holes were drilled dry. The diameter of the drill holes ranged from 4 5/8 inches to 5 inches. All of the drilling was completed with a down-the-hole hammer with a conventional interchange.

Fortune River contracted Eklund Drilling Company to conduct Phase II and Phase III drilling in 2008. A total of 14 holes were drilled in two stages and the work began on January 14 and ended on August 10, 2008. Eklund utilized TH-75 truck-mounted reverse circulation drill rigs in both phases. International Directional Surveying conducted downhole surveying on 12 of the 14 holes and provided drill hole directional information and downhole temperature readings. All drilling, other than the initial 20 feet, was done wet and a rotating wet splitter was used to obtain the drill sample. The diameter of the



drill holes ranged from 5 <sup>3</sup>/<sub>4</sub>in to 6in. Some holes were completed with a down the hole hammer aided by an auxiliary compressor, but many of the deeper holes required completion with a tricone drill bit. Fortune River employed a geologist or field agent trained in industry-standard practices to monitor the rig and to log the holes. Crist logged several of the holes, monitored the drilling program and was frequently on site. A total of 16,220 feet of drilling was accomplished in 14 holes that ranged between 420 and 1,520 feet in depth.

The vast majority of the drilling was done to test for high-grade precious metal mineralization at depth along a 4,000 foot section of the Wind Mountain fault including the span between the Wind and Breeze Pits. The fault zone was encountered in several holes, but no bonanza grade mineralization was encountered. The lava flows of the Pyramid Sequence, beneath the base of the Truckee Formation, were encountered in several holes and establish an untested target at depth where fluid flow along the Wind Mountain fault may have been more constrained in the less permeable lava flows.

A new pod of gold mineralization, known informally as Deep Min, was partially defined by the deep drilling on the west side (hanging wall) of the Wind Mountain fault where the mineralization has been dropped down approximately 700ft from the mineralization that was mined in the Wind Pit. Seven holes penetrated thick zones of continuous gold mineralization ranging from 110ft of 0.448ppm Au to 540ft of 0.535ppm Au. No 43-101 compliant resource has been established for Deep Min at this time because of the minimum depth of 465ft to the top of the mineralization, questionable metallurgical characteristics and other negative factors. Future drilling, metallurgical studies and economic studies may be conducted in the future to further define the Deep Min mineralization, but are not considered a high priority at this time.

The Wind Mountain fault, also referred to as the Calcite Vein and located on the west side of the Wind Pit, is characterized by a strongly fractured zone. Sample split size retrieved by drilling through this structure was generally somewhat reduced, but was usually adequate at 4lb. In some instances, intervals from several holes in this fault zone were not returned to the surface because of lost circulation. Any future deep drilling program through this structure (whether core or reverse circulation) should be prepared to deal with an interval of highly broken rock and voids, which could be over 100 feet thick.

#### 11.2.1 Down-hole Surveys

Five of the thirteen 2007 drill holes and 12 of the 14 drill holes from 2008 were surveyed down the hole in order to determine deviation from a straight line projection of the surface bearing and dip of the drill stem. Considerable droop of the holes was detected, especially on shallow dipping (-45 degree) drill holes, where droop exceeded 1.5 degrees (2.6 feet per 100 feet). The large amount of droop was due most likely by the thin pipe used by the track rig. Generally, the 2008 truck-mounted rig using 20-foot drill stems and stabilizers was able to achieve a straighter hole. Temperature of the water in the holes was also measured and is discussed in the following section.

# **11.2.2 Ground Water and Temperature**

Groundwater discharge from 2007 drill holes was generally less than 15 gallons per minute and was noticed only in holes that penetrated more than 700 vertical feet beneath the surface. For purposes of this discussion, groundwater discharge refers to the estimated effluent of water from the splitter that was



over and above that circulated by the drill rig from the surface. Although minor pockets of water may have been encountered above this elevation, no noticeable discharge was recorded. Discharge of groundwater was possibly more extreme in WM07006, where the geologist on site while drilling from 745ft to 870ft estimated a 50-gallon per minute discharge. The flow dissipated abruptly at 870ft to about 10 gallons per minute; thus, the hole either sealed off or a pocket of perched water was drained. Actual ground water discharge from this hole was probably actually less than estimated because the hole was completed with the hammer bit, which would have become ineffective at this depth with 50 gallon per minute discharge. All holes, even the vertical 1,000ft hole, were completed with a hammer bit.

Water temperature was measured on the five holes that were surveyed in 2007; a maximum measured temperature of 95.8° F was recorded in WM07006 at a depth of 630ft. In this hole, and all other holes, the maximum temperature of the water was always estimated by feel to be cooler than comfortable bath water.

Fortune River drilled several relatively deep drill holes on the Wind Mountain fault zone in 1998. At depths as shallow as about 500ft, several holes penetrated strongly fractured silicified rock near the Wind Mountain fault zone in the area of Deep Min that was saturated with ground water. The water effluent from the reverse circulation drill rig was crudely measured at as much as 120 gallons per minute at depths of about 1,000ft by recording the length of time to fill a five gallon bucket. International Directional Services (IDS) conducted down-hole surveying of the holes that included temperature measurements. The highest temperature measurement made by IDS was 114° F at a true depth of 1,235ft (drill-hole depth of 1,301ft) in drill hole WM08-024, a hole that explores the Deep Min mineralization. Sufficient drilling has been done by Amax Gold and Fortune River to indicate that no geothermal conditions will hinder the mining of the established near-surface resource. Down-hole temperature measurements of future deep drill holes should continue to be made to determine if geothermal conditions could be a threat to mining deep mineralization that may be discovered in the future.

#### **11.2.3 Summary of Drilling Results**

Four drill holes confirm and expand the known extent of the near surface mineralization of above 0.010oz Au/t. Mineralization in these holes is contained in sinter and/or strongly silicified volcanic sedimentary rocks and is not known to be directly associated with a particular structure, but rather is part of the areally extensive halo of gold.

Deeper intercepts of strongly anomalous gold and silver (between 670 and 1,000ft) in the 2007 and 2008 drilling demonstrate the down-dip continuation of strongly anomalous gold related to the Wind Mountain fault. These deep intercepts and the general increased grade encountered near the fault zone in both the Wind Pit and Deep Min mineralization attest to the probable importance of the Wind Mountain fault as a feeder structure of the known gold deposits. Deeper penetrations on this structure may encounter higher-grade precious metal mineralization, particularly at the intersection with crossing faults or at deviations in strike and dip of the fault.

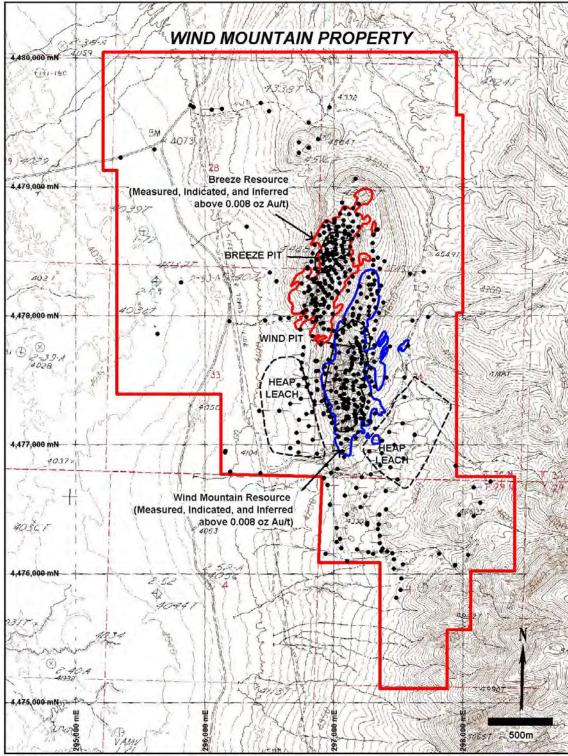
To date, Fortune River has drilled a total of 27 reverse-circulation holes for 25,985 feet. In addition to verifying the unmined Breeze pod of mineralization, drilling suggests that the Wind Mountain fault and other identified faults are potential "feeder" faults that are targets for future deep drill testing. Note that



only the 13 holes of phase I drilled in 2007 were available for the resource estimate. The data from the 14 holes from 2008 drilling have not been included in the resource estimate.



#### Figure 11.1 Drill-Hole Location Map for the Wind Mountain Project Showing the Wind and Breeze Resource Areas





#### 12.0 SAMPLING METHOD AND APPROACH

The section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting.

#### 12.1 Historic Sampling

With 464 drill holes in the historic database that was generated by exploration and development drilling by major companies over a 20-year period, the amount of information on the project is extensive. It is primarily these data that have been used in this study as the foundation of the current mineral resource estimate. The drill sample data was generated starting in 1982, the year when modern exploration techniques were first used on the property, and was continuously expanded by additional drilling through the final year of gold production in 1992. Fortune River is the only company that has subsequently explored the project area and added to the drill-hole database.

Although detailed information on sampling methods and approaches by the various exploration companies and mine operators has not been found in the historic information, the Wind Mountain Mine operated from 1989 through 1999 and produced 24.6 million tons of ore averaging 0.018oz Au/t from two open pits. Since gold resource estimates using the drill-hole data match very well with the mined production, the historic production could be considered as a bulk sample of the deposits that validates the drill-hole database.

#### 12.1.1 Fortune River Sampling

Fortune River directed both Drift- (2007 program) and Eklund (2008 program) drilling companies to conduct sampling utilizing the following procedure (Crist, personal communication). Normally, drill-hole samples were collected every 5 feet and a duplicate was collected every 50 feet. Some of the holes were drilled dry to depths of approximately 300 feet, where drilling conditions (clay, broken rock, etc.) usually required drilling wet. When drilling dry, the entire sample was collected in a five-gallon plastic bucket lined with a 20" x 24" bag. If dry samples were more than about 2/3 of a bucket, a 50% split was accomplished by pouring the material through a Gilson Splitter. Wet samples were collected as an approximate 50% split from the wet rotating splitter in a 5-gallon bucket lined with a 20in x 24in cloth bag. The more fluid portion of the sample effluent generally overflowed the bucket during drilling, but the sampler was instructed to tie the bags so as to contain as much of the fluid portion of the sample as possible. Sample effluent overflow occurred most commonly during the drilling at Deep Min, where there was an increase flow of groundwater. Duplicate samples were taken every 50 feet from a separate effluent from the wet splitter, or were collected from a Gilson split of the dry samples in the 2007 program (written communication, Crist, 2010.). Sample recovery was generally very good except for difficulty when the Calcite Vein was penetrated.



#### 13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

The section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting. Because the 2008 drilling was not included in the resource estimate, Section 13.2.2 on assay quality control has not been updated to include the 2008 drilling.

# **13.1** Historic Sample Preparation and Analyses

Amax Exploration, Santa Fe, Chevron, and Amax Gold are thought to have used standard sample collection, sample preparation, and analytical techniques in their exploration and evaluation efforts that were industry practice at the time, but detailed descriptions of the procedures have not been found. Most of the drill-hole assaying was accomplished by major laboratories that were in existence at the time of the drilling programs.

Various commercial labs, including Bondar Clegg (for Amax Gold), ALS Chemex ("Chemex") (for Santa Fe), Rocky Mountain Geochemical, North American, and Cone Geochemical, Inc. were involved in the assaying at different phases of the exploration and mining activity. Standards were inserted every 50 sample intervals in the Amax Gold holes. Blastholes appear to have been analyzed by Amax Gold"s in-house laboratory.

# **13.2** Fortune River's Surface Sampling and Drilling

Rock-chip samples generally consisted of approximately 2 to 9 pounds of rock. The samples were collected and transported directly to the laboratories in Sparks, Nevada by Crist (2007a). The samples were crushed at the laboratory to 70% -10 mesh from which a 200-gram, 500-gram, or 1,000-gram pulp (90% -150 mesh) was prepared for each sample. A 30-gram digestion of the pulp material was assayed by fire assay with atomic absorption (AA) finish for gold, and a 0.5 gram split was digested for multi-element analysis by ICP (inductively coupled plasma). Original samples were analyzed by BSI Inspectorate ("BSI") and duplicate samples were analyzed by Chemex. In some cases pulps prepared by one laboratory were re-assayed by a second laboratory.

ALS Chemex, American Assay Laboratories and BSI, all ISO approved laboratories, conducted all analytical and sample preparation work done on Fortune River"s surface samples from the Wind Mountain property.

# 13.2.1 Assaying

Fortune River"s quality control for the surface samples (Crist, 2007a) consisted of a limited number of blank pulps that were inserted among the surface samples from Wind Mountain. The blank samples did not contain significant geochemical values of gold and none were reported for the blank samples by the lab. Internal standards and repeats utilized by the laboratories were relied upon for further quality control. Repeat gold analysis checked well within 10 percent. Initial samples collected by Fortune River were from surface material, and the results were used to help guide their first exploration drilling program.



A 250-gram sample was prepared at BSI from the 5-foot interval rig sample for the first drill hole, after which Fortune River increased the pulp size to 500-grams. The pulps were assayed for gold using a 30-gram fire-assay with an AA finish and a multi-element ICP package that included silver. Samples over 1ppm Au were typically re-run using fire assay with a gravimetric finish, which typically matched the AA finish well.

Silver was analyzed as part of an ICP package using an aggressive 3 acid digestion. Some of the more important silver-bearing intervals were checked by fire assay with a gravimetric finish. The ICP silver values were generally higher than those from fire assay, especially when derived from samples that contained relatively low concentrations (less than 15ppm Ag). Chemex and BSI personnel both indicated that fire assay results are often lower than those derived from the same sample by ICP or AA when the silver content of the sample is less than 30ppm Ag, possibly due to volatilization of silver during the fire assay procedure. Crist (2007a) states that he believes most of the ICP results are representative of the silver content of the sample intervals.

Several of the trace elements analyzed by the 3-acid digestion ICP analysis, in particular Hg, were apparently precipitated or volatilized from solution by the 3-acid attack and, therefore, were not detected. In addition, there may be problems with interferences using the 3-acid digestion, as some unexpected elements are anomalously high (e.g. Bi, Tl). Ag, As, Cu, Pb, Zn and Se analysis are probably relatively accurate values. Mercury is consistently reported as below detection limits, but other Hg analyses have detected anomalous Hg in Wind Mountain mineralization. It is recommended that a mass-spec ICP or a two-acid digestion ICP be utilized for future multi-element analyses.

#### 13.2.2 Assay Quality Control

There is no assay quality control data available for the drilling completed by Amax Exploration, Chevron, or Santa Fe.

Assay quality control for the Fortune River drilling programs consisted of blank samples, standard samples, and rig duplicate samples. Chemex assayed the duplicate samples for gold only, using a 30-gram fire assay followed by an AA finish. Approximately 1 standard and 1 blank was inserted in the sequence of normal 5-foot samples for every increment of 500 feet (e.g. 2 of each for holes between 500 and 1000 feet). Standards and blanks were given a number ending in 3 and assayed in sequence with the normal samples. Each sequence of samples submitted to BSI began with a blank in order to identify any lab contamination and contained at least one standard. The results of the blank and standard sample assays are summarized in Appendix B. The results of the rig duplicate assays, selected screen metallic assays, and repeat assays are summarized in Appendix C.

