

**REPORT**  
  
**on the**  
  
**2007/2008 MINERAL EXPLORATION PROGRAM**  
  
**carried out on the**  
  
**SIMON MINE PROPERTY**  
  
**CEDAR MOUNTAINS, MINA AREA**  
  
**MINERAL COUNTY, NEVADA**

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LOCATED: 23 km NE of Mina  
38° 33' 53" North Latitude, 117° 51' 55" West  
Longitude

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<b><u>MMI SURVEY PLAN MAPS</u></b>		
<b>Metal</b>	<b>Production Scale*</b>	<b>Map/Fig#</b>
Silver	1:10,000	04-01
Arsenic	1:10,000	04-02
Gold	1:10,000	04-03
Cadmium	1:10,000	04-04
Cerium	1:10,000	04-05
Cobalt	1:10,000	04-06
Copper	1:10,000	04-07
Molybdenum	1:10,000	04-08
Nickel	1:10,000	04-09
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Antimony	1:10,000	04-11
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<b>Depth</b>	<b>Production Scale*</b>	<b>IP (Chargeability) Fig #</b>	<b>Resistivity Fig #</b>
25-meter	1:10,000	05-01	06-01
50-meter	1:10,000	05-02	06-02
75-meter	1:10,000	05-03	06-03
100-meter	1:10,000	05-04	06-04
150-meter	1:10,000	05-05	06-05
200-meter	1:10,000	05-06	06-06
250-meter	1:10,000	05-07	06-07
300-meter	1:10,000	05-08	06-08

**IP/RESISTIVITY SURVEY**  
**Inversion Sections**

15 north-south sections every 200 meters from 3000E to 5800E

26 east-west sections every 200 meters from 4600N to 9600N

\* Note: Scale of actual map within hardcopy report may be different due “Fit to Page” printing.

## SUMMARY

An exploration program was carried out on the Simon Mine property located within the Cedar Mountains to the east of Hawthorne, Nevada during 2007 and 2008. The work was completed by International Millennium, owners of the property. It consisted of grid emplacement, 3D induced polarization and resistivity surveying, magnetic surveying, MMI soil sampling, geological mapping, and claim boundary surveying. In addition, 147 claims were staked to substantially increase the area of the property. The purpose of the work was to determine possible extensions to the known mine mineralization as well as to locate any other mineralization that may exist on the property.

The Simon Mine is a past producer that mined ore at intermittent times during the period of 1916 to 1968. The mineralization is polymetallic in nature consisting of the metals lead, zinc, copper, and silver with some minor gold. Production totaled approximately 97,000 tons having an average grade of 3.2 oz/ton Ag, 4.8% Pb and 5.4% Zn. In addition there are unsubstantiated reports that 50,000 to 100,000 tons of ore with unknown grade remain within the mine, but this cannot be confirmed until the underground workings are dewatered.

The 3D IP and resistivity surveying, totaling 69.7 km (43 miles), was carried out in two different phases during the spring of 2007. The first phase consisted of a course grid with dipoles of 100-meter (330-foot) lengths on 200-meter (660-foot) spaced lines and a detail grid around the mine workings with dipoles of 50 meters (165 feet) on 100-meter (330-foot) spaced lines. The IP surveying, largely within the course grid, located a large IP anomaly trending in a south-southeast direction and open in that direction. The anomaly could be reflecting base metal sulphides and thus the second phase was completed shortly thereafter in order to determine the south-southeasterly extent of the anomaly. The IP and resistivity data were subsequently 3D inversion interpreted with resistivity and IP results shown in plan form for eight different depths down to 300 meters (980 feet) as well as in section form both north-south and east-west.

The magnetic survey was carried out in the summer of 2007 using two proton precession memory magnetometers, one for taking the readings and one for monitoring the diurnal variation. The readings were taken every 25 meters (80 feet) on lines 200 meters (660 feet) apart for a total survey distance of 37.8 km (23.5 miles). The readings were checked for diurnal variation and corrected where necessary. The resulting data were then plotted and contoured onto a plan map.

The MMI soil sampling was carried out initially within the summer of 2007 on a reconnaissance grid where the samples were picked up every 50 meters (165 feet) on 200-meter (660-foot) lines. The results revealed very strong anomalies and thus more detailed sampling was carried out during the fall of 2007 until the spring of 2008. This consisted of

samples being picked up every 25 meters (80 feet) on 100-meter (330 feet) lines. All samples were taken at a 10-to 25-cm (4 to 10 inches) depth. The total number of samples was 1,226 along 41.8 kilometers (26 miles), each of which was bagged and sent to SGS Laboratories in Toronto, Ontario for analysis where they were tested for 46 elements. Thirteen elements were chosen out of the 46 reported on and these were silver, lead, zinc, gold, copper, cadmium, molybdenum, uranium, arsenic, antimony, cobalt, nickel, and cerium. Three stacked histograms were then made to show the correlation of the results with each other and plan maps were made, respectively, of each of the 13 chosen elements.

Geological mapping was carried out in the summer and fall of 2008 in order to determine the underlying geology of the geophysical and MMI soil geochemical anomalies as well as to locate any other areas of possible economic interest.

The boundaries of the claims were surveyed in during the late spring and early summer of 2008 to ensure there were no fractions resulting in open ground. In addition new claims were staked to the south, north, and west of the property.

## CONCLUSIONS

1. The Simon Mine is a past producer from which has been mined 97,000 tons at intermittent periods from 1916 to 1968 with an average grade of 3.2 oz/ton Ag, 4.8% Pb and 5.4% Zn as well as gold and copper values. In addition there are unsubstantiated reports that an additional 50,000 to 100,000 tons remain within the mine workings.
2. The most important part of the work and that of greatest exploration interest is the MMI soil sampling survey which revealed four strong anomalous zones, each consisting of several individual anomalies, as well as two separate anomalies. All six are highly indicative of economic mineralization and have been labeled by the upper case letters A to F.
3. Anomalous Zone A is the mine anomaly which correlates directly with the known mineralization and workings of the Simon Mine. It strikes in a west-southwest direction with a minimum strike length of 1,750 meters (5,740 feet) being open to the west-southwest. However, mining was carried out along a length of only 550 meters (1,800 feet). This suggests that additional mineralization occurs, probably most of it unknown, along a minimum strike length of 1,200 meters (3,940 feet).  
Zone A consists of at least six individual anomalies with lengths of 200 meters (660 feet) to 700 meters (2,300 feet) with very strong readings in lead, zinc, silver, cadmium, and arsenic as well as anomalous values in gold, copper, and antimony. These are east-west striking, which is the same as that of the individual lenses of mineralization within the Simon Mine.
4. Anomalous Zone B is occurs to the immediate north of anomalous zone A and primarily consists of very strong anomalous gold values. It also contains anomalous values in silver, uranium and copper. It has a minimum strike length of 1,000 meters (3,300 feet) with it being open to the west at which point the anomalous zone remains strong. This suggests that the zone may continue for a substantial distance to the west. The underlying rock-type is Mammoth andesite with much quartz stockwork and veining.  
Zone B consists of at least three individual east-west-striking anomalies with lengths that vary from 200 to 400 meters (660 to 1,320 feet).
5. Anomalous Zone C occurs along the west-southwest side of the Luning limestone and therefore striking in a north-northwest direction for a minimum strike length of 2,400 meters (7,900 feet). It is also primarily a gold anomalous zone but also containing silver and copper anomalous values with some lead, zinc, cadmium and antimony.