Blank sample assays were generally below 5ppb gold, except for four samples that assayed between 10 and 30ppb gold and two samples that assayed 375 and 1058ppb gold. The two anomalous samples were re-assayed from the same pulp and the resulting assays were less than detection limit, so it may be concluded that the erroneous assays were not caused by contamination during sample preparation. Samples around the anomalous blank assays were re-assayed and did not appear to be contaminated, so the anomalous blanks were probably caused by switched labels in the lab, or sporadic contamination that did not transfer to multiple samples.



The standard samples were prepared by Mine Exploration Geochemistry ("MEG") as reference samples for gold with low-high ranges established by round robin assaying. A total of 26 standards were assayed, of which 7 were outside of the specified minimum-maximum ranges. Except for one sample, all standards that were re-assayed were within the specified range. The remaining out-of-range sample assayed 5020ppb Au and 4320ppb Au on the initial and repeat assay respectively, compared to a standard range of 410 to 553ppb Au. Overall, the standards assays indicated that the BSI assays were unbiased with respect to the standard reference assays except for the outlier. The outlier is most likely attributable to a switched pulp at the laboratory, or an incorrect pulp sent to the lab by Fortune River. Fortune River believes that this outlier is probably a sample that was mislabeled by MEG.

A total of 178 rig duplicate samples for the 2007 program were assayed for gold grade by Chemex. Statistical analysis of these results and the XY plots attached in Appendix C show that the Chemex assays are 5% higher gold grade than the BSI assays, but the difference is not statistically significant. The standard deviation of the relative difference between the paired assays is 44%, which indicates a total sampling+assaying error of 31% for each of the individual assays. This level of sampling error is at the upper limit of acceptable for individual assays and may be indicative of a small amount of coarser gold in the size range of 50 microns to 200 microns.

Fifty samples from the 2007 program were assayed using the screen metallic method, in which a larger sample is screened at 150 mesh, then the entire screen oversize fraction is fire assayed in addition to one, or more, subsamples of the screen undersize. A weighted average assay is then calculated based on the two assays and the weight of the corresponding screen fractions.

The relative standard deviation for the paired BSI original vs. screen metallic assays is 76%, which is much worse than is observed for the rig duplicates. The average grade of the screen assays is 12% lower the original assay, but the difference is not significant because of the high variability. The increased variability observed with the screen metallic assays may be caused by either a small amount of coarser gold, and/or by procedural errors with the screen metallic assay itself. Common problems with the screen metallic assaying method include small particles of gold getting stuck in the screen and improper subsampling of the screen undersize fraction, in which the gold is highly segregated. Both of these problems tend to cause a negative bias in the screen metallic assay, particularly for very low grade samples. Further screen metallic assays are not recommended for Wind Mountain unless coarse gold is indicated by visual observation or high variability among duplicate samples. Fortune River geologist reports that minor amounts of visible gold were panned from cuttings (personal communication, Crist). Small piles of placer workings exist to the west of the Wind and Breeze Pits and patented placer claims are present to the southwest of the Wind Pit.



#### 13.3 Security

Nothing is known of the sample security used by Amax Exploration, Santa Fe, Chevron, and Amax Gold, but all were substantial, experienced companies, and it is assumed that they used procedures common in the industry at the time.

During Fortune River"s drilling programs, samples were laid out in order at the drill site and, with the exception of one hole, all samples were located securely behind the mine fence and a locked gate, well away from public access. Samples were either delivered by a Fortune River geologist or were picked up by the laboratory within a day or so of completion of each drill hole. Samples were never left on the site during days off, but were unattended at night in the 2007 program and in the 2008 program when no night shift work was done No signs of sample tampering were noted by the geologists on site.



### **14.0 DATA VERIFICATION**

The section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting.

Fortune River has obtained from Kinross Gold and a previous land owner most of the drill data generated by Amax Gold, which was merged into Kinross in June 1998 after mining at Wind Mountain was completed in 1992. The database used for the 2007 resource estimate consists of 477 drill holes and 34,277 assay intervals.

The digital assay data were verified by Fortune River by comparing a 5% sample of the digital data to computer printouts of laboratory data acquired from the previous land owner. The checking procedures were reviewed by O.R.E. and it was determined that the procedures were adequate for resource estimation. These checks verified that the Amax Gold data was entered accurately, except for a few standards that were entered as assay data, and two high-grade assays in hole A0028 that were entered as missing. The computer printouts did not contain the name of the laboratory, but Bondar Clegg laboratory certificates from holes A0406 to A415 did match exactly with the computer printouts. It is concluded that the preponderance of evidence indicates that: 1) the computer printouts were derived from electronic data sent to Amax Gold by Bondar Clegg; 2) the Amax Gold electronic database is the same as the printouts; and 3) that the assay data were entered by Amax Gold with a level of accuracy that is sufficient for resource estimation.

In addition to the drill-hole data, blasthole data were available in the Amax Gold archives that contained hole coordinates with gold and silver assays for 81,275 blastholes. No certificates were available for the blasthole data and nothing is known about the sampling methods or assaying methods. Blastholes appear to have been analyzed by Amax Gold's in-house laboratory. The blasthole data were verified in comparison with closely spaced drill-hole composites, and it was shown that blasthole gold grades were unbiased in comparison to drill-hole gold assays.

Drill-hole silver grades are 40% lower than blasthole silver grades, however, and the reason for this difference is not understood. In addition to the difference between blasthole and drill-hole silver grades, Fortune River has experienced difficulty with large variations in silver assays using different analytical methods. Because of these difficulties with silver grade assaying, silver resources were not reported by Noble and Ranta (2007) even though silver will undoubtedly be recovered as a byproduct to gold if the property is placed into production. Historically, 5.9 ounces of silver were recovered for each ounce of gold produced by Amax Gold.

No original down-hole survey data are available other than what is in the digital database, therefore, that data cannot be verified for accuracy. Collar coordinates for each of the drill holes were obtained from the digital database and are in Nevada State Plane West coordinate system, NAD27. According to reports in the database, some of the drill-hole collars were accurately surveyed, presumably by theodolite, but there is no indication as to how many and which of the drill-hole collars were surveyed.



Information presented above describes the limitations imposed by the lack of certain historical records on verification of the data. Based on operating results and model reconciliations, it is the opinion of the resource author, Noble, that the assays are suitable for resource estimation.

Collar coordinates for the 13 drill holes that Fortune River drilled in 2007 were originally surveyed with a handheld GPS unit. These coordinates were used for the initial resource calculation and, while sufficiently accurate for that initial study, more accurate surveys are recommended for any future drilling if the project progresses into the prefeasibility stage.

Fortune River contracted TNT Exploration LLC to professionally survey 25 of the 27 drill holes that they had drilled in 2007 and 2008. Two of the outlying holes were not surveyed professionally, but adequate location was provided by a handheld GPS device. This data was not used in the resource calculation, but the impact of the more precise locations derived by TNT would have minimal effect on the resource calculation.

Analytical data were compiled in Excel and Access for use in GIS and 3D mapping software. Gold analyses for duplicate sample intervals were averaged and standard and blank values were examined for accuracy. Down-hole survey data for the drill holes were also verified. The data entry for the Fortune River holes was not checked against the laboratory certificates.



#### **15.0 ADJACENT PROPERTIES**

There are no other known significant occurrences of gold in the immediate vicinity of Wind Mountain. Nevada hosts many significant precious metal mines in multiple geologic environments. Volcanic-hosted systems in northern Nevada with more than a million ounces of production include Sleeper, Midas and the Comstock, which are all located more than 100 miles from the property. Several other districts with smaller amounts of gold production occur within about 100 miles of the Wind Mountain property.



#### 16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Several historic metallurgical reports are available for the Wind Mountain Gold project, but the most compelling indication for gold and silver recovery is from historical production that occurred between 1989 and 1999.

The following information is presented as a summary of the historical metallurgical work that has been done. MDA believes that these reports are reasonable evidence of the amenability of the deposit to leaching for this level of study. Additional metallurgical test work by Fortune River is also described. A comprehensive review of this work and additional testing by a qualified metallurgist is recommended for the next level of study.

#### 16.1 Historical Metallurgical Testing and Reports

MDA obtained five reports that describe studies and tests that occurred prior to and during historical production. Note that the use of the term "ore" in these reports is for convenience only, rather than a technical definition. These reports are described as follows:

#### 16.1.1 Bottle-Agitation Cyanide Leach Tests – Western Testing Laboratories – 1985

In 1985, Western Testing Laboratories produced a "Report on Bottle-Agitation Cyanide Leach Tests" for Santa Fe Mining, Inc. This describes bottle-agitation tests done on two samples taken from drill sample rejects. The test portions from the rejects were ground to minus 80-mesh and split for head assay and 72-hour bottle roll tests. The head assays for the two samples and resulting recoveries for the bottle tests were reported as:

<u>Sample</u>	<u>Au (Oz / Ton)</u>	<u>Ag (Oz / Ton)</u>	Au Recovery Ag	Recovery
Group 1	0.034	0.78	88.6%	58.2%
Group 2	0.038	0.69	89.7%	51.4%

Reagent consumption was reported as 4.0 pounds of lime per ton of ore and 1.3 pounds of sodium cyanide per ton of ore.

#### The report recommended:

... Since grade of the ore is such that only heap leaching is a viable production method, a series of column-percolation cyanide leach tests should be performed before a pilot heap is attempted. Such a series of tests would provide data on degree of crushing required, percolation characteristics, and recoveries that would more nearly approach those attained in a pilot heap leach.

#### 16.1.2 Preliminary Cyanidation of San Emidio Ore Samples – Heinen-Lindstrom Consultants – 1986

In 1986, Heinen-Lindstrom Consultants produced a report on "Preliminary Cyanidation of San Emidio Ore Samples" for Pegasus Gold Inc. This report was based on 2 samples (samples "B2028" and "A-8"), which were subjected to 72-hour leach bottle roll tests. Table 16-1 shows sample characteristics and recovery results as reported.



Sumple				
B20	)28	A-8		
Au Recovery	Ag Recovery	Au Recovery	Ag Recovery	
35.5%	2.8%	41.5%	6.3%	
55.7%	3.7%	52.4%	9.1%	
65.2%	6.1%	55.7%	13.0%	
80.7%	9.0%	59.0%	16.0%	
79.7%	10.6%	62.3%	17.7%	
0.024	0.05	0.013	0.12	
0.006	0.44	0.008	0.55	
0.030	0.49	0.021	0.67	
0.023	0.26	0.024	0.62	
n ore	0.10		0.30	
	3.60		2.00	
	10.0	9.7		
	Au Recovery 35.5% 55.7% 65.2% 80.7% 79.7% 0.024 0.006 0.030 0.023	35.5% 2.8% 55.7% 3.7% 65.2% 6.1% 80.7% 9.0% 79.7% 10.6% 0.024 0.05 0.006 0.44 0.030 0.49 0.023 0.26 a ore 0.10 3.60	Au Recovery         Ag Recovery         Au Recovery           35.5%         2.8%         41.5%           55.7%         3.7%         52.4%           65.2%         6.1%         55.7%           80.7%         9.0%         59.0%           79.7%         10.6%         62.3%           0.024         0.05         0.013           0.006         0.44         0.008           0.030         0.49         0.021           0.023         0.26         0.024           a ore         0.10         3.60	

# Table 16.1 Overall Metallurgical Results – San Emidio Ore (Heinen-Lindstrom Consulting, 1986) Sample Sample Sample

The discrepancy between assay head grades and calculated head grades were not discussed in the report. An additional discrepancy in the recovery between the 48 hour and 72 hour interval shows that the recovery actually went down. It is uncertain if this discrepancy is due to ore characteristics or laboratory error.

Conclusions presented in the report are as follows:

- San Emidio samples are fairly amenable to agitated cyanidation at a nominal 3/8 inch feed size.
- Leaching rates are rapid for both samples.
- Cyanide consumptions were low.
- *Lime requirements were low.*

#### 16.1.3 Pyramid Lake Prospect Coarse Gold Study – Amax Minerals & Energy, J.D. Wood – 1987

In 1987 Amax Gold conducted a coarse ore study "in-house" by J. D. Wood. This is presented in a memorandum under the subject "Pyramid Lake Prospect Coarse Ore Study" dated August 7, 1987. The study was initiated due to intercepts with traces of visible gold in rotary (assumed to be reverse circulation) drill cuttings.

Wood"s summary and conclusions read:

Small flecs of visible gold observed in DH-12 and DH-13 drill cuttings were the first indication of free gold at the Pyramid Lake prospect. Sieve fraction analysis indicated the gold values are consistently 9.3% higher in +20 mesh fractions and 20.6% higher in the -100 mesh fractions than in the intermediate fractions. This probably indicates gold is closely associated with, and contained



along fractures of very hard silicified rhyolite and is liberated by drilling and crushing enabling small quantities of free gold to concentrate in the fine fractions.

Cyanide leaching of 3 samples resulted in an average gold recovery of 100 percent based on AMAX composite head assays ranging from 50 to 135 percent. Recoveries over 100 percent must reflect coarse gold not detected by fire-assay methods. The only other explanation is analytical error which does not seem likely. There appears to be 32 percent coarse gold in these samples resulting in total gold contents 47 percent higher than initial assays. The actual size of the coarse gold particles has not been determined. Two observed are about 1/2g or less in weight. Similarly the distribution or extent of the coarse gold is not known. Samples tested exceed 0.01oz Au/t so it may be expected to find coarse gold in rocks exceeding this grade.

#### 16.1.4 Wind Mountain Cyanide Tests – Kappes, Cassiday & Associates – 1988

The most extensive metallurgical testing report available was prepared by Kappes, Cassiday & Associates ("KCA") for Amax Gold in 1988.

The following is MDA"s summary of this report:

A full range of testing was done on nine samples for this report including screen and head analyses, cyanide centrifuge tube tests, cyanide bottle roll tests, and cyanide column leach tests.

Nine core samples were provided to KCA for test work. The core was crushed into two groups of samples; minus 5/8 inch and minus  $1\frac{1}{2}$  inch. In addition, eight chip samples from three rotary drill holes were provided for testing. Head grades for the core samples ranged from 0.006 to 0.033 ounces of gold per ton, and the chip sample head grades ranged from 0.011 to 0.066 ounces of gold per ton.

Centrifuge tube tests were done on pulverized portions of all core sample screen fractions. The tests indicated that the total cyanide soluble gold was greater than 80% in all fractions tested.

Agitated bottle roll tests were conducted on the core samples and on splits of the chip samples. The core bottle roll tests were done on pulverized core as well as the 5/8 inch and  $1\frac{1}{2}$  inch samples. Gold recoveries on core samples ranged from 62.5% to 88.6% and averaged 80.2%. Cyanide consumption ranged from 0.3 to 1.1 pound sodium cyanide per ton of ore and lime consumption ranged from 0.8 to 1.6 pounds per ton of ore.

Column tests were done on the nine minus 5/8 inch and nine minus 1  $\frac{1}{2}$  inch core samples. The column tests used 5-ft to 6-ft columns which were 6 inch diameter for the 5/8 minus material and 8 inch diameter for the 1  $\frac{1}{2}$  minus material. The column tests were run from 30 to 39 days. Recoveries for the 5/8 inch material ranged from 42.7% to 87.5% with a weighted average of 59.4%. Recoveries for 1  $\frac{1}{2}$  inch material ranged from 33.3% to 80.0% with an average of 54.3%.

KCA suggested that the actual recoveries for full scale leach pads would be 3% less than the results or 56% and 51% for 5/8 inch and 1  $\frac{1}{2}$  inch material respectively.



#### 16.1.5 Heap Leach Cyanidation Test Work – Wind Mountain Bulk Ore Composite – McClelland Laboratories, Inc. – 1990

A 5500 pound bulk composite of Wind Mountain ores prepared by Wind Mountain mining personnel was tested by McClelland Laboratories, Inc in 1990. (The sample was from mining activities, though the location of the sample is not given in the report.) Column leach tests were conducted using various crush sizes including: 80% minus 3/4 inch, 80% minus 1 inch, and 80% minus 2 inch. Duplicate tests were conducted for each of the crush sizes and a single test was done on run-of-mine ore, which was 16.5% plus 4 inch. Average grade for the bulk sample was 0.019 ounces gold per ton and 0.42 ounces of silver per ton of ore.

These columns had 50-day gold recoveries of 67%, 66%, 62%, and 58% for the <sup>3</sup>/<sub>4</sub> inch, 1 inch, 2 inch, and run-of-mine ("ROM") sizes, respectively. Average silver recovery of 11%, 14%, 13%, 17% was observed for the <sup>3</sup>/<sub>4</sub> inch, 1 inch, 2 inch, and run-of-mine columns respectively.

Conclusions from the report stated:

- The bulk ore composite was amenable to heap leaching treatment at all four feed sizes evaluated.
- Gold extraction rates were fairly rapid
- Cyanide consumptions were low, and should be substantially lower in commercial production.
- *Lime requirements were low.*
- Overall metallurgical results from the column tests and tail screen analysis results from the ROM leached residue, indicate that the metallurgically optimum feed size for the Wind Mountain bulk ore is 1 inch.

McClelland Laboratories recommended that "an economic trade off study between leaching ROM and crushed 1 inch feed be conducted to determine whether or not the increased gold recovery obtained from the finer feed would warrant the crushing costs".

#### 16.2 Metal Recovery from Historical Production

During the 1990's Amax Gold demonstrated favorable leaching characteristics of the oxide mineralization at Wind Mountain, obtaining 69% gold recovery from a combination of crushed and runof-mine ore at grades only slightly higher than those remaining in the resource. Silver recovery percentage is not known, but even though it was most likely less than 25%, silver was a significant byproduct. Gold production from the Amax Gold operation, as shown in Table 16.2, indicates a gold recovery of 67% during active leaching and an overall recovery of 69% after rinsing of leach pads.



	Au Ozs	Recovered Au Ozs		Total	
Year	to Pad	For Year	Cumulative	Recovery	Comments
1989	78,059	30,903	30,903	40%	Mining & Leaching
1990	147,648	81,733	112,636	50%	Mining & Leaching
1991	191,118	91,063	203,699	49%	Mining & Leaching
1992	16,369	54,689	258,388	60%	Mining & Leaching
1993		19,296	277,684	64%	Leaching
1994		10,513	288,197	67%	Leaching
1995		5,312	293,509	68%	Rinsing
1996		4,205	297,714	69%	Rinsing
1997		964	298,678	69%	Rinsing
1998		-	298,678	69%	Heavy Precipitation
1999		581	299,259	69%	Rinsing
Total	433,194	299,259			

Note that of the material placed on leach pads, 22% was crushed and 78% was run-of-mine.

#### 16.3 Metallurgical work by Fortune River

#### 16.3.1 Column Leach Testing of Dump Samples

Fortune River commissioned McClelland labs to conduct column testing of two bulk dump samples from dumps of the Wind and Breeze Pits in 2008. The samples weighed approximately 20 tons each and were split at the lab to 2.5 tonnes and dumped into 30in columns. The head grade of the South Dump, from the Wind Pit, was 0.445ppm Au and 15.06ppm Ag. Leaching of this material for 134 days recovered 60.7% of the Au and 14.6% of the Ag. The dump sample from the Breeze Pit had a head grade of 0.445ppm Au and 10.27ppm Ag. Unfortunately, a high clay content of the Breeze Dump sample apparently did not allow the leach solutions to pass through the column. A prominent clay layer was encountered within the trench from which the Breeze sample was derived and no attempt was made to segregate the clay layer from the sample in order to indicate the probable results of a worst case scenario.



#### **16.3.2 Cold Cyanide Extraction Testing**

**Drill Samples** In July 2008, Fortune River conducted cold cyanide extraction tests on intervals of two holes that encountered a newly discovered pod of gold and silver mineralization west of the Wind Pit (informally known as Deep Min). Cold cyanide extraction of the gold and silver was conducted on pulps from two of the holes that intersected this mineralization. The objective of this testing was to ascertain the amenability of this mineralization to direct cyanidization in a preliminary way. The intervals selected for testing consisted of 500g pulps that were derived from five foot individual drill samples from a continuous 325ft interval between 615ft and 950ft in drill hole WM08018 and from a continuous interval in drill hole WM08019 from 605ft to 1,050ft.

BSI conducted the first round of testing on drill hole WM08019 only, which was selected because it was judged to contain the least oxidized representation of mineralization from Deep Min. Thirty grams of the pulp were subjected to cyanide extraction for one hour. The average extraction of gold from the entire interval (605ft to 1,050ft) was 18%. Extraction of gold from the less oxidized portion from 605ft to 900ft averaged only 10% while a deeper more oxidized portion from 900ft to 1,005ft averaged 42%; the higher extraction and stronger oxidation are due to the proximity of this lower interval to the strongly fractured Wind Mountain fault zone where ground water had more contact with the mineralization.

Chemex conducted a second round of tests on the less oxidized interval of WM08019 (from 605ft to 900ft as described above) and on an interval in drill hole WM08018 from 615ft to 900ft. Chemex utilized a similar (one hour) technique as BSI and also analyzed Ag by AA from the same solution as the gold. Chemex obtained an extraction of gold of 15% from WM08019 and 39% from WM08018. Chemex repeated the procedure on another 30g split and allowed the extraction to continue for 24 hours; they obtained extraction of 41% of the gold in WM08018 and 10% from WM08019. Extraction of silver from WM08018 averaged 39% and 41% respectively for the 1 hour and 24 hour tests and 31% and 32% respectively for WM08019.

Interestingly, the extraction of gold after 24 hours was actually less than that from the one hour test on the weakly oxidized interval from WM08019. Crist discussed this data with Howard Schaffer, the chief geochemist with ALS Laboratories (formerly Chemex). Schaffer suggested that the decreased extraction from the longer test was probably due to the presence of cyanide consuming species in the sample, probably sulfur. No cyanide is added during the tests and if the cyanide concentration drops below a certain level, depending on PH conditions, gold may drop out of solution. The longer extraction time of the 24 hour tests may have allowed the cyanide consumer to decrease the cyanide concentrations below a critical level. The interval tested in WM08019 was only very weakly oxidized, and trace amounts of iron sulfide were present throughout the interval.

*Surface Dump Samples* In July 2008, Crist directed, and participated in, the collection of 108 samples from the surface of the three largest dumps. BSI analyzed the samples for gold by fire assay followed by AA and also conducted ICP multi-element analysis. One hour, cold cyanide extraction tests for gold and silver were also conducted by BSI on 30g pulp samples that were derived from surface dump samples. Average extraction by cold cyanide was 98% of the gold and 104% of the silver.



#### **17.0 MINERAL RESOURCES AND RESERVES**

This section has been taken from the Technical Report completed in 2007 by Noble and Ranta, with minor changes to reflect updated information or consistency in formatting.

#### 17.1 Data

The raw data for this project was provided by Fortune River in digital format as follows:

- I. Drill-hole data was provided by Fortune River who compiled it from a combination of historical Amax Gold, Amax Exploration, Chevron and Santa Fe data and new data from Fortune River"s 2007 drilling program. Most of the drilling was RC with only a few core holes.
- II. Blasthole data were extracted from several subdirectories in the WindMtn\_Kinross\_0406 data: BHSIK, BLAST, and BRZIK. The blasthole data contains 81,275 holes with collar locations and assays for gold and silver.
- III. Current topography data was extracted from an AutoCAD drawing "WMTOPS.dwg" that has a file date of 4/2/2004. The drawing legend shows that the topography is based on aerial photography dated May 24, 2001. Pre-mining topography was developed by interactively digitizing estimated pre-mining topography contours based on drill hole and blasthole collar elevations.

#### 17.2 Block Models

A block model consisting of 2.16 million blocks was used for resource estimation. The size and location parameters for the model are summarized in Table 17.1.

# Table 17.1 Wind Mountain Gold Deposit Block Model Size and Location Parameters (from Noble and Ranta, 2007)

	Minimum (feet)	Maximum (feet)	Number Blocks (feet)	Block Size (feet)
East-West	272,500	276,500	160	25
North-South	2,065,000	2,072,500	300	25
Elevation	3,905	5,030	45	25



#### **17.3** Mineral Envelope Models

Mineral envelope models were created by interactively drawing outlines on plans and sections using a nominal cutoff grade of 0.006oz Au/t and drill holes composited to 25-foot benches. Blocks (25x25x25ft) were selected inside the mineralized envelope wire frames for use in resource estimation. The Wind and Breeze mineralized zones are shown with respect to the current surface topography in Figure 17.1.

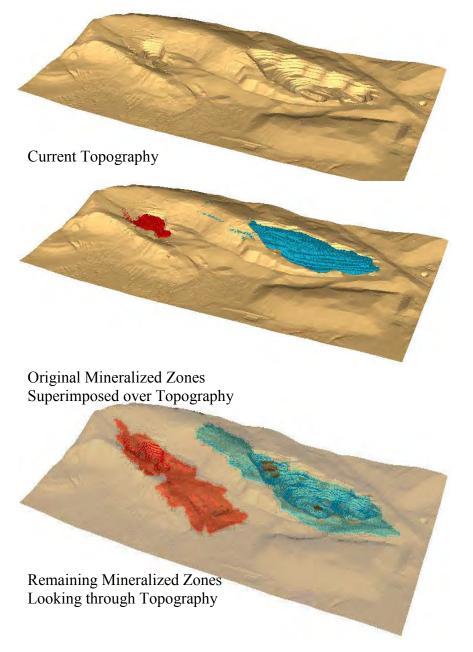


Figure 17.1 Wind Mountain (Blue) and Breeze (Red) Mineralized Zones



#### 17.4 Compositing

Drill holes were composited as 25-foot bench composites using the block model bench definitions, if they were steeper than 45 degrees from horizontal. Holes in which the flattest down-hole survey segment was flatter than, or equal to 45 degrees were composited using 25-foot down-hole composites. In both cases, a minimum of 12.5 feet of assayed drill hole was required to store a composite. Each composite was assigned a mineral zone code (i.e. Breeze mineralized or Wind mineralized) depending on whether the centroid of the composite was inside or outside of the mineral envelope wireframes.

# 17.5 Basic Statistics

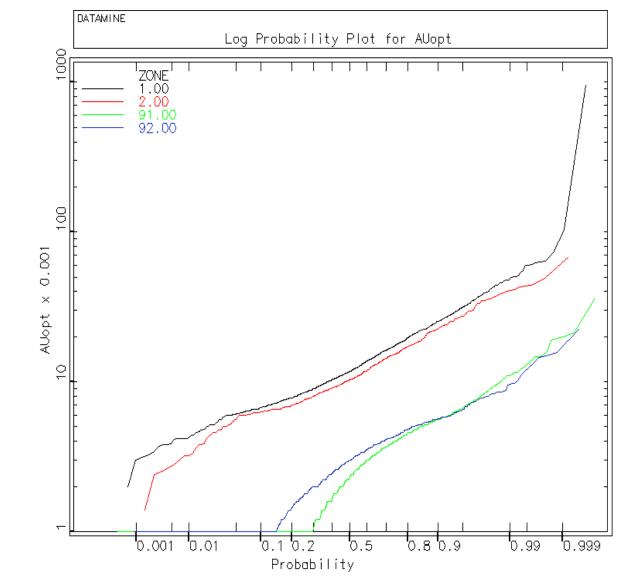
Basic statistics were compiled for the 25-foot composites, as summarized in Table 17.2. Except for gold in the Wind mineralized zone, all of the zones have relatively low coefficients of variation. The lognormal probability plots for gold grade shown in Figure 17.2 indicate that gold grade in the mineralized zones has a near lognormal distribution except for one extreme high-grade outlier in the Wind mineralized zone. When composites are capped to a maximum grade of 0.10oz Au/t, the coefficient of variation for the Wind zone drops to 0.64, which is nearly the same as the 0.61 coefficient of variation for the Breeze zone. Gold grade distributions in the low grade halo around the mineralized zones are similar to those in the mineralized zone, but are much lower grade. The downward curve of the plotted lines in the mineralized zone is most likely attributable to loss of assaying precision with very low grades approaching the detection limit.

# Table 17.2 Wind Mountain Gold Deposit Basic Statistics by Mineralized Zone for CompositedGold and Silver Grade (from Noble and Ranta, 2007)

			Min.	Max.			Coefficient
		Number	oz	oz	Average		of
	Zone	Values	Au/t	Au/t	oz Au/t	Std. Dev.	Variation
Gold	Wind Mineralized	1576	0.002	0.967	0.015	0.0256	1.702
	Breeze Mineralized	657	0.001	0.068	0.013	0.0077	0.606
	Wind Low Grade	2273	0.000	0.036	0.003	0.0025	0.919
	Breeze Low Grade	1094	0.000	0.023	0.003	0.0022	0.670
	All	5600	0.000	0.967	0.007	0.0147	2.045
Gold	Wind Min. Capped	1576	0.002	0.100	0.015	0.0093	0.641
Silver	Wind Mineralized	1560	0.021	1.784	0.315	0.199	0.631
	Breeze Mineralized	657	0.012	2.818	0.266	0.201	0.757
	Wind Low Grade	2486	0.000	1.014	0.105	0.106	1.005
	Breeze Low Grade	1134	0.000	1.106	0.125	0.095	0.761
	All	5837	0.000	2.818	0.181	0.173	0.954



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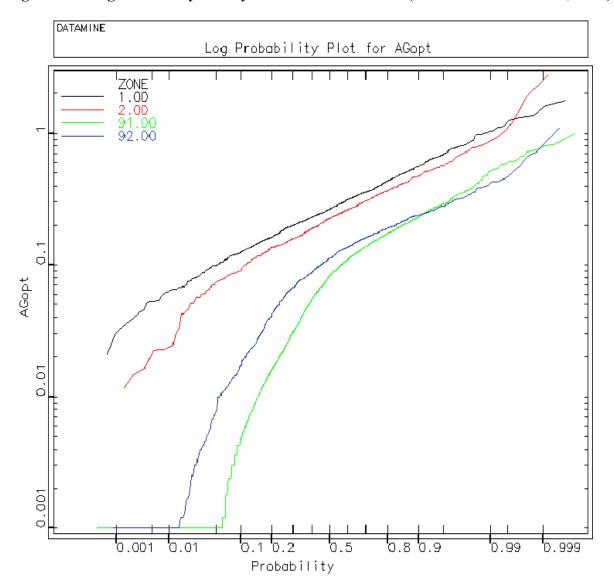


#### Figure 17.2 Log Probability Plot by Zone for Gold Grade (from Noble and Ranta, 2007)

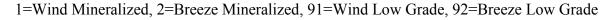
1=Wind Mineralized, 2=Breeze Mineralized, 91=Wind Low Grade, 92=Breeze Low Grade

Silver grade distributions are also nearly lognormal in the mineralized zones, as shown in the log probability plots in Figure 17.3. The low-grade end of the plotted curves for the low-grade zone indicates that the low-grade zone is not a lognormal distribution since it has too many very low grade samples. The low-grade silver distribution was not further evaluated because silver grade is not included in the resource estimate.