Zone C consists of 11 individual anomalies with east-west strike lengths that vary from 200 to 800 meters (660 to 2,640 feet).

6. Anomalous Zone occurs to the west of Zone C within the volcanogenic lacustrine sediments of the Esmeraldo Formation and primarily consists of strong uranium, molybdenum, arsenic, and antimony anomalous values with some copper. Gold anomalous values occur peripherally around Zone D. This anomalous zone strikes east-west and has a minimum strike length of 800 meters (2,640 feet) with it being open to the west. Like Zone B, the strongest part of the anomaly is at the western edge of the survey area thus suggesting that there is substantial strike length to the west.

Zone D also consists of a series of east-west individual anomalies that therefore probably reflect individual zones of mineralization.

7. Anomaly E is a gold anomaly with correlating arsenic and nickel anomalous values occurring at the eastern edge of the survey area. It is underlain by Luning limestone with occurrences of jasperoid breccia and intrusive plugs. The anomaly strikes due east with a minimum strike length of 300 meters (1,000 feet).
8. Anomaly F is also a gold anomaly with correlating weaker values in copper, silver, arsenic, antimony, and nickel occurring at the eastern edge of the survey area just south of anomaly E. It strikes in a northeast direction with a minimum strike length of 300 meters (1,000 feet).
9. The 3D resistivity survey has for the most part reflected the Luning limestone as a large general resistivity high. This high is characterized with two highs on its west-southwest and east sides, respectively, and a low within the center between the two highs. The west-southwest high is a reflection of calcified and silicified Luning limestone, such as the jasperoid breccia, that also underlies gold anomalous zone C.
10. The main response of the 3D IP survey is a large IP anomaly that trends in a S150°E direction and that correlates directly with the resistivity low within the general high mentioned above. For the most part, it probably is reflecting pyritization within the Luning limestone. It contains five anomalous pods or sub-highs but pod #4 is the only one correlating with significant MMI soil results, being one of the anomalies within anomalous zone C. It consists of lead, copper, gold, cadmium, antimony and nickel MMI anomalous results.
11. The IP survey also located a weaker IP high to the west of the main high. This high is of significant exploration interest since it is correlating with one of the strong MMI anomalies within anomalous zone A that is also open to the west. It consists of anomalous results in lead, zinc, silver, cadmium, arsenic, copper, gold, and antimony.
12. The magnetic survey has mapped the granitic intrusive to the west of the Luning limestone as well as dyke-like intrusives within the northern part of the survey area.

## **RECOMMENDATIONS**

The four main anomalous zones, A to D, inclusive, are prime targets over which exploration should continue and is recommended as follows:

1. Acquire the claims to the west of the property due to four of the MMI anomalies being open to the west. Anomaly B is particularly strong at the western border and so is anomalies A and D.
2. Continue the MMI detail sampling of a 25-meter sampling interval along 100-meter lines. Much of the survey area remains at the reconnaissance sampling interval of 50 meters on 200 meter lines which is too large for locating drill targets.
3. Extend the MMI sampling to the west for a further minimum 500 meters in order to determine the extension of all four MMI anomalies, especially A, B, and D. Also extend the sampling to the south and to the east in order to determine the south-southeastern extension of anomaly C, the eastern extension of anomaly E, and the northeastern extension of anomaly F. The survey should also be extended to the south to cover IP anomalous pod #5.
4. Continue the magnetic survey over the remainder of the grid area taking readings every 25 meters along 100-meter survey lines. The magnetic survey is very useful in assisting the mapping of geology.
5. Carry out a diamond drilling program on the MMI anomalies once the detail sampling and extensions are complete since the completion of the MMI work will optimize drill targets. The drilling should be done in two phases with the first one to test the MMI and IP targets and consisting of 10 holes at 300 meters per hole. The second phase is a follow-up on the first phase drilling on drill holes that have encountered significant mineralization. If no significant mineralization has been encountered, than the second phase drilling should be carried out on secondary targets.

## BUDGET

### PHASE I

#### Pre-drilling Exploration

(a) Mob-demob	\$8,400.00	
(b) MMI soil sampling (6-man crew)		
Field, 20 days @ \$2,400/day (all-inclusive field costs)	\$48,000.00	
Lab costs, 1,700 samples @ \$38/sample	\$64,600.00	
(c) Magnetic surveying (2-man crew with three magnetometers)		
Field, 10 days @ \$1,300/day (all-inclusive field costs)	\$13,000.00	
(d) Data reduction and report	\$6,000.00	
<u>Sub-total</u>		\$140,000.00

#### Diamond Drilling

(a) Mob-demob	\$25,000.00	
(b) drilling - 3,000 meters @ \$90/meter	\$270,000.00	
(c) Associated costs		
Geologist and assistant, 70 days @ \$900/day	\$63,000.00	
Drill core assaying, 1,000 samples @ \$40/sample	\$40,000.00	
Room and board, 70 days @ \$250/day	\$17,500.00	
Truck rental and gas, 70 days @ \$150/day	\$10,500.00	
Miscellaneous, such as core log rental, core boxes	\$14,000.00	
(d) Report, including maps and figures	\$10,000.00	
<u>Sub-total</u>		\$450,000.00
Total, Phase I		<b>\$590,000.00</b>

### PHASE II

#### Diamond Drilling Program

(a) Mob-demob	\$25,000.00	
(b) drilling - 4,500 meters @ \$90/meter	\$405,000.00	
(c) Associated costs		
Geologist and assistant, 100 days @ \$900/day	\$90,000.00	
Drill core assaying, 1,500 samples @ \$40/sample	\$60,000.00	
Room and board, 100 days @ \$250/day	\$25,000.00	
Truck rental and gas, 100 days @ \$150/day	\$15,000.00	
Miscellaneous, such as core log rental, core boxes	\$20,000.00	
(d) Report, including maps and figures	\$10,000.00	
Total, Phase II		<b>\$650,000.00</b>

Total, Phases I and II **\$1,240,000.00**

# **REPORT**

**on a**

## **2007/2008 MINERAL EXPLORATION PROGRAM**

**carried out on the**

### **SIMON MINE PROPERTY**

**CEDAR MOUNTAINS, MINA AREA**

**MINERAL COUNTY, NEVADA**

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### **INTRODUCTION AND GENERAL REMARKS**

This report discusses the exploration program carried out on the Simon Mine Property belonging to International Millennium Mining Corp. during the period of Spring, 2007 to Fall, 2008. The program consisted of 3D induced polarization (IP) and resistivity surveying, magnetic surveying, MMI soil sampling, and geological mapping. In addition, the claims boundaries were surveyed to ensure that there was no open ground between claims, and additional claims were staked.

The general purpose of exploration on this property is to determine (1) the possible extension of the Simon Mine mineral zone to the east and/or especially to the west, (2) the possible existence of sub-parallel zones of Simon Mine-type mineralization, and (3) whether any other type of mineralization may exist within the property.