#### Figure 17.3 Log Probability Plot by Zone for Silver Grade (from Noble and Ranta, 2007)





#### 17.6 Variograms

Variograms were prepared for gold and silver grade from the blasthole data using the Sage 2001 variogram analysis program. The resulting variograms, as shown in Figure 17.4 through Figure 17.7, demonstrate exceptionally good continuity for a gold deposit. (Note - Variograms are plotted using the Sage convention with the sill set equal to one (1.0)).

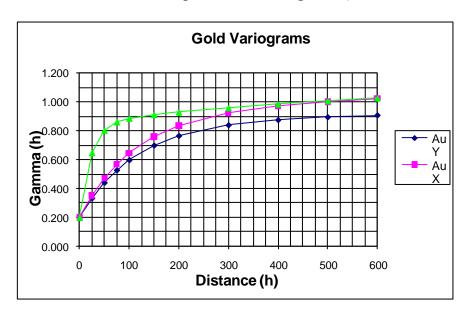
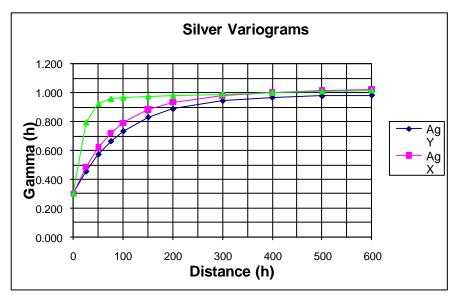


Figure 17.4 Wind Mountain Deposit Gold Variograms (from Noble and Ranta, 2007)

X" axis 96 azimuth 4 dip, Y" Axis 186 azimuth, 4 dip

Figure 17.5 Wind Mountain Deposit Silver Variograms (from Noble and Ranta, 2007)



X" axis 77 azimuth 1 dip, Y" Axis 191 azimuth 3 dip



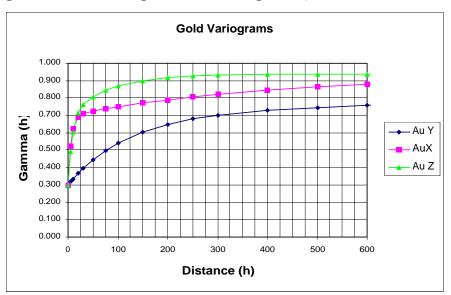
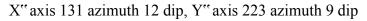
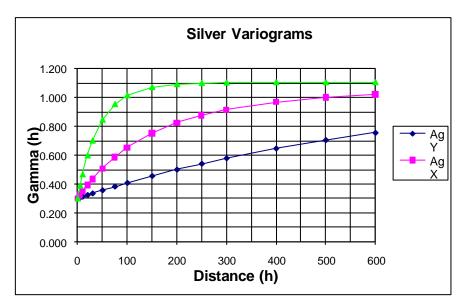
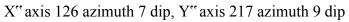


Figure 17.6 Breeze Deposit Gold Variograms (from Noble and Ranta, 2007)



#### Figure 17.7 Breeze Deposit Silver Variograms (from Noble and Ranta, 2007)





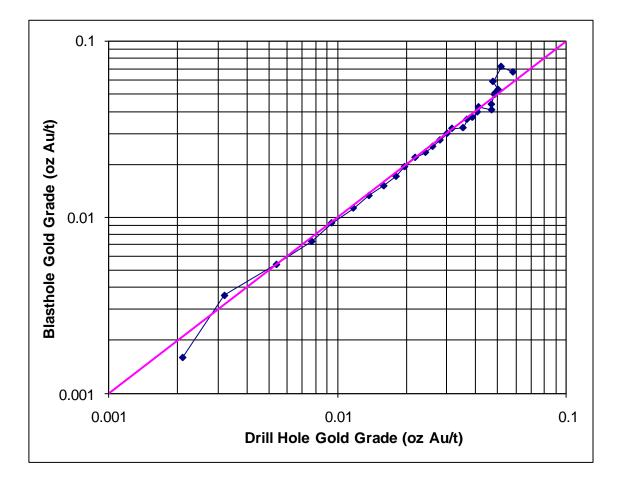


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#### 17.7 Blastholes - Drill Hole Assay Comparison

Blasthole gold and silver grades were compared to drill-hole grades by pairing blastholes to drill-hole composites with a maximum of 25 feet between the paired samples. This study showed that there was very little difference between blasthole and drill-hole gold grades. Blasthole silver grades are 66% higher than drill-hole silver grades, however, and the reason for this difference is not understood. The results of the blasthole vs. drill-hole study are shown in Figure 17.8 and Figure 17.9.

#### Figure 17.8 Blasthole Gold Grade vs. Drill-Hole Gold Grade for Paired Samples (from Noble and Ranta, 2007)





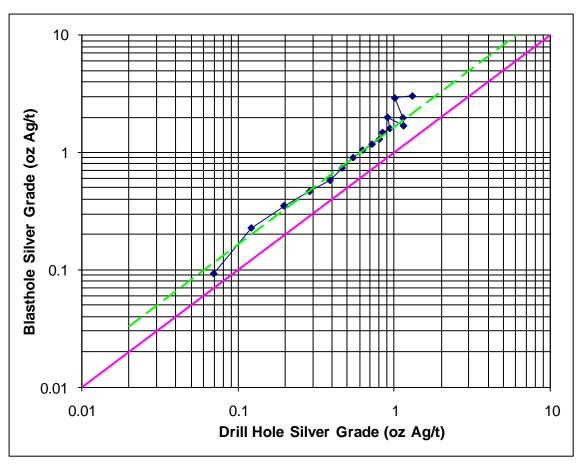


Figure 17.9 Blasthole Silver Grade vs. Drill Hole Silver Grade for Paired Samples (from Noble and Ranta, 2007)

#### 17.8 Blasthole Model

Blasthole gold and silver block models were created using ordinary kriging and the variograms shown previously. Blasthole grade estimation was limited to the area sampled by blastholes plus a 25-foot margin around the edge of the blasthole area. The blasthole model was created using a constant bench height of 25 feet even though the actual mining benches above the 4,480 elevation in the Wind Pit were 20 feet high.

The blasthole model compares well to historical production as shown in Table 17.3, although blasthole model tonnage is lower than historical production tonnage and blasthole model grade is higher than the historical grade. These differences are believed attributable to the larger bench height used in the upper benches of the Wind Pit than was used for production, resulting in slightly greater dilution in the blasthole model. In addition, review of mine production records for 1991-1992 suggests that the production cutoff grade may have been lower than 0.01oz Au/t during those years, which would account for higher production tonnages compared to blasthole-model tonnages. An additional difference between the blasthole model and production is that 2.0 million tons of high-clay material with an average grade of 0.013oz Au/t was sent to the waste pads rather than the heap leach pads. It is noted



that blasthole-model tonnage increases to 26.7 million tons with a grade of 0.017oz Au/t, which is virtually the same as reported production, including the discarded clay material. A full reconciliation of all of the differences between production and the blasthole model is not possible, but it is concluded that the blasthole model is a reasonable tool for validation of the resource model.

Zone	Cutoff	Tons	Gold Grade oz Au/t	Silver Grade oz Ag/t	Ounces Gold	Ounces Silver
Wind Mountain Mineralized	0.0100	19,823,169	0.019	0.60	380,487	11,973,190
Breeze Mineralized	0.0100	1,759,922	0.018	0.49	31,001	868,951
Wind Mountain Low Grade	0.0100	1,883,280	0.017	0.52	32,937	988,366
Breeze Low Grade	0.0100	149,333	0.014	0.34	2,108	51,010
Total Blasthole Model		23,615,704	0.019	0.59	446,533	13,881,518
Historical Total (Excluding high clay material waste dumps)	24,635,100	0.018		433,194		
%Difference (Blasthole -Historical)		-4.1%	+5.0%		+3%	
Historical Total (Including high clay material)	26,680,288	0.017		459,920		
%Difference (Blasthole -Histe	-11%	+11%		-3%		

## Table 17.3 Wind Mountain Gold Deposit Comparison of Blasthole Modelwith Historical Production

### 17.9 Grade Estimation

Block grades were estimated for blocks inside the mineralized zones using inverse-distance-power (IDP) estimation with search ellipse parameters set parallel to the variogram directions. IDP powers were adjusted until the block grade distribution for estimated blocks was similar to the block grade distribution. A power of 4 was used in the mineralized zones and a power of 2 in the low-grade zones. Gold grades were capped to 0.10oz Au/t before estimation. Grade estimation parameters are documented in Appendix D.

Gold grade and tonnage for resource model is very close to the blasthole model as shown in Table 17.4 and Table 17.5. Silver grades do not match because of the difference between blasthole and drill-hole silver assays.



## Table 17.4 Wind Mountain Gold Deposit Comparison of Blasthole Model With IDP Resource Model (0.005oz Au/t Cutoff Grade) (from Noble and Ranta, 2007)

Zone	Cutoff	Tons	Au Grade oz Au/t	Ag Grade oz Au/t	Ounces Au	Ounces Ag
Wind Mountain Mineralized	0.0050	25,038,047	0.018	0.34	447,030	8,541,866
Breeze Mineralized	0.0050	2,067,138	0.017	0.37	35,736	765,847
Wind Mountain Low Grade	0.0050	4,330,135	0.008	0.19	32,493	805,682
Breeze Low Grade	0.0050	123,764	0.006	0.13	779	16,588
TOTAL		31,559,085	0.016	0.32	516,038	10,129,983
					·	
Blasthole Model	0.0050	30,746,387	0.016	0.52	498,521	15,898,090
%Difference		2.6%	0.8%	-37.9%	3.5%	-36.3%

## Table 17.5 Wind Mountain Gold Deposit Comparison of Blasthole Model With IDP ResourceModel (0.010oz Au/t Cutoff Grade) (from Noble and Ranta, 2007)

Zone	Cutoff	Tons	Au Grade	Ag Grade	Ounces Au	Ounces Ag
Wind Mountain Mineralized	0.0100	22,369,818	0.019	0.35	424,169	7,896,095
Breeze Mineralized	0.0100	1,784,813	0.019	0.40	33,288	711,416
Wind Mountain Low Grade	0.0100	655,891	0.011	0.19	7,103	124,233
Breeze Low Grade	0.0100	-	-	-	-	-
Total		24,810,522	0.019	0.35	464,559	8,731,744
Blasthole Model	0.0100	23,615,876	0.019	0.59	444,572	13,874,543
%Difference		5.1%	-0.5%	-40.1%	4.5%	-37.1%

#### 17.10 Resource Classes

Resource classes were defined using the kriging variance from a point kriging run. The variogram for the kriging run was a linear variogram with a slope of 0.5 and a nugget of 0.001. The kriging variance provides a direct index to the drill-hole spacing and extrapolation outside the data as follows:

- If the block is outside the data the kriging variance is equal to the distance from the block center to the nearest point.



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If the block is inside the data the kriging variance is less than 28% of the drill-hole spacing immediately surrounding the block.

Resources classes were assigned as shown in Table 17.6.

#### Table 17.6 Wind Mountain Gold Deposit Resource Class Definition (from Noble and Ranta, 2007)

Resource Class	Maximum Extrapolation	Maximum Drill Spacing					
Measured	42 feet	150 feet					
Indicated	63 feet	225 feet					
Inferred	>63 feet >225 feet						
All blocks outside the mineralized zone were classified as inferred. Measured and Indicated blocks were down-graded by one resource class if they were estimated with less than three samples.							

#### 17.11 Resource Summary

The measured and indicated resource is reported at a cutoff grade of 0.008oz Au/t in Table 17.7. Cutoff grade assumptions are shown in Table 17.8. The resource is tabulated at various cutoff grades in Table 17.9 and Table 17.10.

The outlines of the Wind and Breeze resource areas are shown on Figure 11.1.



### Table 17.7 Wind Mountain Gold Deposit Remaining Resource by Resource Class and Deposit Area (from Noble and Ranta, 2007)

Class	Zone	Cutoff	Tons	Gold Grade (oz Au/t)	Ounces Gold
	Wind Mineralized	0.008	11,425,342	0.011	128,926
	Breeze Mineralized	0.008	10,170,139	0.014	140,359
Measured	Wind Low Grade	0.008	-	-	-
	Breeze Low Grade	0.008	-	-	-
	Total		21,595,481	0.012	269,285
	Wind Mineralized	0.008	7,805,168	0.011	85,682
	Breeze Mineralized	0.008	4,256,904	0.012	50,576
Indicated	Wind Low Grade	0.008	-	-	-
	Breeze Low Grade	0.008	-	-	-
	Total		12,062,072	0.011	136,258
	Wind Mineralized	0.008	19,230,510	0.011	214,608
Measured	Breeze Mineralized	0.008	14,427,043	0.013	190,935
plus	Wind Low Grade	0.008	-	-	-
Indicated	Breeze Low Grade	0.008	-	-	-
	Total		33,657,553	0.012	405,543
	Wind Mineralized	0.008	983,229	0.011	11,091
	Breeze Mineralized	0.008	1,584,705	0.011	17,084
Inferred	Wind Low Grade	0.008	4,322,918	0.009	37,422
	Breeze Low Grade	0.008	2,867,695	0.009	26,841
	Total		9,758,547	0.009	92,437



		1
Mining Cost	/t Ore	\$1.25
Plant+G&A		
Leach	/t Leached	\$1.00
Pad	/t Leached	\$0.25
G&A	/t Leached	\$0.47
Reclamation	/t Leached	\$0.25
Total Plant	/t Leached	\$1.97
Gold Recovery		62%
Ag:Au Ratio in doré		5.00
Gold Price	\$/oz Gold	\$640.00
Silver Price	\$/oz Silver	\$12.50
Equivalent Gold Price	\$/oz Gold	\$702.50
Breakeven Cutoff	oz Au/t	0.008
Internal Cutoff	oz Au/t	0.005

## Table 17.8 Wind Mountain Gold Deposit Cutoff Grade Assumptions(from Noble and Ranta, 2007)



# Table 17.9 Wind Mountain Gold Deposit Measured and Indicated Resource Summary by Cutoff<br/>(from Noble and Ranta, 2007)

Measured Resource							
Cutoff	Tons	Gold Grade (oz Au/t)	Ounces Gold				
0.0050	28,144,022	0.011	315,868				
0.0060	27,832,253	0.011	314,129				
0.0070	25,604,081	0.012	299,441				
0.0080	21,595,481	0.012	269,285				
0.0090	17,534,136	0.013	234,829				
0.0100	14,033,563	0.014	201,629				
	Indicated	Resource					
0.0050	14,369,393	0.011	153,162				
0.0060	14,331,889	0.011	152,948				
0.0070	13,817,830	0.011	149,520				
0.0080	12,062,072	0.011	136,258				
0.0090	9,436,229	0.012	113,979				
0.0100	7,093,180	0.013	91,712				
	Measured+Ind	icated Resourc	e				
0.0050	42,513,415	0.011	469,031				
0.0060	42,164,142	0.011	467,077				
0.0070	39,421,911	0.011	448,961				
0.0080	33,657,553	0.012	405,543				
0.0090	26,970,365	0.013	348,808				
0.0100	21,126,743	0.014	293,341				



## Table 17.10 Wind Mountain Gold Deposit Inferred Resource Summary by Cutoff (from Noble and Ranta, 2007)

Inferred Resource							
Cutoff	Tons	Gold Grade (opt Au)	Ounces Gold				
0.0050	74,884,942	0.007	491,451				
0.0060	41,149,217	0.007	307,003				
0.0070	21,548,627	0.008	180,475				
0.0080	9,758,547	0.009	92,437				
0.0090	4,594,683	0.011	49,008				
0.0100	2,410,714	0.012	28,423				

#### 17.12 Resource Potential of Existing Heaps and Dumps

Based on production records, the existing heap-leach piles at Wind Mountain consist of 24.6 million tons of material with an estimated residual gold grade of 0.0067oz Au/t. Since previous metallurgical testing consistently showed that gold recovery averaged less than 30% for particle sizes above 1 inch, it is possible that additional gold may be extracted by screening and recrushing material on the heaps. The quantity and grade of potentially re-leachable material in the heaps is unknown at this time and can only be established through systematic sampling and testing of the heaps. It is likely, however, that the residual grade for the plus 1 inch material in the heaps will be in the range of 0.008 to 0.012oz Au/t.