More specifically, the purpose of geological mapping is to understand the geology of the Simon Mine mineralization and the surrounding area in order to assist in locating new zones of mineralization. The resistivity and magnetic surveys were completed in order to assist in the geological mapping. However, the purpose of the IP survey is to locate sulphide mineralization directly. Within the Simon Mine, the sulphide mineralization consists of

galena, sphalerite, and chalcopyrite along with the accessory sulphides of arsenopyrite and pyrite. The MMI soil sampling is carried out for reasons similar to the IP survey, but also to locate the specific metals, especially silver and gold which occur in such small quantities that they cannot be mapped by IP.

Throughout this report lengths are given in meters with feet in brackets for those readers who are more familiar with the British foot-pound system.

## **PROPERTY AND OWNERSHIP**

The Simon Mine property originally consisted of 20 patented mineral claims, and 9 unpatented claims. While the exploration work was being carried out, International Millennium staked an additional 148 claims to bring the total to 177 claims. All the claims are shown on fig no. 2 and are described in the table below.

<b>Patented Claim</b>	<b>Min. Survey #</b>	<b>Taxes Due</b>	<b>Number of Claims</b>	<b>Area in Hectares</b>
Bell	4408	21-Aug-09	1	7.27
Carbonate	4407	21-Aug-09	1	5.56
Confident	4401	21-Aug-09	1	8.19
Confident No. 1	4401	21-Aug-09	1	6.82
Confident No. 2	4401	21-Aug-09	1	6.41
Ford	4402	21-Aug-09	1	7.48
January	4402	21-Aug-09	1	8.04
Lillian	4401	21-Aug-09	1	5.74
Lillian No. 1	4401	21-Aug-09	1	7.32
Lillian No. 2	4401	21-Aug-09	1	3.90
Mammoth	4401	21-Aug-09	1	8.26
Mammoth Extension	4401	21-Aug-09	1	7.20
Mitchell	4408	21-Aug-09	1	7.16
Pilot	4407	21-Aug-09	1	7.64
Simplex	4408	21-Aug-09	1	7.91
Valley View	4407	21-Aug-09	1	7.22
Valley View Fraction	4407	21-Aug-09	1	1.68
Victory	4407	21-Aug-09	1	5.82
Victory No. 1	4407	21-Aug-09	1	7.78
Victory Fraction	4408	21-Aug-09	1	8.06
		Sub total	<b>20</b>	<b>135.46</b>
<b>Unpatented Claims Optioned</b>	<b>Registration #</b>	<b>Notice of Intent to Hold due</b>		<b>Area in Hectares</b>
Simon Extension	NMC 92966	01-Sep-09	1	8.26
Swanson # 1	NMC 92964	01-Sep-09	1	6.77
Swanson # 2	NMC 92965	01-Sep-09	1	8.26
		Sub total	<b>3</b>	<b>23.29</b>

<b>Unpatented Claims Staked</b>	<b>Registration #</b>	<b>Notice of Intent to Hold due</b>	<b>Area in Hectares</b>	
Ace	BLM 89819	01-Sep-09	1	8.26
Deuce	BLM 89820	01-Sep-09	1	8.26
Jack	BLM 89821	01-Sep-09	1	8.26
King	BLM 89822	01-Sep-09	1	8.26
Queen	BLM 89818	01-Sep-09	1	8.26
Trey	BLM 89817	01-Sep-09	1	8.26
		Sub total	<b>6</b>	<b>41.30</b>
<b>Unpatented Claims Staked by IMMC</b>			<b>Area in Hectares</b>	
42 to 156			115	<b>949.9</b>
159 to 161			<b>3</b>	<b>24.78</b>
164 to 165			2	17.2
167 to 174			8	66.08
Simon 7, 175 to 193			20	165.2
		Sub total	<b>147</b>	1,223.16
		<b>Grand Total</b>	<b>178</b>	<b>1,423.21</b>

The total area is shown in the table as 1,456.21 hectares (3,516.8 acres) but the actual area will be somewhat less due to some overstaking within the property boundaries.

International Millennium is completing an option to acquire 100% ownership in the original 29 claims as well as owns outright the recently staked 148 claims.

## **LOCATION AND ACCESS**

The Simon Mine property is located in the Cedar Mountains of western Nevada in the eastern part of Mineral County. The property is located 23 miles northeast of the town of Mina, 210 km southeast of Reno and 350 km northwest of Las Vegas.

The geographical coordinates of the center of the property are 38° 33' 53" North Latitude and 117° 51' 55" West Longitude at UTM coordinates 4268650 North, 424500 East (NAD 1927 Central).

Access is gained by traveling in an east-northeasterly direction on improved gravel roads from a turnoff from Highway 95 one-half mile north of Mina. Heading east from this turnoff, past the microwave tower, one turns left on a well-traveled road, past Black Cabin Well, turning right 1.3 miles beyond the well, continuing in an easterly direction 3.7 miles to the Simon mine.

## **PHYSIOGRAPHY**

The Simon Mine Property is found within the Cedar Mountains and is part of a linear northwest trending trough which separates the Basin and Range physiographic province to the northeast and the Sierra Nevada province to the Southwest. It contains local playa lakes

(dry or saline lakes) in the valleys. The lower hills are dominantly sage brush and scrub vegetation while the upper hills near the Simon Mine property are populated by sparse juniper bushes. Drainage is towards the west in a valley of playa lakes and is relatively steep.

The area is part of an active earthquake zone.

The climate in the Mina area is very moderate ranging from an average monthly low of -6°C in January to a high of 35°C in July, at an annual average of 12°C. Precipitation is low, about 11 centimeters annually, with about 17cm of snowfall. Because the Simon Mine area is at a higher elevation than Mina, it experiences colder nights and more precipitation. The property is suitable for year-round operations.

## **HISTORY**

This section is taken from Evans' report.

Much of this historical account of the Simon mine is derived from the best account available, a report by Ralph Tuck dated June 13, 1968. Tuck wrote the report on behalf of the Federal Resources Corporation, the last operator and producer at Simon.

After discovery in 1879, oxidized silver-lead ore was mined from surface and near-surface showings. In 1918, P.A. Simon acquired the property and organized the Simon Silver-Lead Mines Company. By 1919 the property had been explored and developed to the 500 foot level from the No. 1 Shaft. Ore grades proved too low to ship to smelters or custom mills, so a loan of \$100,000 was obtained from the U.S. Smelting and Refining Company for the construction of a 100 ton/day flotation mill, which was later expanded to 250 tons. The mill operated from December, 1921 to June, 1922 when it was shut down pending the sinking of the 3-compartment No. 3 shaft. Milling was resumed for a short time in 1923 and again in 1925.

Because of financial problems, a new group managed by J.T. Robertson took over from Simon, resulting in considerable development work. By then the No. 3 Shaft had been deepened to the 800 level and later, through an internal winzes, to the 900 and 1000 levels. Milling resumed in August, 1926 and continued until February, 1927 when it appears the mill was permanently shut down. Records reported by Ralph Tuck indicate that a total of 74,825 tons averaging 3 oz/ton Silver, 4.9% Lead and 5.7% Zinc was processed through the mill with the concentrates presumably shipped to U.S. Smelting and Refining. The mine was kept pumped out until 1932 and during that period the Bryan Mining Company carried out exploration and development on the 800, 900 and 1000 levels west of the old production area. Ore on the 800 level was higher in lead (7%) and zinc (9%), silver content more than tripled, with gold up to 0.08 oz/ton and copper up to 10% being encountered. These higher grades persisted to the 900 and 1000 levels.