Based on the blasthole model and production history, the waste dumps at Wind Mountain are estimated to contain 10.6million tons of material averaging 0.007oz Au/t. It is likely that the finer size fractions of the waste rock are concentrated at the tops of the waste piles and that the upper/finer portions of the waste dumps are enriched in gold relative to the bottoms. Other areas of the dumps may contain higher gold grades simply because of poor grade control during mining. For example, hole WM07012 intersected a 25-foot vertical thickness of dump material averaging 0.024oz Au/t in the Breeze Dump. Again, the quantity and grade of potential resources in the dumps is unknown at this time and can only be established through sampling and testing.

The dumps were sampled at Wind Mountain by Fortune River. The conclusions reached by Greg Austin, a consultant to Fortune River managing the sampling, and McClelland strongly suggest that at least portions of the dumps contain precious metal values that are potentially economic.

Evaluation of the heaps and dumps data by an experienced metallurgist is recommended as part of the metallurgical testing program.

#### 17.13 Mineral Reserves

There are no mineral reserves estimated for the Wind Mountain Gold project as of the date of this report.



#### 18.0 OTHER RELEVANT DATA AND INFORMATION

#### 18.1 Preliminary Economic Assessment – Introduction

Thomas L. Dyer, Senior Engineer for MDA, completed a Preliminary Economic Assessment ("PEA") of the Wind Mountain Gold project. This PEA uses Measured, Indicated, and Inferred resources and applies pertinent economic parameters to evaluate the potential of the deposits to be mined as an openpit operation. The PEA envisions an open pit operation that expands mining around the current Breeze and Wind Pits. Two additional heap leach pads would be constructed along with three additional waste dumps. The pits, leach pads, dumps, and other facilities are shown on the site map in Figure 18.1.

Note that Canadian NI 43-101 guidelines define a PEA as follows:

A preliminary economic assessment is preliminary in nature and it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized.

#### **18.2** Pit Optimization

A pit optimization study was completed using Whittle<sup>™</sup> software to determine the deposit"s sensitivity to gold prices and to identify mineable shapes or pit phases to enhance the project value. This required input of parameters and analysis of the resulting pits. The pit optimization is an iterative process whereby parameters must be initially assumed, and once a preliminary mine plan has been completed, the parameters are updated with resulting costs.

#### **18.2.1 Optimization Parameters**

Pit optimization parameters are shown in Table 18.1. These "Base Case" parameters were used with Whittle software to create a series of optimized pit shells.

able 10.1 Dase Case	
Mining Cost	\$ 1.50 \$/t
Leach Cost	\$ 1.76 \$/ore t
Pad Replacement	\$ 0.25 \$/ore t
G&A per ton	\$ 0.36 \$/ore t
Reclamation	\$ 0.25 \$/ore t
NSR	2%
Selling Cost	\$ 1.50 \$/rec. oz
Recovery	62%
Base Gold Price	\$ 850 \$/oz
Internal Cutoff	0.005 oz Au/t
External Cutoff	0.008 oz Au/t

#### Table 18.1 Base Case Economic Parameters



An internal cutoff grade of 0.005oz Au/t and an external cutoff of 0.008oz Au/t were estimated based on the economic parameters. The external cutoff, often referred to as a breakeven cutoff, is the point where revenue from processing of material at that grade is equal to the costs of mining, processing, and general and administration ("G&A"). The internal cutoff grade assumes that an ultimate pit has been predetermined by an economic assessment, and that the mining cost is a sunk cost that is not used in the cutoff-grade calculation.

MDA considers these cutoffs to be low with respect to operating decisions and level of confidence that can be obtained when assaying at lower grades. For this reason, the PEA uses a 0.007oz Au/t cutoff for reporting of in-pit resources and economic evaluation.

An overall slope angle of  $45^{\circ}$  was assumed, though additional runs were made using slope angles of  $47^{\circ}$  and  $50^{\circ}$  in increments of  $2.5^{\circ}$  to gauge sensitivity. The current post-mining topographic surface was considered in all pit optimizations.

The PEA assumes run-of-mine ("ROM") heap leaching is used for gold extraction. Leach material is assumed to be oxidized and amenable with a recovery of 62%. Historical recoveries from Amax Gold's mining were 67% during active leaching. Their production was 78% ROM. A deduction of 5% has been made due to ROM leaching and lower grades of the remaining resource. Additional metallurgical studies should be completed on samples that are representative of the remaining resource.

Final PEA costs are different from those used for initial pit optimizations. Once the final PEA costs were complete, the base case Whittle pit optimizations were updated with the final costs as a check. Upon visual inspection, MDA found that there was not a significant difference between initial and final pit optimizations that would warrant any re-design of pits, dumps, or leach pads.

Pit optimizations included Measured, Indicated, and Inferred resources.

#### **18.2.2** Pit Optimization Results

Multiple Whittle pits were developed for both the Breeze deposit and the Wind deposit using the base case parameters by modifying the gold price from 60% to 140% of the base price of \$850 per Au ounce. Increments of 5% of the base gold price were used. This resulted in 17 different pit shells at gold prices ranging from \$510 per ounce to \$1190 per ounce. The resulting tons, grade, and ounces of leach material are shown in Table 18.2, are the combined results of both deposits and are referred to as the Base Case Pit Optimization. The base case price of \$850 per Au ounce is highlighted in Table 18.2.



			Leach		Waste	Total	Strip
Α	u Price	K Tons	Oz Au/t	K Ozs Au	Tons	K Tons	Ratio
\$	510.00	2,515	0.019	47	1,565	4,080	0.62
\$	552.50	3,852	0.017	66	1,984	5,836	0.52
\$	595.00	5,780	0.016	92	2,680	8,460	0.46
\$	637.50	8,042	0.015	119	3,311	11,353	0.41
\$	680.00	11,629	0.014	162	4,719	16,348	0.41
\$	722.50	16,516	0.013	213	5,992	22,508	0.36
\$	765.00	21,720	0.012	267	7,687	29,407	0.35
\$	807.50	27,320	0.012	319	8,963	36,284	0.33
\$	850.00	31,591	0.011	355	9,509	41,100	0.30
\$	892.50	38,038	0.011	409	10,649	48,688	0.28
\$	935.00	43,591	0.010	451	10,892	54,483	0.25
\$	977.50	49,950	0.010	499	12,001	61,951	0.24
\$1	,020.00	55,763	0.010	540	12,504	68,267	0.22
\$1	,062.50	60,854	0.009	574	12,977	73,832	0.21
\$1	,105.00	66,778	0.009	613	13,816	80,593	0.21
\$1	,147.50	72,755	0.009	651	14,637	87,392	0.20
\$1	,190.00	82,004	0.009	708	16,331	98,335	0.20

Table 18.2 Base Case Pit Optimization Results

As the PEA uses an internal cutoff grade of 0.007oz Au/t, and an additional Whittle run was made in which only material at or above the PEA cutoff was allowed to be processed. The results of the Whittle 0.007oz Au/t Cutoff run are shown in Table 18.3. The Base Case gold price of \$850 per oz Au is highlighted in the table.



		Leach			Waste	Total	Strip
Α	u Price	K Tons	Oz Au/t	K Ozs Au	K Tons	K Tons	Ratio
\$	510.00	2,515	0.019	47	1,565	4,080	0.62
\$	552.50	3,852	0.017	66	1,984	5,836	0.52
\$	595.00	5,780	0.016	92	2,680	8,460	0.46
\$	637.50	7,979	0.015	119	3,375	11,353	0.42
\$	680.00	11,218	0.014	159	5,071	16,289	0.45
\$	722.50	15,281	0.013	204	6,778	22,059	0.44
\$	765.00	19,334	0.013	249	9,138	28,472	0.47
\$	807.50	22,287	0.013	280	10,801	33,089	0.48
\$	850.00	25,929	0.012	316	12,958	<i>38,8</i> 87	0.50
\$	892.50	28,210	0.012	338	14,440	42,651	0.51
\$	935.00	31,367	0.012	368	16,844	48,211	0.54
\$	977.50	33,359	0.012	386	18,192	51,550	0.55
\$1	L,020.00	35,716	0.011	409	20,868	56,584	0.58
\$1	L,062.50	37,509	0.011	425	22,807	60,317	0.61
\$1	l,105.00	39,407	0.011	443	25,446	64,853	0.65
\$1	l,147.50	40,381	0.011	452	26,935	67,316	0.67
\$1	L,190.00	41,557	0.011	463	28,910	70,467	0.70

 Table 18.3 0.007oz Au/t Cutoff Pit Optimization Results

While the results are quite different from the Base Case results when looking at material processed as leach (0.007oz Au/t Cutoff Pit contains 18% less leach tons), the total tons mined is only about 5% less in the 0.007oz Au/t cutoff case. Visual comparison of the Base Case and 0.007oz Au/t Cutoff Pits shows that they are very similar with only slight differences in lower portions of the deposit.

#### **18.2.3** Pit Optimization Sensitivities

Additional pit runs were made to analyze the sensitivity of the deposit to changes in operating costs, metallurgical recovery, and slope parameters. Table 18.4, Table 18.5, and Table 18.6 shows the results of these runs for operating, recovery, and slope sensitivities respectively. These results use a gold price of \$850 per gold ounce and base case parameters shown in Table 18.1 with the exception of the sensitivity values that are modified.



Tuble Tott Wintele Operating Cost Schöhtvittes								
		Leach		Waste	Total	Strip		
Iteration	K Tons	Oz Au/t	K Ozs Au	K Tons	K Tons	Ratio		
Cost -20%	60,402	0.009	572	13,352	73,754	0.22		
Cost -15%	53,373	0.010	523	12,315	65,688	0.23		
Cost -10%	44,962	0.010	462	11,275	56,237	0.25		
Cost -5%	38,289	0.011	410	10,426	48,715	0.27		
Cost 0%	31,580	0.011	355	9,520	41,100	0.30		
Cost 5%	27,712	0.012	322	8,830	36,542	0.32		
Cost 10%	22,286	0.012	272	7,868	30,154	0.35		
Cost 15%	18,886	0.013	238	6,867	25,753	0.36		
Cost 20%	14,184	0.013	189	5,484	19,667	0.39		

Table 18.4 Whittle Operating Cost Sensitivities

**Table 18.5 Whittle Metal Recovery Sensitivities** 

		Leach		Waste	Total	Strip
Iteration	K Tons	Oz Au/t	K Ozs Au	K Tons	K Tons	Ratio
Recovery -20%	12,235	0.014	169	4,944	17,179	0.40
Recovery -15%	17,140	0.013	220	6,247	23,387	0.36
Recovery -10%	21,912	0.012	269	7,787	29,699	0.36
Recovery -5%	27,713	0.012	322	8,830	36,543	0.32
Recovery 0%	31,580	0.011	355	9,520	41,100	0.30
Recovery 5%	38,142	0.011	409	10,367	48,509	0.27
Recovery 10%	43,302	0.010	449	10,801	54,104	0.25
Recovery 15%	49,506	0.010	495	11,524	61,030	0.23
Recovery 20%	55,065	0.010	536	12,726	67,791	0.23

#### **Table 18.6 Whittle Slope Angle Sensitivities**

		Leach		Waste	Total	Strip
Iteration	K Tons	Oz Au/t	K Ozs Au	K Tons	K Tons	Ratio
45 Degrees	31,580	0.011	355	9,520	41,100	0.30
47 Degrees	31,661	0.011	359	8,550	40,212	0.27
50 Degrees	32,073	0.011	363	8,460	40,533	0.26

### 18.3 Pit Design

Pit designs were developed using Whittle pits for guidance, while creating access for equipment and maintaining mineable bench widths. The ultimate pit volume is achieved in four phases: two in the Breeze Pit area; and two in the Wind Pit area. Mineable Measured, Indicated, and Inferred resources inside of the resulting designs were estimated from the block model using a 0.007oz Au/t cutoff grade and are shown in Table 18.7. The waste shown in Table 18.7 is classified as either ,rock" or ,dumps".



The rock waste is undisturbed ground that will require drilling and blasting to be mined. The dump waste is material mined from existing waste dumps and considered waste.

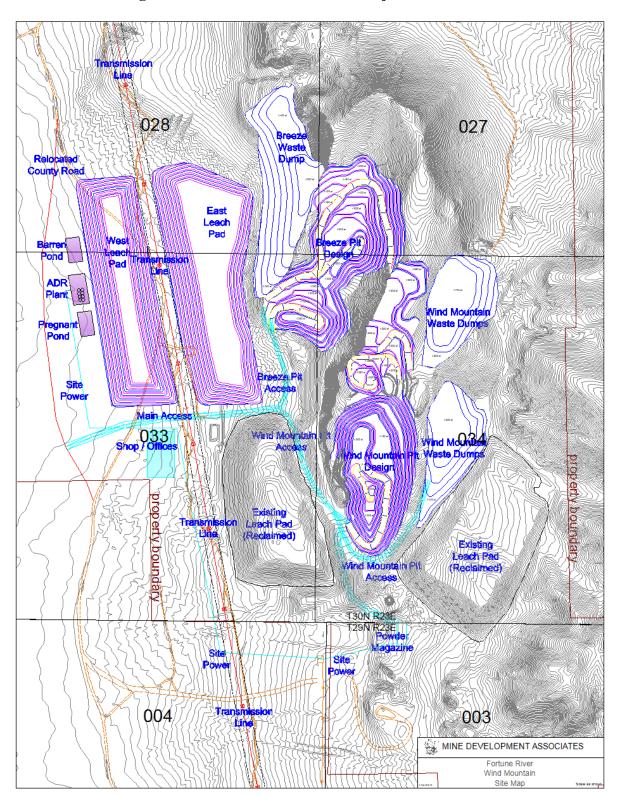
-			1 a		0.7 1	micau		.sour		siuc o	1111	DUSIGI	15				
	Measured Indicated			d	Inferred			Total Meas., Ind., and Inf			v	Vaste Ton	IS	Total	Strip		
	K Tons	Oz Au/t	K Ozs Au	K Tons	Oz Au/t	K Ozs Au	K Tons	Oz Au/t	K Ozs Au	K Tons	Oz Au/t	K Ozs Au	Rock	Dumps	Total	Tons	Ratio
Breeze Phase 1	2,887	0.015	44	672	0.012	8	1,057	0.010	10	4,616	0.014	63	3,118	651	3,769	8,384	0.82
Breeze Phase 2	4,873	0.014	66	1,194	0.013	16	745	0.009	7	6,813	0.013	89	6,741	421	7,162	13,975	1.05
Wind Phase 1	2,205	0.012	27	2,042	0.012	25	605	0.011	6	4,852	0.012	58	2,315	249	2,564	7,416	0.53
Wind Phase 2	6,444	0.011	68	3,404	0.011	36	784	0.009	7	10,632	0.010	111	5,100	258	5,357	15,990	0.50
Total	16,409	0.013	206	7,312	0.012	84	3,191	0.009	30	26,913	0.012	320	17,273	1,579	18,852	45,764	0.70

#### Table 18.7 Mineable Resources Inside of Pit Designs

The ultimate pits for both the Wind and Breeze deposits are shown in Figure 18.1. This figure also shows the site plan for the Wind Mountain Gold project.