In 1937 the No. 3 Shaft was dewatered to the 800 level for a short time by S.P. Warren, but was allowed to refill as finances were inadequate. At this time it was realized that the 442, 500, 700 and 800 levels were caved a few feet from the shaft stations. In the 1940s and 1950s up to 15,000 tons production of oxide and mixed sulfide ores were mined on and above the 400 level by the B.B.S. Company and by various leasers. Hughes stated in a 1955 report that 676 tons from the 400 level was shipped to U.S. Smelting and Refining Company in Utah. This shipment averaged 11.5 oz/ton Ag, 0.125% Cu, 15.15% Pb and 10% Zn. He reported on another shipment, made by Merl Swanson of Mina, of 8 tons to the American Smelting and Refining Company (ASARCO) Selby Smelter in San Francisco, California, that averaged 4.8 oz/ton Ag, 7.8% Pb and 3.7% Zn.

In 1963 Federal Resources Corporation of Utah leased, on the basis of favorable reports, especially the one by Spencer, the Simon property from Merl Swanson and dewatered the No. 3 Shaft to a depth of 590 feet, but this work was abandoned due to bad shaft conditions. In December, 1963 the No. 4, also called the Messerly, shaft was started and was completed to a depth of 1088 feet by August, 1965. Subsequently, new 800 and 1000 foot levels were driven in a northerly direction, to develop the 816, 905, 808 and 706 ore bodies discovered during the 1930s. Federal Resources work included the following:

Shaft sinking	1,088 feet
Drifting and crosscutting	5,400 feet
Raising	800 feet
Underground core drilling	11,937 feet
Surface core drilling	6,643 feet
Long hole drilling	many thousands of feet

Federal hoisted and stockpiled over 18,000 tons of ore averaging 4.2 oz/ton Ag, 4.8% Pb, 4.6% Zn and 0.20% Cu., in addition to over 4000 tons of development muck of much lower grades. It was reported by old timers in Mina that an unknown amount was shipped by rail to the Bunker Hill operation in North Idaho and some processed later on site through a heavy media plant. They made a mistake by not building their own mill.

## **GRID**

Survey lines were placed on the property in the spring of 2007 just before and as the IP/resistivity survey was being carried out. The grid was emplaced using a GPS unit with the coordinates based on the UTM system, NAD 27, using the last four digits. Thus, for example, line 3400E is actually UTM easting 423400, and station 8125N is actually northing 4268125. The survey lines were emplaced north-south with a lath marking a station every 100 meters. The in-between stations were marked with flagging.

## **GEOLOGY**

### **(a) Regional Geology**

(from Seymour Sears Report)

The Simon Mine property lies within a belt of Triassic to Tertiary aged sedimentary, volcanic and intrusive rocks that occupy a northwest-trending structural zone referred to as the Walker Lane Trend (WLT). The WLT is located at the junction between two very different physiographic provinces, the Basin and Range Province on the northeast and the Sierra Nevada Province on the southwest.

The Basin and Range Terrain consists of a series of north-northeast trending fault-bounded mountain ranges, generally from 70 to 80 km (43 to 50 miles) long by up to 15 km (9 miles) wide separated by valleys that have been in-filled by thick sequences of sedimentary rocks. The ranges are typically made of volcanic and sedimentary rocks that have been with igneous cores (often granitic). The Sierra Nevada is a large fault block of mainly igneous rocks (granite) that has been emplaced as a result of forces related to the subduction of the Pacific plate beneath the North American plate. The WLT extends for approximately 800 km (500 miles) from Las Vegas to South-Central Oregon. It is an active and major tectonic system displaying both extensional and transcurrent fault movements. Many gold and silver deposits have been discovered within the WLT including the famous Comstock Lode and the mining camps of Rawhide and Goldfield. The closest past producing gold mine to the Simon Mine is that referred to as Paradise Peak, located approximately 15 km (9 miles) to the north.

### **(b) Property Geology**

The geologic mapping of the property was carried out during the summer and fall of 2008, which, after all other work was completed, was carried out by geologist Thomas L Evans, (California geologist No. 3218), residing in the nearby town of Mina. "Property Geology" and "Mineralization" are both taken from his report dated November 29, 2008. His map is attached to this report as figure no. 3.

#### ***Geological Setting***

The Simon Mine Area is located in west-central Nevada in the Cedar Mountains within the Cedar Mountain Uplift, a part of the Laramide Orogenic event. The Cedar Mountains are situated within Tertiary Volcanic Arch/Paradise Terrain rocks. The Simon mineral deposits occur in Late Triassic Luning Formation, a shallow shelf and basin tectonic environment consisting of shaly-limestone, limestone, dolomite and sand and siltstones. The clastic sediments are believed to have been shed off of the eastern part off the Golconda allochthonous terrain and an Early Triassic platform, whereas the carbonate sequence was precipitated out of seawater in a back-arc basin that separated the Sierran magmatic arch to the west, active in Jurassic-Cretaceous time, from an eastern continental margin. The Sierran event, related to the subduction of the Pacific

crustal plate beneath the North American plate, sired granitic intrusions of many sizes, up to batholithic proportions, one of which is found east and southeast of the Simon mine.

In the Early to Mid-Tertiary the area was uplifted with widespread felsic to intermediate volcanism. Miocene, Pliocene and more recent age regional Basin and Range extensional tectonics resulted in normal faulting and sympathetic reactivation of older fault systems, the Mammoth fault being one. Different pulses of mineralization accompanied these geologic events resulting in the Simon base and precious deposits and later gold and silver overprinting resulted in quartz veins and stockworks in the rhyolitic intrusives and occasionally in the Mammoth andesite.

### *Triassic*

**Luning Formation (Trll).** The oldest rocks in the Simon Mine area and on the map sheet are carbonates belonging to the Luning formation. The massive to thin-bedded and shaly limestone is assigned to the Lower Member of the Luning. The limestone is pale to dark gray and fine grained except where it has been recrystallized near the contact by granitic intrusions. Bedding typically is difficult to decipher which limited the number of strike and dip measurements made. Limestone can be intensely altered by hydrothermal fluids to massive jasperoid and to various hybrid phases of partially silicified and calcite-hematite mineralized rock. Alteration product map units are discussed below.

**Altered Luning Limestone (Trlchj).** Large swaths of limestone south and southeast of the Simon mine have been subjected to hydrothermal alteration that has converted fresh limestone to calcite-hematite-silica veined and fracture filled partially replaced rock. Jasperoid (silica) by itself can occupy fractures as fillings and partial replacements. Maroon to red-brown powdery hematite, by itself, often coats fractures and shears. These rocks occur amongst and adjacent to massive jasperoid replacement zones. Age of this event is most certainly Late Tertiary being genetically related to the mineralizing pulse that produced the Simon ore deposits.

These rocks are of great importance from an exploration viewpoint in so much as they display metal ion, particularly gold and copper, anomalies in the soil based MMI geochemical surveys.