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#### **18.3.1 Design Parameters**

Pit designs were created using Surpac software. Pit walls were designed using a 62° bench face angle with 24ft catch benches every 50ft of pit height. This results in a 45° inner-bench angle.

Ramps were designed to be 75ft wide. This anticipates the use of 70ton capacity trucks, allowing 3.5 times the width of trucks for running room and a safety berm between the edge of the ramp and the pit.

### 18.3.2 Pit Phasing

Two pit phases were designed for each of the Breeze and Wind deposits. The pit optimizations in the Breeze area indicate that the lower mineralization is economically preferred to the upper areas outside of the existing pit. For this reason, the lower portion to the south-west of existing pits has been designed to be mined first in Breeze Phase 1 with the upper portion mined in Breeze Phase 2.

While the lower portion of the Wind deposit has slightly better economics, the upper portion of the Wind deposit is mined as Wind Phase 1 to maintain access. The lower benches in this phase lie just below the upper crest of the existing Wind Pit for which access is gained by widening of an existing catch bench on the 4530ft elevation. Wind Phase 1 is completed prior to Wind Phase 2 being advanced below the 4530ft elevation to maintain this access.

The resources with these designed pits are referred to as the In-Pit Resources.

#### **18.3.3** Comparison with Whittle Pits

A comparison of resources inside of these designed pits was made to both the Whittle Base Case Pit and the Whittle 0.007oz Au/t Cutoff Pit. This comparison is shown in Table 18.8.

		Leach		Waste	Total	Strip
	K Tons	Oz Au/t	K Ozs Au	Tons	K Tons	Ratio
In-Pit Resources	26,913	0.012	320	18,852	45,764	0.70
Whittle Base Case Pit Summary	31,591	0.011	355	9,509	41,100	0.30
Difference (In-Pit less Whittle Pit)	(4,678)	0.001	(35)	9,343	4,665	0.40
% Difference	-15%	6%	-10%	98%	11%	133%
In-Pit Resources	26,913	0.012	320	18,852	45,764	0.70
Whittle 0.007 cutoff Pit Summary	25,929	0.012	316	12,958	38,887	0.50
Difference (In-Pit less Whittle Pit)	984	(0.000)	4	5,893	6,877	0.20
% Difference	4%	-2%	1%	45%	18%	40%

#### Table 18.8 Comparison of In-Pit Resources with Whittle \$850/oz Au Pits

As shown in Table 18.8, the pit design leach tons, grade, and Au ounces compare well with the Whittle 0.007oz Au/t Cutoff Pit. The waste tonnage is increased when designing the pit due to the need for minable widths and pit access.



#### **18.4 Production Schedule**

Gemcom's MineSched program was used to create a mine production schedule using quarter year periods to ensure that continuity of leach production is achievable. Leaching capacity was assumed to be 20,000 tons per day, and the resulting production schedule was summarized by year. Year 0 was used as a starting point to account for capital investments and construction activities. The following sections describe the mine and process production schedules.

#### 18.4.1 Mine Production

As mineralization is exposed in areas by historical mining, no pre-stripping is planned. Thus mining is assumed to start in year one. Table 18.9 shows the annual mine production schedule.

	Material	Units	Yr O	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total
Ļ		K Tons	-	5,780	7,100	7,120	6,913	-	-	-	26,913
Leach		Ozs Au/t	-	0.013	0.011	0.010	0.013	-	-	-	0.012
		Ozs Au/t	-	77	80	74	89	-	-	-	320
e	Waste	K Tons	-	3,877	5,459	4,466	3,471	-	-	-	17,273
Waste	Dump	K Tons	-	937	533	90	19	-	-	-	1,579
5	Total	K Tons	-	4,814	5,992	4,556	3,490	-	-	-	18,852
Total	Tons	K Tons	-	10,594	13,092	11,676	10,403	-	-	-	45,765
10		Strip Ratio		0.83	0.84	0.64	0.50				0.70

#### Table 18.9 Wind Mountain Gold Project Mine Production Schedule

Average yearly production is approximately 11.4 million tons per year or 32,700 tons per day using a 350 day year. The goal of the mining schedule was to mine 20,000 tons per day of leach and to mine associated waste as required. Leach tonnage mined was ramped up each quarter during the first year from 5,000 tons per day to the full 20,000 tons per day to reflect anticipated mining start-up tonnages. As a result, first year production is 80% of full capacity.

### **18.4.2** Process Production

Process production is modeled as a ROM heap leach operation. Material classified as ore would be hauled to a permanent leach pad and dumped in lifts of twenty feet. After stacking, the area is ripped using dozers to promote infiltration of fluids through the heap leach pad. Lime is added to each truck load of material prior to being dumped on the pad in order to maintain a proper pH balance. Piping is then laid on top of the lift, and a weak cyanide solution is sprayed or dripped on the pile, absorbing gold into the solution. This gold-bearing solution is collected in ditches and ponds and then processed to recover gold. Adsorption-desorption-recovery ("ADR") is used to recover the gold and silver from solution onto activated carbon. The gold is stripped from the carbon using a cyanide solution at high temperature and pressure, with the resulting gold-laden solution being processed by electro-winning and then fired into dore buttons that are sold to a refinery.



Annual gold production was estimated based on ultimate recovery and lagged recovery factors to represent a more realistic schedule of gold production. The ultimate recovery used was 62% based on metallurgy studies and historical recoveries. Note that the historical recovery from reclaimed leach pads was 67% during active leaching (excluding rinse ounces produced). This was discounted by 5% due to uncertainty of recovery at the lower gold grades in the remaining resource.

A lagging recovery is represented by the percentage of recoverable gold that is recovered on an annual basis. In the year material is placed on the pad, 80% of the recoverable gold is assumed to be recovered. During the second year after placement of material, an additional 12% of the recoverable gold is recovered, and during the third year the remaining 8% is recovered. This method accounts for the ultimate recovery, while spreading out gold production to better represent the leaching process.

A silver credit has been given based on a historical production rate of 5.9 ounces of silver produced for each produced ounce of gold. Note that silver is not considered a resource; however the PEA uses this credit to better reflect the silver revenue that is shown to be reasonable with respect to historical production.

Table 18.10 shows the annual process production estimated for the Wind Mountain Gold project.

Units	Yr O	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total
K Tons	-	5,780	7,100	7,120	6,913	-	-	-	26,913
Ozs Au/t	-	0.013	0.011	0.010	0.013	-	-	-	0.012
Contained Ozs Au	-	77	80	74	89	-	-	-	320
Ozs Au Produced	-	38	45	46	54	10	4	-	197
Au Cum. Recovery		49%	53%	56%	57%	60%	62%		62%
Ozs Ag Produced as Credit	-	225	267	274	317	61	26	-	1,170

Table 18.10 Wind Mountain Gold Project Process Production Schedule

#### 18.5 Facilities

Mine facilities are shown in Figure 18.1 and include the ultimate pit, shop, warehouse, explosives magazine, office/safety buildings, waste dumps, and leaching facilities. The following sections describe these in more detail.

### **18.5.1** Heap Leach Facilities

Heap leach facilities include leach pads, ponds, solution channels, and an adsorption-desorption-recovery ("ADR") plant. The proposed location for each of these is shown in Figure 18.1.

Leach pads have been designed to process approximately 28 million tons of material based on a 1.3 swell factor and a 2.5:1 (H:V) slope. This is accomplished using two separate leach pads: The East Leach Pad and the West Leach Pad as shown in Figure 18.1. Note that this design is preliminary, and detailed engineering design will be required prior to construction.



The separation of these leach pads allows for a corridor for the right-of-way ("ROW") for the existing transmission towers that run between the two leach pads. The ROW is shown on Figure 18.1, and based on a record search done by Fortune River is 200ft wide. PEA process facilities also include a solution channel that would cross the ROW. Wind Mountain Gold project will need to coordinate activities in the ROW area with the transmission line operator and BLM to ensure that mine operations do not interfere with the operation of the transmission line.

#### 18.5.2 Mine Facilities

Mine facilities include construction of three waste dumps, mine access roads, and shop/office facilities. These are shown in Figure 18.1.

#### 18.5.3 Access Roads

Access to the mine is by existing roads as described in Section 5.1. A short section of the existing public road that parallels the site will be relocated to allow room for construction of the West Leach Pad and process facilities. This will require coordination with the BLM, local government authorities, and users of the road to ensure public access is maintained and safety is not impaired.

#### 18.5.4 Power

There is an existing power line that enters the south end of the project. These power lines were used during mining and processing operations in the 1990's. MDA assumes that the current power requirements will be similar and that the existing lines will be suitable for operations with a minimum of expenditure.

#### 18.6 Personnel

Personnel requirements have been estimated by department and are shown in Table 18.11. The estimate is the number of personnel involved with operations at site and does not include contractors or corporate personnel. Personnel employed during Year 0 will be staged in during the year, with most of the personnel not starting until the end of the year.

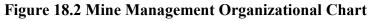
	Yr O	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
General Administration	-	16	16	16	16	8	8	-	0	0	0
Mine Operations	-	61	61	61	61	-	-	-	0	0	0
Mine Maintenance	-	5	5	5	5	1	1	-	0	0	0
Engineering	-	4	4	4	4	-	-	-	0	0	0
Geology	-	3	3	3	3	-	-	-	0	0	0
Process	-	15	15	15	15	3	3	-	0	0	0
Total	-	104	104	104	104	12	12	-	-	-	-

#### Table 18.11 Required Personnel by Department



The estimated number of people involved with the project was based on organizational charts of personnel required to operate the mine. The mine management structure is shown in the organizational chart of Figure 18.2.





#### **18.7** Capital Cost Estimate

Annual capital cost has been estimated for the PEA and is shown in Table 18.12. These estimates are based on other recent projects in Nevada, information from vendors, and information from cost estimation services.

	Yr O	Yr 1	Yr 2	Yr 3	١	(r 4	١	(r 5	Y	′r 6	Y	′r 7	Total
Mining Equipment	\$ 5,949	\$ 8,676	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$ 14,625
Process	\$ 17,730	\$ -	\$ 4,398	\$ -	\$	-	\$	-	\$	-	\$	-	\$ 22,128
Infrastructure & Buildings	\$ 7,649	\$ -	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$ 7,649
Miscellaneous	\$ 1,160	\$ 640	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$ 1,800
Total	\$ 32,488	\$ 9,316	\$ 4,398	\$ -	\$	-	\$	-	\$	-	\$	-	\$ 46,202

#### **18.8 Operating Cost Estimate**

Operating costs have been estimated for the Wind Mountain Gold project based on recent work in Nevada, information from vendors, and information from cost estimation services. The annual operating costs are shown in Table 18.13 and discussed in the following sections.

							-				
	Y	r 0	Yr 1	Yr 2	Yr 3	Yr 4		Yr 5	Yr 6	Yr 7	Total
Mining	\$	-	\$ 13,053	\$ 14,959	\$ 14,012	\$ 13,095	\$	62	\$ 62	\$ -	\$ 55,244
Process	\$	-	\$ 9,248	\$ 11,360	\$ 11,392	\$ 11,060	\$	-	\$ -	\$ -	\$ 43,060
G&A	\$	-	\$ 2,329	\$ 2,329	\$ 2,329	\$ 2,329	\$	594	\$ 594	\$ -	\$ 10,502
Reclamation	\$	-	\$-	\$-	\$ 1,445	\$ 1,775	\$	1,780	\$ 1,728	\$ -	\$ 6,728
Total	\$	-	\$ 24,629	\$ 28,648	\$ 29,178	\$ 28,259	\$	2,436	\$ 2,384	\$ -	\$115,534

#### Table 18.13 Estimated Annual Operating Costs (000's US\$)



#### **18.8.1** Mine Operating Cost

The total mine operating cost is estimated to be \$55 million or \$1.21per ton mined. The estimate was made by totaling the costs of mining activity including drilling, blasting, haulage, mine support, mine maintenance, and mine general services. Equipment maintenance costs for major equipment have been based on recent maintenance and repair contract ("MARC") cost data from Equite Montevedeo Group LLC of Arizona. Tire costs are based on base price sheets provided by Michelin, and other equipment operating costs were derived from information provided by InfoMine cost estimating services.

Table 18.14 shows the estimated life-of-mine ("LOM") mine operating cost.

	LC	M Total	U	S \$/t
	(00	00's US\$)	Μ	lined
Drill	\$	8,102	\$	0.18
Blast	\$	3,643	\$	0.08
Load	\$	9,502	\$	0.21
Haul	\$	23,916	\$	0.52
Mine Support	\$	3,147	\$	0.07
Mine Maintenance	\$	1,775	\$	0.04
Mine General Services	\$	5,159	\$	0.11
Total	\$	55,244	\$	1.21

#### Table 18.14 Mine Operating Cost Estimate

#### **18.8.2** Process Operating Cost

The process operating cost estimate is based on run-of-mine leach model estimates from InfoMine cost estimation service. These costs are broken down by category and presented in Table 18.15.

#### Table 18.15 Process Operating Cost Estimate

	LO	M Total	ι	JS \$/t
	(00	0's US\$)	Pro	cessed
Operating Labor	\$	9,958	\$	0.37
Reagents	\$	23,145	\$	0.86
Repair and Maintenance Supplies	\$	2,422	\$	0.09
Wear Items	\$	538	\$	0.02
Electric Power	\$	2,960	\$	0.11
Heavy Equipment Operation	\$	807	\$	0.03
Staff / Supervision	\$	3,230	\$	0.12
Total	\$	43,060	\$	1.60



#### 18.8.3 General and Administrative Cost

General and administrative costs have been estimated based on personnel salaries, personnel overhead, supplies, and outside services. Table 18.16 shows the general and administrative cost estimate for the Wind Mountain Gold project.

		LOM Total		US \$/t			
_		(00	0's US\$)	Pro	cessed		
	Salaries & Wages	\$	4,822	\$	0.18		
	Supplies & Outside Services	\$	5,680	\$	0.21		
	Total	\$	10,502	\$	0.39		

#### Table 18.16 General and Administrative Cost Estimate

#### **18.8.4 Reclamation Cost**

Reclamation costs were estimated as \$0.25 per ton processed. This cost was spread out through a two year period after leach material was mined.

#### **18.9** Revenue and Charges against Revenue

Revenue was estimated from recovered gold and silver using metal prices of \$850 per ounce Au and \$14.50 per ounce Ag. Charges against revenue include refining costs and royalties. Refining costs were assumed to be \$1.50 per ounce Au and \$0.25 per ounce Ag. The total life-of-mine refining cost is \$590,000.

A 1% NSR royalty was applied to the revenue based on the agreement with Agnico-Eagle and assuming that \$1million in capital is paid to Agnico-Eagle to buy down the royalty from 2% to 1% as per the agreement. The total estimated life-of-mine royalty paid is \$1.8 million.

Total life-of-mine revenue after charges is estimated to be \$183million.

#### **18.10 Pre-Tax Cash Flow Analysis**

A pre-tax cash flow has been developed for the project and is shown in Table 18.17. The result shows a \$13.2 million net present value at 5% with a 15% internal rate of return. Taxes were not included as MDA is not an expert in the matter of tax, and the tax considerations will be a corporate matter. Note that while the state of Nevada does not currently have any corporate income tax, Nevada does impose a Net Proceeds Tax (NPT), which can range from the Washoe County property tax rate of 3.5607% to 5% (Maximum for operations with net proceeds over \$4 million US\$). The net proceeds tax may equate to as much as \$3.3 million.

The cash flow includes a silver credit even though silver is not reported as a resource. This credit is based on historical production records, which show an average of 5.9 ounces of silver were produced for each ounce of gold produced. This credit adds \$16.5 million to project revenues after refining and royalties.



Table	18.17 F	PEA A	nnual	Pre-T	`ax Ca	ish Flo	)w (00	0's US	\$)	
Mine Production	Units	Yr O	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total
Leach Ore Mined	K Tonnes	-	5,780	7,100	7,120	6,913	-	-	-	26,913
Grade	Oz Au/t	-	0.013	0.011	0.010	0.013	-	-	-	0.012
Contained Gold	K Ozs	-	77	80	74	89	-	-	-	320
Waste	K Tonnes	-	4,814	5,992	4,556	3,489	-	-	-	18,852
Total	K Tonnes	-	10,594	13,092	11,676	10,402	-	-	-	45,764
Strip Ratio	W:O		0.83	0.84	0.64	0.50				0.70
ROM Heap Leach									•	
Leach Ore Processed	K Tonnes	-	5,780	7,100	7,120	6,913	-	-	-	26,913
Grade	Oz Au/t	-	0.013	0.011	0.010	0.013	-	-	-	0.012
Contained Gold	K Ozs	-	77	80	74	89	-	-	-	320
Gold Ounces Produced	K Ozs	-	38	45	46	54	10	4	-	198
Cumulative Gold Recovery	%		50%	53%	56%	57%	61%	62%		62%
Silver Ounces Produced	K Ozs	-	225	267	274	317	61	26	-	1,171
<u>Revenue</u>								-		
Gold Price	\$/oz Au	\$ -	\$850.00	\$850.00	\$850.00	\$850.00	\$ 850.00	\$ 850.00	\$ -	\$ 850.00
Silver Price	\$/oz Au	\$ -	\$ 14.50	\$ 14.50	\$ 14.50	\$ 14.50	\$ 14.50	\$ 14.50	\$ -	\$ 14.50
Gross Revenue - Gold	K US\$	-	32,450	38,499	39,445	45,708	8,766	3,767	-	\$168,635
Gross Revenue - Silver	K US\$	-	3,266	3,875	3,970	4,600	882	379	-	\$ 16,973
Gross Revenue - Total	K US\$	-	35,716	42,374	43,415	50,308	9,649	4,146	-	\$185,608
Royalties & Refining Costs	1							-		
Refining Costs - Gold		\$ -	\$ 57	\$ 68	\$ 70	\$ 81	\$ 15	\$ 7	\$ -	\$ 298
Refining Costs - Silver	Us\$/Oz	\$ -	\$ 56	\$ 67	\$ 68	\$ 79	\$ 15	\$ 7	\$ -	\$ 293
Refining Costs - Total	Us\$/Oz	\$ -	\$ 114	\$ 135	\$ 138	\$ 160	\$ 31	\$ 13	\$ -	\$ 590
Royalties	K US\$	-	356	422	433	501	96	41	-	\$ 1,850
Net Revenue	K US\$	-	35,247	41,816	42,844	49,647	9,522	4,092	-	\$183,167
Operating Cost			-	-	-		-	-		_
Mining	K US\$	\$ -	\$13,053	\$ 14,959	\$14,012	\$ 13,095	\$ 62	\$ 62	\$ -	\$ 55,244
Process	K US\$	\$ -	\$ 9,248	\$ 11,360	\$ 11,392	\$ 11,060	\$ -	\$ -	\$ -	\$ 43,060
G&A	K US\$	\$ -	\$ 2,329	\$ 2,329	\$ 2,329	\$ 2,329	\$ 594	\$ 594	\$ -	\$ 10,502
Reclamation	K US\$	\$ -	\$ -	\$ -	\$ 1,445	\$ 1,775	\$ 1,780	\$ 1,728	\$ -	\$ 6,728
Total	K US\$	\$ -	\$ 24,629	\$ 28,648	\$ 29,178	\$ 28,259	\$ 2,436	\$ 2,384	\$ -	\$115,534
						1.				1.
Total Cash Cost	K US\$	\$ -	\$ 24,629	\$ 28,648	\$ 29,178	\$ 28,259	\$ 2,436	\$ 2,384	\$ -	\$115,534
Total Cash Cost	Us\$/Au Oz	\$ -	\$645.14	\$632.51	\$628.76	\$ 525.52	\$ 236.18	\$ 537.91	\$ -	\$ 582.35
	K LICÓ	<i>.</i>	¢ 40 640	¢ 42 460	¢ 42 666	6 24 200	ć <b>7</b> 000	ć 1 700	<i>.</i>	¢ (7 (22
Operating Cash Flow	K US\$	\$ -	\$ 10,618	\$ 13,168	\$13,666	\$21,388	\$ 7,086	\$ 1,708	\$ -	\$ 67,633
<u>Capital</u>										
Initial Capital		Yr O	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Total
Mining Pre-strip	K US\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mining Equipment	K US\$	\$ 5,949	\$ 8,676	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,625
Process	K US\$	\$ 17,730	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,730
Infrastructure & Buildings	K US\$	\$ 7,649	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,649
Miscellaneous	K US\$	\$ 1,160	\$ 640	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,800
Owners Cost	K US\$	ć 22.400	¢ 0.210	ć	ć	ć	\$ -	<u>\$</u> -	\$-	\$ -
Total Initial Capital	K US\$	\$ 32,488	\$ 9,316	\$ -	\$ -	\$ -	\$ -	\$ -	Ş -	\$ 41,804
Sustaining Capital Mining	K US\$	\$-	\$ -	ć	\$ -	ć	ć	ć	ć	ć
Process	K USŞ K USŞ		\$ - \$ -	\$ - \$ 4,398		\$- \$-	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ 4,398
Infrastructure & Buildings	K US\$	\$ - \$ -	ş - Ş -	\$ 4,398 \$ -	\$ - \$ -	ş - Ş -	ş - Ş -	\$ - \$ -	ş - Ş -	\$ 4,398 \$ -
Miscellaneous	K US\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Sustaining Capital	K US\$	\$ -	Ş -	\$ 4,398	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,398
Working Capital	K US\$	Ŷ	\$ 6,157	φ <del>-</del> ,550	Ý	\$ (5,849)	Ý	\$ (308)	Ŷ	\$ -
Salvage	K US\$		φ 0,137			\$ (2,110)		÷ (500)		\$ (2,110)
		¢ 22.400	¢ 1E 472	¢ 4 200	\$ -		ć	ć (200)	ć	\$ 44,092
Total Capital	K US\$	\$ 32,488	\$ 15,473	\$ 4,398		\$ (7,960)	\$ -	\$ (308)		
Net Pre-Tax Cash Flow	K US\$	\$(32,488)	\$ (4,856)	\$ 8,770	\$ 13,666	\$ 29,347	\$ 7,086	\$ 2,016	\$ -	\$ 23,541
Operating Cash Flow	K US\$	\$ 67,633								
Net Pre-Tax Cash Flow	K US\$	\$ 23,541								
NPV @ 5%	K US\$	\$ 13,188								
NPV @ 8%	K US\$	\$ 8,377								
NPV @ 10%	K US\$	\$ 5,632								
IRR	%	15%								

Table 18.17 PEA Annual Pre-Tax Cash Flow (000's US\$)



#### 18.10.1Sensitivity Analysis

The project sensitivity to changes in revenue, capital costs, and operating costs are shown in Table 18.18, Table 18.19, and Table 18.20 respectively. The sensitivity of NPV (5%) and internal rate of return due to changes to revenue, capital costs, and operating costs are shown in Figure 18.3 and Figure 18.4 respectively.

	Operating	Pre-Tax				
	<b>Cash Flow</b>	<b>Cash Flow</b>	NPV 5%	NPV 8%	NPV 10%	IRR
80%	\$ 30,883	\$(13,209)	\$(17,359)	\$(19,127)	\$(20,072)	-9%
85%	\$ 40,070	\$ (4,021)	\$ (9,722)	\$(12,251)	\$(13,646)	-3%
90%	\$ 49,258	\$ 5,166	\$ (2,086)	\$ (5,375)	\$ (7,220)	3%
95%	\$ 58,445	\$ 14,354	\$ 5,551	\$ 1,501	\$ (794)	9%
100%	\$ 67,633	\$ 23,541	\$ 13,188	\$ 8,377	\$ 5,632	15%
105%	\$ 76,821	\$ 32,729	\$ 20,825	\$ 15,253	\$ 12,058	21%
110%	\$ 86,008	\$ 41,917	\$ 28,462	\$ 22,129	\$ 18,484	26%
115%	\$ 95,196	\$ 51,104	\$ 36,099	\$ 29,005	\$ 24,910	32%
120%	\$104,383	\$ 60,292	\$ 43,736	\$ 35,881	\$ 31,336	38%

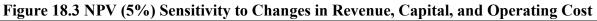
### Table 18.18 Project Sensitivity to Changes in Revenue

#### Table 18.19 Project Sensitivity to Changes in Capital Costs

	Operating	Pre-Tax				
	<b>Cash Flow</b>	<b>Cash Flow</b>	NPV 5%	NPV 8%	NPV 10%	IRR
80%	\$ 67,633	\$ 32,360	\$ 21,652	\$ 16,626	\$ 13,738	25%
85%	\$ 67,633	\$ 30,155	\$ 19,536	\$ 14,564	\$ 11,711	22%
90%	\$ 67,633	\$ 27,951	\$ 17,420	\$ 12,501	\$ 9,685	20%
95%	\$ 67,633	\$ 25,746	\$ 15,304	\$ 10,439	\$ 7,659	17%
100%	\$ 67,633	\$ 23,541	\$ 13,188	\$ 8,377	\$ 5,632	15%
105%	\$ 67,633	\$ 21,337	\$ 11,072	\$ 6,315	\$ 3,606	13%
110%	\$ 67,633	\$ 19,132	\$ 8,956	\$ 4,253	\$ 1,580	11%
115%	\$ 67,633	\$ 16,928	\$ 6,840	\$ 2,191	\$ (447)	10%
120%	\$ 67,633	\$ 14,723	\$ 4,724	\$ 129	\$ (2,473)	8%

	Operating	Pre-Tax	-			
	<b>Cash Flow</b>	<b>Cash Flow</b>	NPV 5%	NPV 8%	NPV 10%	IRR
80%	\$ 90,740	\$ 46,648	\$ 32,694	\$ 26,093	\$ 22,282	30%
85%	\$ 84,963	\$ 40,872	\$ 27,818	\$ 21,664	\$ 18,120	27%
90%	\$ 79,186	\$ 35,095	\$ 22,941	\$ 17,235	\$ 13,957	23%
95%	\$ 73,410	\$ 29,318	\$ 18,065	\$ 12,806	\$ 9,795	19%
100%	\$ 67,633	\$ 23,541	\$ 13,188	\$ 8,377	\$ 5,632	15%
105%	\$ 61,856	\$ 17,765	\$ 8,312	\$ 3,948	\$ 1,470	11%
110%	\$ 56,080	\$ 11,988	\$ 3,436	\$ (481)	\$ (2,693)	8%
115%	\$ 50,303	\$ 6,211	\$ (1,441)	\$ (4,910)	\$ (6,855)	4%
120%	\$ 44,526	\$ 435	\$ (6,317)	\$ (9,339)	\$(11,018)	0%

 Table 18.20 Project Sensitivity to Changes in Operating Costs



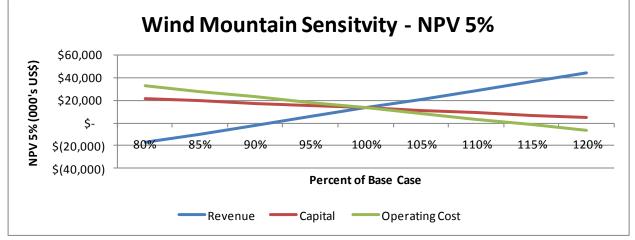
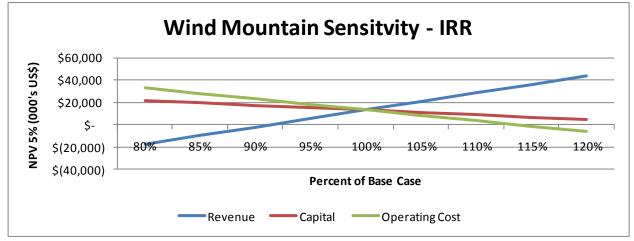


Figure 18.4 Internal Rate of Return Sensitivity to Changes in Revenue, Capital, and Operating Costs





#### **18.11 PEA Conclusions and Recommendations**

The following have been identified as risks and opportunities:

#### 18.11.1 Risks

- The remaining resources have a low average gold grade of 0.012oz Au/t and potential misclassification of ore and waste is more likely to occur in a low-grade deposit. A potential error in assay of 0.001oz Au/t is an 8.5% change with respect to the average resource grade, and at a internal cutoff of 0.005oz Au/ton the same error can have an impact of 20%. To partially mitigate this effect, MDA has used a 0.007oz Au/ton cutoff grade in the PEA. During operations, ore control will be a critical issue in making of a successful operation.
- Leach material in the PEA is assumed to be oxidized. Poor oxidation can result in much lower recoveries. Additional modeling of oxidation levels is needed to reduce this risk.
- A drop in metal prices can adversely impact the ability of the project to create a profit. The total pre-tax cost of the project is \$805 per ounce Au. In order to mitigate the risk due to falling prices, a strategy for forward selling of gold and silver should be sought.
- The PEA uses silver credit. Silver is not listed as a resource, but historic records shows that it is an important contributor to revenues for the mine. The credit taken is based on historical records of 5.9 ounces of silver produced for each ounce of gold produced. Additional leach testing is recommended to ensure optimization of both silver and gold recoveries. Additional work should be done to increase the confidence in modeled silver grades so that silver resources can be tabulated.