### *Late Jurassic or Early Cretaceous*

**Granitic Intrusive Complex (Kgr, Ka, Kmp & Kal).** A large granitic pluton, reported by Knopf to be of granodiorite composition, occupies an area east and south of the Simon mine. This intrusive is medium-coarse grained and generally fresh in appearance. It has intruded limestone along a relatively straight and passive boundary, but may occur in fault contact with the sediments and is rarely invasive into the carbonate sequence. Small intrusions of aplite, alaskite and monzonite porphyry

occasionally form small stocks, tongues and dykes into limestone. Heat from the larger granodiorite mass and the smaller intrusive bodies has bleached and recrystallized limestone south of the mine area.

### *Tertiary*

**Jasperoid Breccia (Jbx) and Barren Black Jasperoid (Jbxbk).** Silica bearing hydrothermal fluids have attacked and altered limestone to massive jasperoid breccia. These jasperoids consist mainly of amorphous silica with variable amounts of limonite and possibly magnetite. The “breccia” designation given this category comes from hundreds of field observations that verify breccia textures that might or might not have occurred contemporaneously with silicification. Brecciation of course could have predated and actually facilitated silica movement. Rotated clasts and non-rotation fracturing suggest tectonic deformation although fracturing could have resulted from shrinkage due to volumetric changes in converting calcium carbonate to silica during replacement.

A small area of jet black jasperoid was mapped as a separate unit because of its lack of limonite mineralization and weak geochemical response.

**Mammoth Andesite (Tam) and Pyroxene Andesite (Tpa).** The oldest volcanic rocks in the Simon mine area is the Mammoth andesite, a gray-green to brownish, commonly porphyritic flow. This unit is down-faulted against limestone and its distribution is confined to the area north of the north-dipping Mammoth fault. An excellent exposure of this fault, showing a 55 degree dip, is found approximately 100 meters northeast from the No. 4 Federal Resources shaft. At this location the fault displaces limestone, limonitic jasperoid breccia and alaskite. Past workers had confined Mammoth terminology to those outcrops right along the fault in the vicinity of the mine. Current mapping has included the string of andesites occurrences north of the Mammoth fault as the same andesite unit. Compositionally, at least in outcrop, they all appear to be the same flow sequence. Knopf and others designated these additional units as pyroxene andesite, and although they might be pyroxene bearing, this author believes that they are the same age and part of the same volcanic episode as the Mammoth. Many andesite exposures show weak to moderate propylitic alteration and in a few instances are quartz stockwork mineralized...

A totally separate andesite event took place south of the mine area and has been given a pyroxene andesite designation. This andesite occurs as an oval shaped exposure and appears to be intrusive in origin. The contacts are shape and crosscutting and the unit occurs as a single isolated body. Pyroxene andesite is porphyritic, purplish-gray in color and weathers into distinct platy fragments.

**Quartz-Eye Rhyolite Intrusive (Tri) and Rhyolite Breccia Pipes (Trbx).** Small to medium sized bodies of intrusive quartz-eye rhyolite crop out west and south of the Simon mine, the largest centered on UTM coordinates 4267600N by 424300E, 700

meters southwest of the mine. The rocks are typically buff to tan in color and usually porphyritic. Their intrusive origin is confirmed by the presence of steep, sharp and sometimes invasive contacts. Near vertical flow banding has been observed at several locations. These rocks commonly display argillic, siliceous and sericite alteration. Prospecting has taken place along the contacts and some exposures, particularly those north of the Mammoth fault, are comb-quartz stockwork mineralized.

Two small circular shaped bodies of highly altered and strongly limonitic coarse clastic breccia are found 500 meters northeast of the Simon mine. These bodies, mapped as rhyolite breccia pipes, are on the strike extension of the Mammoth fault.

**Esmeralda Formation (Te).** Esmeralda terminology encompasses widespread Late-Tertiary lacustrine sedimentary deposits laid down in intermountain basins in this part of western Nevada. These strata are dominantly white to pale-gray, thin bedded lacustrine sand and siltstone, shale, calcareous marly lenses, and fine to medium grained water-lain tuff. This sedimentary sequence is preserved in down dropped blocks and is usually found in fault contact with older rocks although they do overlap older units on the map.

**Felsic Tuff (Tuft).** An extensive sequence of white colored, argillically altered, and thin-bedded tuffs and pyroclastic deposits, found west and north of the Simon mine are younger than the quartz latite crystal welded tuff that cap the ridges and hills. These rocks were designated “dacite tuff” by Knopf but the current designation, “felsic tuff”, covers a broader variety of similar rocks that were not included in his study. Knopf might have incorrectly incorporated this authors “felsite intrusive” into his dacite classification. Field observations verify the felsite as being intrusive.

**Quartz Latite Crystal Tuff (Tclt).** This rock unit, called keratophyre or Simon quartz keratophyre by previous authors and of Late-Tertiary age, is the youngest volcanic unit in the map area. It comprises a distinct tan to reddish-brown ash flow crystal rich welded tuff. Numerous lithic fragments testify to its pyroclastic origin. Crystals, usually angular but sometimes euhedral, are dominated by quartz, plagioclase, sanidine, and biotite. Crystal tuff occupies the hills near the No. 1 shaft where it is intruded by Tertiary alaskite and unconformably overlies limestone. This tuff, cut by faults and shear zones, is in places argillically altered and weakly mineralized in the mine area. This same welded tuff occupies the east-west trending ridge to the north but is there very fresh and unaltered. The tuff near the mine was reverse circulation drilled in the 1980s with several drill sites have dark gray limestone chips in the drill cutting. This drill program, targeting a low grade silver deposit, apparently intersected good values silver only in drill hole No. 17. This lithic tuff unit is probably less than 400 feet thick.

**Felsite Intrusive (Tfi).** White to buff to pale gray bodies of argillically altered and plagioclase rich intrusives invade limestone and older volcanic rocks in the vicinity of the Simon mine. These intrusives, the largest of which occupies the ridge line directly across the road from the mine dumps, are similar in appearance and color to some of

the intrusive rhyolites but lack quartz-eyes. Textures vary from aphanitic to porphyritic and many outcrops are weakly to moderately limonitic indicating the former presence of pyrite. Steep flow banding textures and sharp, steeply dipping contacts tend to confirm their intrusive origin. Previous authors, including Knopf, lumped these rocks into their “dacite tuff” category. Oldow, 1993 mapped a set of rocks of basically the same age and appearance in the Mina Quadrangle to the south.

**Simon Mine Alaskite (Tals).** A white colored, sericite altered and limonite mineralized dyke intrudes along the Mammoth and other Simon-Set faults. This geologic episode is considered to have been related to the formation of ore deposits at Simon. The dyke apparently was injected into open-space zones of brecciation along structural breaks and was accompanied by hydrothermal fluids that deposited the ore minerals as replacement of limestone. The dyke itself was observed in underground mine workings to have been mineralized where fracturing had created open spaces. These alaskite dykes are confined to the immediate Simon mine area having not been observed elsewhere on the map sheet.