#### **18.11.2 Opportunities**

- The PEA uses a lagged timing for the production of gold from leach pads. This estimates that gold production will be at a rate of 80%, 12%, and 8% of the recoverable gold during the year placed, first year after placement, and second year after placement, respectively. This lagging of the gold production impacts the project NPV. Without any lag time in leach production the NPV (5%) would be approximately \$3 million higher. Reduction of the lag time for gold production can be impacted by careful management of leach pads and optimizing the spray time for ore placed.
- Forward sales of gold and or silver can enhance the project economics. A forward selling strategy that would lock in a 20% increase of the PEA base case metal prices (\$1,020 per oz Au and \$17.40 per oz Ag) could increase the NPV (5%) by \$30.5 million.
- Existing dumps were mined using a historical 0.010oz Au/t cutoff grade. Based on the block model and production records, the dumps are estimated to contain approximately 10.5 million tons with a grade of approximately 0.007oz Au/t. Dump sampling and bulk sampling show that



the fine fractions contain higher grade gold than the coarse fractions. It may be possible to upgrade portions of the dump by screening or using a grizzly to segregate finer portions from the coarse material. In addition, there may be portions of the dumps that have naturally segregated fine and coarse material. Identifying areas of fine material within the dumps may allow for portions of the dumps to be processed. A study should be conducted to investigate the economics of recovering gold from existing dumps.

• The PEA uses a relatively high rate of production to maintain lower operating costs and reduce fixed costs. While this increases capital, it also increases the NPV (5%) of the project. The cash flow only includes salvage for buildings and some infrastructure. With the relatively short mine life, there may be a reasonable salvage value that can help enhance the project economics. Additionally, the project may lend itself to the use of used equipment, which would reduce initial capital requirements. This may make the project a valuable asset for companies that have available mining and processing equipment.



#### **19.0 INTERPRETATION AND CONCLUSIONS**

The Wind Mountain Property is a volcanic-hosted, epithermal gold system that has been incompletely tested by historic drilling programs. Surface sampling by Fortune River confirms the existence of strongly anomalous gold over large areas. Recent drilling by Fortune River intersected gold and silver mineralization that is consistent with mineralization previously mined by Amax Gold. Historic drill-hole data from Amax Gold, Amax Exploration, Chevron, and Sante Fe, including Fortune River"s recent drilling data, are of good quality and allow estimation of a significant near-surface gold resource. Silver is expected to be a significant credit, as during original mining, however, a silver resource is not included in this estimate because of uncertainties in the silver assays.

Controls of gold mineralization appear to include: paleo-elevation, permeable stratigraphy, and proximity to northerly trending fault zones that may have acted as "feeder" structures. The "feeder" structures have not been sufficiently drilled below 1000 feet depth below the current surface, thus, deeper drilling is recommended to test for possible high-grade vein-controlled mineralization.

The project location and infrastructure are favorable for mine development, including: good access, favorable topography, a sparsely populated region, nearby availability of power and water, and previous disturbance of the site by mining. Should an economic discovery be made, improvements to necessary infrastructure (power, water, access, housing, etc.) should be reasonably inexpensive. Issues of archeological resources, high geothermal temperatures at depth, and a complication of the land status will need to be monitored as the program progresses, but none of these appear to constitute a significant impediment. There are no known environmental, social, or logistical impediments to developing a mine at Wind Mountain.

The PEA demonstrates that the Wind Mountain Gold project may be developed as an economical mine, however the low-grade nature of the remaining resources makes the mitigation of the project's risks crucial.



#### 20.0 RECOMMENDATIONS

- Additional metallurgical studies should be conducted to determine recoveries of gold and silver grades similar to the remaining resources. MDA estimates the cost for these studies to be approximately \$72,000 USD.
- Prior to developing new mining and heap leach facilities at Wind Mountain, Fortune River should collect adequate baseline data to document the extent of the previous mining facilities and to determine whether there are any potential residual effects of the heap leach processing activities. Collection of the baseline data will require addition of two or more monitor wells at an estimated cost of \$50,000 USD for two wells.
- Additional reconciliation work should be conducted to better understand the bias between the resource model and blasthole silver grades. This should be done to increase the confidence in silver grade estimates with the goal of stating silver as a resource. MDA estimates these costs to be approximately \$40,000 USD.
- As the PEA economics shows a positive return on investment, the project should be elevated to a pre-feasibility level study. The pre-feasibility study should incorporate additional metallurgical studies, potentials of gold and silver extraction from existing dumps, and a pre-feasibility level geotechnical study. MDA estimates the cost of a pre-feasibility study to be approximately \$200,000 USD.
- Although preliminary indications are that much of the resource is oxidized, preparation of an oxidation model is recommended for future estimates. MDA estimates the cost of this work will be \$20,000.
- Evaluation of the heaps and dumps data by an experienced metallurgist is recommended as part of the metallurgical testing program. This should include a comprehensive review of historical production data. Estimated cost is \$80,000 USD.
- Additional drilling is recommended to complete testing of the Deep Min zone, test the bonanza feeder structure, and improve resource definition. Estimated drilling required is 22,000 total feet in 29 holes at a total cost of \$1.4 million USD including road and pad construction and site remediation.



#### 21.0 REFERENCES

- Amax Gold, Inc., April 1988, Environmental Assessment, The Wind Mountain Project: An Assessment in Support of the Wind Mountain Plan of Operations: unpublished report submitted to BLM, Winnemucca, Nevada, 25 p.
- Bonham, H.F., and K.G. Papke, 1969, Geology and Mineral Deposits of Washoe and Storey Counties, Nevada: Nevada Bur. of Mines Bull. 70, 140 p.
- Crist, E. M., 2007a (February), Geologic Report for the Wind Mountain Project, Washoe County, Nevada, Technical Report (NI 43-101), prepared for Fortune River Resource Corp., 24 p.
- Crist, E. M., 2007b (October), 2007 Rio Fortuna, Wind Mountain Drilling Program and 2006 Ground Magnetics Program: unpublished report, Fortune River Resource Corp., 5p.
- Heinen-Lindstrom Consultants, 1986 (September), Report on Preliminary Cyanidation of San Emidio Ore Samples HLC Job No. 1192.
- Kappes, Cassiday & Associates, 1988 (May), Wind Mountain Project Cyanide Leach Tests.
- McClelland Laboratories, Inc., 1990 (September), Report on Heap Leach Cyanidation Testwork Wind Mountain Bulk Ore Composite MLI Job No. 1470.
- Meeuwig, Dick (editor), 2005, The Mining Industry 2004: Nevada Bureau of Mines and Geology Special Publication MI-2004.
- Nevada Bureau of Mines and Geology, 1995, The Nevada Mineral Industry 1994: Nevada Bureau of Mines and Geology Special Publication MI-1994, 57 p.
- Noble, A. C. and Ranta, D. E., 2007 (December), Technical Report on the Wind Mountain Gold Project, prepared for Fortune River Resource Corporation.
- Western Testing Laboratories, 1985 (May), Report on Bottle-Agitation Cyanide Leach Tests (Laboratory No. 121-3).
- Winnemucca Field Office (BLM), 1999 (June), Environmental Assessment, Wind Mountain Mine, Leach Pad Closure and Reclamation: USDI, BLM report, 41p.
- Wood, J. D. Amax Minerals & Energy, 1987 (August), Pyramid Lake Prospect Coarse Gold Study.
- Wood, J. D., 1990, Geology of the Wind Mountain Gold Deposit, Washoe County, Nevada: Geological Society of Nevada Symposium, p. 1051-1061.



#### 22.0 DATE AND SIGNATURE PAGE

Effective Date of report: April 13, 2010 The data on which the preliminary economic assessment is based were current as of the Effective Date.

Completion Date of report:

May 26, 2010

"Thomas L. Dyer" Thomas L. Dyer, P.E. Date Signed: *May 26, 2010* 

"A. C. Noble"

A. C. Noble, P.E.

Date Signed: *May 26, 2010* 



#### **23.0 CERTIFICATE OF AUTHORS**

#### THOMAS L. DYER, P.E.

I, Thomas L. Dyer, P. E., do hereby certify that I am currently employed as Senior Engineer by Mine Development Associates, Inc., 210 South Rock Blvd., Reno, Nevada 89502 and:

1. I graduated with a Bachelor of Science degree in Mine Engineering from South Dakota School of Mines & Technology in 1996. I have worked as a mining engineer for a total of 12 years since my graduation.

2. I am a Registered Professional Engineer in the state of Nevada (#15729) and a SME founding registered member in good standing (#4029995).

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 am responsible or have responsibility for all sections except for Sections 5 through 15 and Section 17 of this report titled "Technical Report and Preliminary Economic Assessment on Wind Mountain Gold Project, Washoe County, Nevada", dated May 26, 2010 (the "Technical Report") subject to my reliance on other experts identified in Section 3.0.

5. I have not had prior involvement with the property that is the subject of the Technical Report. I visited the Wind Mountain Gold project property on February 3, 2010.

6. As of the date of the certificate, to the best of my knowledge, information and belief, the Technical Report contains the necessary technical information that is required to make the Technical Report not misleading.

7. I am independent of Fortune River Resource Corporation and all their subsidiaries as defined in Section 1.4 of NI 43-101 and in Section 3.5 of the Companion Policy to NI 43-101.

8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

9. The Technical Report contains information relating to mineral titles, permitting, environmental issues, regulatory matters and legal agreements. I am not a legal, environmental or regulatory professional, and do not offer a professional opinion regarding these issues.

10. A copy of this report is submitted as a computer readable file in Adobe Acrobat© PDF© format. The requirements of electronic filing necessitate submitting the report as an unlocked, editable file. I accept no responsibility for any changes made to the file after it leaves my control.



11. I consent to the filing of the Technical Report with any securities regulatory authority, stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated May 26, 2010.

"Thomas L. Dyer"

Thomas L. Dyer Print Name of Qualified Person Alan C. Noble Ore Reserves Engineering Lakewood, Colorado 80215 USA Telephone: 303-237-8271 Fax: 303-237-4533 Email: anoble@ore-reserves.com

#### CERTIFICATE OF AUTHOR

As co-author of the report entitled "*Technical Report and Preliminary Economic Assessment on the Wind Mountain Gold Project, Washoe County, Nevada*", dated May 26, 2010 (the "Technical Report") and prepared for Fortune River Resource Corporation, I, Alan C. Noble, P.E. do hereby certify that:

1. I am a self employed Mining Engineer doing business as:

Ore Reserves Engineering 12254 Applewood Knolls Drive Lakewood, Colorado 80215 USA

2. I graduated from the Colorado School of Mines, Golden, CO with a Bachelor of Science Mining Engineering in 1970.

3. I am a Registered Professional Engineer in the State of Colorado, USA, PE 26122. In addition, I am a Member of the Society of Mining, Metallurgy, and Exploration (SME).

4. I have practiced my profession as a mining engineer continuously since graduation for a total of 40 years. During that time I worked on mineral resource estimates and mine planning for over 135 mineral deposits, of which 75 were gold deposits.

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

6. I am responsible for preparation of the resource estimates (Section 17). I am also the primary author for Sections 5 though 15 and have contributed to sections 19 and 20.

7. I was the primary author for the report titled "*Technical Report on the Wind Mountain Gold Project*" dated December 17, 2007. I visited the property June 28, 2007 for the duration of one day.

8. As of the date of the certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

9. I am independent of the issuer applying all of the tests of section 1.4 of National Instrument 43-101 in Section 3.5 of the Companion Policy to NI 43-101.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and that form.

11. I consent to the filing of the Technical Report with stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their web sites accessible by the public, of the Technical Report.

Dated this 26<sup>th</sup> Day of May, 2010

Digitally Signed: "Alan C. Noble, PE"

signed, Alan C. Noble, PE 26122.

#### APPENDIX A List of Claims

Appendix A – List of Claims Included in the Wing Mountain Project Location: All claims are located in Sections 3 and 10, T 29 N, R 23 E, and in Sections 21, 22, 27, 28, 33, and 34, T 30 N, R 23 E in Washoe County, Nevada.

Owner: Rio Fortuna Exploration US Inc. 185 West Georgia Street, Suite 1550 Vancouver, BC Canada V6E 4E6

<u>Claim Name</u>		BLM NMC
EMP 8		865484
EMP 22		865498
EMP 24		865500
EMP 25		865501
EMP 26		865502
EMP 27		865503
EMP 28	Amended	865504
EMP 29		865505
EMP 30	Amended	865506
EMP 31		865507
EMP 32	Amended	865508
EMP 33		865509
EMP 34	Amended	865510
EMP 35		865511
EMP 36	Amended	865512
EMP 49		865525
EMP 51		865527
EMP 53		865529
EMP 55		865531
EMP 57		865533
EMP 59	Amended	865535
EMP 61		865537
EMP 63		865539
EMP 65		865541
EMP 67		865543
EMP 69		865545
EMP 71		865547
EMP 73		865549
EMP 75		865551
EMP 77	Amended	865553
EMP 1		922680
EMP 2		922681
EMP 3		922682
EMP 4		922683
EMP 5		922684
EMP 6		922685

Claim Name	BLM NMC
EMP 7	922686
EMP 21	922693
EMP 23	922694
EMP 41	922699
EMP 42	922700
EMP 43	922701
EMP 44	922702
EMP 45	922703
EMP 46	922704
EMP 47	922705
EMP 48	922706
EMP 50	922707
EMP 52	922708
EMP 54	922709
EMP 56	922710
EMP 58	922711
EMP 60	922712
EMP 62	922713
EMP 64	922714
EMP 66	922715
EMP 68	922716
EMP 70	922717
EMP 72	922718
EMP 74	922719
EMP 76	922720
EMP 78	922721
EMP 79	922722
EMP 80	922723
EMP 81	922724
EMP 82	922725
EMP 83	922726
EMP 84	922727
EMP 85	922728
EMP 86	922729
EMPF 1	924674
EMPF 2	924675
EMPF 3	924676
EMPF 4	924677
EMPF 5	924678
EMPF 6	924679
EMPF 7	924680
EMPF 8	924681
EMPF 9	924682

Claim Name	BLM NMC
EMPF 10	924683
EMPF 11	924684
EMPF 12	924685
EMPF 13	924686
EMPF 14	924687
EMPF 15	924688
EMPF 19	924689
EMP 101	949881
EMP 102	949882
EMP 103	949883
EMP 104	949884
EMP 105	949885
EMP 106	949886
EMP 107	949887
EMP 108	949888
EMP 109	949889
EMP 110	949890
EMP 111	949891
EMP 112	949892
EMP 113	949893
EMP 114	949894
Viento 1	945657
Viento 2	945658
Viento 3	945659
Viento 4	945660
Viento 5	945661
Viento 6	945662
Viento 7	945663
Viento 8	945664
Viento 9	945665
Viento 10	945666
Viento 11	945667
Viento 12	945668
Viento 13	945669
Viento 14	945670
Viento 15	945671
Viento 16	945672
Viento 17	945673
WM 55	NMC1021944
WM 56	NMC1021945
WM 57	NMC1021946
WM 58	NMC1021947
WM 59	NMC1021948

Claim Name	BLM NMC
WM 60	NMC1021949
WM 61	NMC1021950
WM 62	NMC1021951
WM 63	NMC1021952
WM 64	NMC1021953
WM 65	NMC1021954
WM 66	NMC1021955
WM 67	NMC1021956
WM 68	NMC1021957
WM 69	NMC1021958
WM 70	NMC1021959
WM 71	NMC1021960
WM 72	NMC1021961
WM 73	NMC1021962
WM 74	NMC1021963

### Owner: Privately Held (Leased by Fortune River)

<u>Claim Name</u>	BLM NMC
Wind 1	852569
Wind 2	852570
Wind 3	852571
Wind 4	852572
Wind 5	852573
Wind 6	852574
Wind 7	852575
Wind 8	852576
Wind 9	852577
Wind 10	852578