### *Quaternary*

**Alluvium (Qal) and Colluvium (Qc).** Alluvium is referenced to those un-consolidated sand and gravel deposits found in arroyos, gullies and valleys. Colluvium refers to slope and fan deposits of poorly sorted and usually un-consolidated fine to coarse material that has eroded from rock outcroppings. These deposits are extensive, especially in the southern part of the map.

**Hot Springs Travertine (Qt).** Basin and Range fault related travertine is found southwest from the Simon mine in the Wild Rose spring area. The travertine is white to buff in color and sometimes is coarsely crystalline. There is no siliceous sinter deposits associated with these hot springs and it is unlikely that any precious metals were deposited in and around the vents.

### **(c) Mineralization**

Maki, in his 1980 report, gives the best description of mineralization at Simon. The most common ore minerals are the sulfides galena, sphalerite and chalcopyrite, in a gangue of quartz and silicified limestone or alaskite dyke. Replacement of limestone type ore was most often found along fault structures in areas of intense brecciation. Structural deformation seems to have been a prerequisite for ore deposition, with the fault systems providing the plumbing conduits for mineralizing hydrothermal fluids.

The original oxidized ore mined in the early days at Simon was found along alaskite dykes that intruded into Simon-set faults that had experienced deformation which created sizable spaces for the dykes to enter. Post-dyke movement along the faults fractured the dykes and finally the entire dyke and breccia zone was injected with

mineralizing fluids. These fluids silicified both dyke and breccia and deposited ore as replacement of limestone and infill of dyke fractures.

Mineralization tends to be gradational, as to metal content at the Simon mine. The amounts of copper and gold and the overall grade of lead and zinc increased in the deeper reaches of the mines. As an example Spencer, in 1930, reported on sampling on the deeper levels as follows: A sample taken from the 905 drift in September, 1930 ran 0.08 oz/ton Au, 28.7 oz/ton Ag, 19.5% Pb, 8.0% Zn and 3.8% Cu. Eighty nine mine cars of ore, mined from the 905 averaged 0.04 oz/ton Au, 12 oz/ton Ag, 9.0% Pb, 5.7% Zn and 3.0% Cu. Six samples taken January-March, 1931 from the 1000 level (1001 and 1002 drifts) averaged 0.063 oz/ton Au, 13.27 oz/ton Ag, 14.45% Pb, 12.15% Zn and 3.5% Cu.

Surface mineralization at other places on the Simon property is spotty, usually found on intrusive rhyolite contacts and as limonite and gossan in jasperoid breccia and altered limestone partially replaced by silica, and mineralized with calcite and reddish hematite. An interesting area of this altered rock, found at the southeast end of the map-sheet, had gold values up to 0.10 oz/ton gold in hematite filled fractures. Pyrite can be found in dark jasperoid breccia where it has survived weathering and oxidation. Quartz veins and stockworks are found in silicified intrusive rhyolite and rarely in Mammoth andesite north of the Mammoth fault.

Previous authors have made reference to disseminated pyrite in silicified limestone and in intrusive dykes throughout the old mine workings. Pyrite, although not found at the surface, must have occurred as disseminations, judging from widespread goethite found in jasperoid breccia, and quartz-eye intrusive rhyolite.

### **3D INDUCED POLARIZATION AND RESISTIVITY SURVEYS**

The 3D IP and resistivity surveys were carried out by SJ Geophysics during the spring of 2007.

#### **(a) Instrumentation**

The transmitter used was a GDD Tx II IP unit manufactured by Instrumentation GDD Inc. of Quebec City. The output consists of 150 to 2,000 volts with an output current of 5 milliamps to 10 amps which delivers a maximum power of 3.8 kilowatts. The transmission cycle is 2 seconds on and 2 seconds off.

The receiver used was a SJ-24 Full Waveform Digital IP unit manufactured by SJ Geophysics of Delta, B.C. This is state-of-the-art equipment, with software-controlled functions. It has an input impedance of 10 mega ohms and an overvoltage protection of up to 1,000 volts. It can read 4 to 16 dipoles that can be expanded. The primary voltage and chargeability each typically have an error of less than 1%.

## (b) Theory

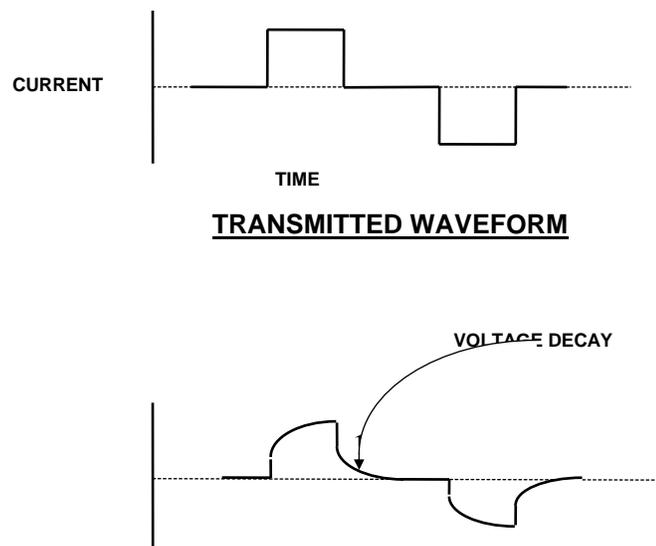
When a voltage is applied to the ground, electrical current flows, mainly in the electrolyte-filled capillaries within the rock. If the capillaries also contain certain mineral particles that transport current by electrons (mostly sulphides, some oxides and graphite), then the ionic charges build up at the particle-electrolyte interface, positive ones where the current enters the particle and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When the current is switched off, the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. This type of induced polarization phenomena is known as electrode polarization.

A similar effect occurs if clay particles are present in the conducting medium. Charged clay particles attract oppositely-charged ions from the surrounding electrolyte; when the current stops, the ions slowly diffuse back to their equilibrium state. This process is known as membrane polarization and gives rise to induced polarization effects even in the absence of metallic-type conductors.

Most IP surveys are carried out by taking measurements in the “time-domain” or the “frequency-domain”.

Time-domain measurements involve sampling the waveform at intervals after the current is switched off, to derive a dimensionless parameter, the chargeability “M”, which is a measure of the strength of the induced polarization effect. Measurements in the frequency domain are based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency. The difference between apparent resistivity readings at a high and low frequency is expressed as the percentage frequency effect, or “PFE”.

The quantity, apparent resistivity,  $\rho_a$ , computed from electrical survey results is only the true earth resistivity in a homogenous sub-surface. When vertical (and lateral) variations in electrical properties occur, as they almost always will, the apparent resistivity will be influenced by the various layers, depending on their depth relative to the electrode spacing. A single reading, therefore, cannot be attributed to a particular depth.



VOLTAGE

TIME

**RECORDED VOLTAGE**

The ability of the ground to transmit electricity is, in the absence of metallic-type conductors, almost completely dependent on the volume, nature and content of the pore space. Empirical relationships can be derived linking the formation resistivity to the pore water resistivity, as a function of porosity. Such a formula is Archie's Law, which states (assuming complete saturation) in clean formations:

$$R_o = O^{-2} R_w$$

Where:  $R_o$  is formation resistivity  
 $R_w$  is pore water resistivity  
 $O$  is porosity

**(c) Survey Procedure**

Two grids were surveyed: (1) the Simon Mine Grid with 100 m (330 feet) dipoles and 200 m (660 feet) line spacing and, (2) a smaller grid with 50 m (165 feet) dipoles and 100 m (330 foot) line spacing within the initial grid.

Grid 1 consisted of thirteen 3-km lines (3200E to 5200E) with 100 m station. Six receiver/read lines and seven current lines were laid out as part of the grid. Stations were labeled approximately from 6800N to 9800N at 50 m intervals.

Grid 2 consisted of seventeen lines of lengths varying from 900 m to 1400 m running parallel to Grid 1 lines. Lines 5000E to 4300E were 900 m long while lines 4200E, 4100E, and 3900E to 3400E had line lengths of 1100 m, and line 4000E was 1,400 m. Stations were labeled every 25 m between 9100E and 7700N.

The IP and resistivity measurements were taken in the time-domain mode using a 2-second on 2-second off duty cycle.

The electrode separation, or 'a' spacing, and reading interval were chosen to be 50 m (165 feet) in Grid 1 and 25 m (80 feet) in Grid 2.

Stainless steel stakes were used for current electrodes while pots filled with a copper sulphate pentahydrate and water solution for the potential electrodes.

**(d) Compilation of Data**

All the data were reduced by a computer software program developed by the UBC-Geophysical Inversion Facility (DCINV2D) in partnership with a number of major mining companies. It solves two inverse problems. The DC potentials are first inverted to recover the spatial distribution of electrical resistivity, and, secondly, the chargeability data (IP) are inverted to recover the spatial distribution of IP polarizable particles in the rocks. The interpreted depth section maps represent the cross sectional

distribution of polarisable materials, in the case of IP effect, and the cross sectional distribution of the resistivity, in the case of the resistivity parameter. In other words, the inversion process is an attempt to locate the actual causative source of the IP and resistivity features. For example, an inversion IP high as shown on the plan maps and sections should reflect the actual location of the polarizable source which is usually sulphides.

The resulting inversion IP and resistivity interpretation were each plotted on 8 different plan maps for the following depths: 25 m (80 feet), 50 m (165 feet), 75 m (250 feet), 100 m (330 feet), 150 m (490 feet), 200 m (660 feet), 250 m (820 feet), and 300 m (980 feet). In addition, inversion sections were plotted for every 200 m (660 feet) in both east-west and north-south directions. All figures are given in the back of the report.

## **MAGNETIC SURVEY**

The magnetic survey was carried out by Geotronics Consulting during August, 2007.

### **(a) Instrumentation**

The instrumentation consisted of two model G-856 proton precession magnetometers manufactured by Geometrics of San Jose, California. One was used as a base station and the other was used as the field unit.

This instrument reads out directly in nanoTeslas (nT) to an accuracy of  $\pm 0.1$  nT, over a range of 20,000 - 90,000 nT. The operating temperature range is  $-20^{\circ}$  to  $+50^{\circ}$  C, and its gradient tolerance is up to 1,800 gammas per meter. It's memory stores more than 5,000 readings in survey mode keeping track of time, date, station number, line number, magnetic field reading, and quality of the magnetic field reading. In base station mode the magnetometer stores up to 12,000 readings which are more than field mode due to not storing time of recording designated by sample interval.

### **(b) Theory**

Only two commonly occurring minerals are strongly magnetic, magnetite and pyrrhotite and therefore magnetic surveys are used to detect the presence of these minerals in varying concentrations, as follows:

- Magnetite and pyrrhotite may occur with economic mineralization on a specific property and therefore a magnetic survey may be used to locate this mineralization.
- Different rock types have different background amounts of magnetite (and pyrrhotite in some rare cases) and thus a magnetic survey can be used to map lithology. Generally, the more basic a rock-type, the more magnetite it may contain, though this is not always the case. In mapping lithology, not only is the amount of magnetite important, but also the way it may occur. For example,

young basic rocks are often characterized by thumbprint-type magnetic highs and lows.

- Magnetic surveys can also be used in mapping geologic structure. For example, the action of faults and shear zones will often chemically alter magnetite and thus these will show up as lineal-shaped lows. Or, sometimes lineal-shaped highs or a lineation of highs will be reflecting a fault since a magnetite-containing magmatic fluid has intruded along a zone of weakness, being the fault.

### **(c) Survey Procedure**

Firstly, the base magnetometer was emplaced at a spot close to the road within the area of the Simon Mine for easy access. The base station was established to monitor the magnetic diurnal variation. It was set to take a reading every 30 seconds.

Readings of the earth's total magnetic field were then taken with the field magnetometer every 25 meters (80 feet) along the north-south survey lines with a 200-meter (660 feet) separation, namely lines 3000E to 5800E. The total amount of surveying was 40,800 meters (133,860 feet). Readings were taken with the sensor on a 1.5-meter (5-foot) staff at arm's-length away from the magnetometer in order to keep the sensor away from magnetic influence.

### **(d) Data Reduction**

The data was input into a computer. It was then correlated with the base station data and corrected for diurnal variation, if considered necessary. Using Geosoft software, the corrected data was next plotted with 50,500 nT subtracted from each posted value and contoured at an interval of 50 nT on a base map, GP-1, with a scale of 1:5,000.

## **MMI SOIL SAMPLING**

### **(a) Sampling Procedure**

The MMI soil sampling survey was carried out by Geotronics Consulting starting in the summer of 2007. At this time the sampling was reconnaissance with the samples being taken every 50 meters (165 feet) on lines 200 meters (660 feet) apart. There were seven lines surveyed, these being 3400 E to 4600 E, inclusive. Very strong anomalous results were obtained and thus the sampling was continued intermittently in the fall of 2007 until the spring of 2008 but with a more detailed spacing of samples being picked up every 25 meters (80 feet) on lines 100 meters (330 feet) apart. This was carried out within the eastern part of the grid from lines 4100 E to 5200 E, extending the grid to the east as well as to the south. However, the detailing was not finished due to budget restrictions and thus the western part of the grid, as well as line 4200 E, were not detail sampled. In addition, a number of other lines within the eastern part were not completed.

The total number of MMI samples was 1,226 taken along 41.8 kilometers (26 miles) of survey line.

The sampling procedure was to first remove the organic material from the sample site ( $A_0$  layer) and then dig a pit about 30 cm (one foot) deep with a shovel. Sample material was then scraped from the sides of the pit over the measured depth interval of 10 to 25 centimeters (4 to 10 inches). About 225 grams (0.5 pounds) of sample material were collected and then placed into a plastic Zip-loc sandwich bag with the sample location marked thereon. The samples were then packaged and sent to SGS Minerals located at 1885 Leslie Street, Toronto, Ontario. (This is only one of two labs in the world that do MMI analysis, the other being in Perth, Australia where the MMI method was developed.)

### **(b) Analytical Methods**

At SGS Minerals, the testing procedure begins with weighing 50 grams of the sample into a plastic vial fitted with a screw cap. Next is added 50 ml of the MMI-M solution to the sample, which is then placed in trays and put into a shaker for 20 minutes. (The MMI-M solution is a neutral mixture of reagents that are used to detach loosely bound ions of any of the 46 elements from the soil substrate and formulated to keep the ions in solution.) These are allowed to sit overnight and subsequently centrifuged for 10 minutes. The solution is then diluted 20 times for a total dilution factor of 200 times and then transferred into plastic test tubes, which are then analyzed on ICP-MS instruments.

Results from the instruments for the 46 elements are processed automatically, loaded into the LIMS (laboratory information management system which is computer software used by laboratories) where the quality control parameters are checked before final reporting.

### **(c) Compilation of Data**

13 elements were chosen out of the 46 reported on and these were silver, lead, zinc, gold, copper, cadmium, molybdenum, uranium, arsenic, antimony, cobalt, nickel, and cerium. The mean background value was calculated for each of these 13 elements and this number was then divided into the reported value to obtain a figure called the response ratio. Three sets of stacked histograms were then made for each of the 16 lines of samples of the response ratios as shown on figures #6 through to #54, respectively. The first stacked histogram set consisted of the following elements in order: copper, cobalt, lead, silver, zinc; the second stacked histogram, copper, molybdenum, nickel, cerium, uranium; and the third stacked histogram, gold, arsenic, cadmium, antimony.

In addition, a plan map was made for each of the 13 metals, being gold, silver, lead, zinc, copper, arsenic, antimony, uranium, molybdenum, cadmium, cobalt, nickel,

cerium on maps GC-1 to GC-13, respectively. On each map, the original data were plotted and contoured at a logarithmic interval.

## **DISCUSSION OF RESULTS**

### **(a) Anomalous Zones**

In correlating the IP, resistivity, magnetic, and MMI soil sample results with the geology and known mineralization, especially that of the Simon Mine, it readily became apparent that the most important results were those of the MMI soil sampling. These results were the only ones that correlated directly with the Simon Mine mineralization. Thus the discussion of the results of the various surveys is centered on that of the MMI soil sampling.

The results show four main MMI anomalous zones and two smaller anomalies within the grid area, and these have been labeled by the upper case letters, A to F, respectively, for ease of discussion. (The term “anomalous zone” is used by the writer to define an area consisting of a series of anomalies each indicative of a separate causative source, whereas the term “anomaly” simply indicates one causative source.)

*Anomalous Zone A* is the mine anomalous zone and correlates directly with the known mineralization and mine workings of the Simon Mine. It occurs at the northern edge of the Luning limestone at its contact with Mammoth andesite and a quartz latite crystal tuff. It consists of highly anomalous values in lead, zinc, silver, cadmium, and arsenic as well as anomalous values in gold, copper, and antimony.

Anomalous Zone A strikes in a direction of west-southwest for a minimum distance of 1,750 meters (5,740 feet) and is open to the west-southwest. It is up to 400 meters (1,310 feet) wide. Sanguinetti in his report states that “it is apparent that at least 1,040 meters (3,400 feet) of strike length has been traced between the most easterly workings (Simon Incline Shaft) and the most westerly workings (West Extension Shaft)”. However, according to mine plans, mineralization was mined along a strike length of only 550 meters. This suggests that there is additional mineralization that has not been mined, probably most of it unknown, especially to the west-southwest.

This anomalous zone consists of a series of east-west striking individual anomalies numbering about six and varying in strike length from 200 (660 feet) to perhaps as much as 700 meters (2,300 feet). The individual highs are undoubtedly reflecting the individual lenses or mineral zones of the deposit. Sears in his 2006 43-101 report on the property noted that the deposit consisted of pipe-like lenses only up to 60 meters (200 feet) in strike length. Possibly, therefore, the 200 to 700 meters strike lengths of the individual anomalies are each reflecting a series of lenses along a particular strike length. He also noted that individual lenses had an east-west trend, which is the same as the individual anomalies, but this was distorted by local faulting.

**Anomalous Zone B** occurs within the northwest part of the survey area to the immediate north of anomalous zone A within an area of Mammoth andesite that carries much quartz stockwork and veining. It consists of very strong values in gold correlating with anomalous values in silver, uranium, and copper as well as some anomalous values in lead, zinc, cadmium, and antimony.

This gold anomaly strikes east-west with a minimum strike length of 1,000 meters (3,300 feet) being open to the west. The widest and strongest part of the anomaly occurs at the western edge of the survey area thus suggesting that the causative source is gold mineralization that may extend a significant distance to the west. Zone B has a width of up to 400 meters (1,320 feet) and also consists of a series of east-west striking individual anomalies that total at least three and that are 200 to 400 meters (660 to 1,320 feet) in length.

**Anomalous Zone C** occurs along the western edge of the Luning limestone where there is much jasperoid breccia as well as areas of calcite, hematite and silica veining or replacement of limestone. Like Zone B, Zone C primarily consists of gold anomalous values. It also occurs with silver and copper anomalous values with some lead, zinc, cadmium and antimony.

Zone C strikes in a north-northwest direction for a minimum distance of 2,400 meters (7,900 feet) and is open to the south-southeast and possibly to the north-northwest. It also consists of a series of east-west anomalies that total at least 11 and which vary in strike length from 200 to 800 meters (660 to 2,640 feet).

**Anomalous Zone D** is a somewhat different anomalous zone than the other three in that it primarily consists of uranium, molybdenum, arsenic, and antimony anomalous values with some copper. Gold anomalous values occur peripherally around Zone D. This anomalous zone occurs within the southwest corner of the survey area to the immediate east of anomalous zone C within the volcanogenic lacustrine sediments of the Esmeraldo Formation.

Anomalous zone D strikes east-west and has a minimum strike length of 800 meters (2,640 feet) with it being open to the west. Like Zone B, the strongest part of the anomaly is at the western edge of the survey area thus suggesting that there is substantial strike length to the west. Zone D also consists of a series of east-west individual anomalies that therefore probably reflect individual zones of mineralization.

**Anomaly E** is a gold-arsenic anomaly with correlating nickel anomaly occurring at the eastern edge of the survey area centered at 7550N. The anomaly strikes due east with a minimum strike length of 300 meters (1,000 feet). It is underlain by Luning limestone with occurrences of jasperoid breccia and intrusive plugs. It could be the eastern strike extension of one of the anomalies within anomalous zone C.

**Anomaly F** is also a gold anomaly with correlating weaker values in copper, silver, arsenic, antimony, and nickel occurring at the eastern edge of the survey area the south

of anomaly E. It is centered at (5000E, 7300N), striking in a northeast direction with a minimum strike length of 300 meters (1,000 feet).

**(b) Other Comments**

*The resistivity survey* primarily mapped the Luning limestone showing it as a resistivity high. The south-southwestern and eastern sides of this high are higher than the central part is. The south-southwestern part correlates directly with Luning limestone that is calcified and more siliceous, such as the jasperoid breccia and thus is the cause of the resistivity high within the general high. This high also correlates with gold anomalous zone C. The eastern high, at least partly, is also due to silicified and calcified limestone but most of the eastern high is underlain by straight Luning limestone. Possibly silica and calcite flooding occur at depth.

*The IP survey* revealed a strong high that correlates with the resistivity low within the center part of the large resistivity high mentioned in the above paragraph, and thus within the center part of the Luning limestone. The IP high is fairly strong and persistent striking in a S150°E direction. The northern edge of this high correlates with the Simon Mine mineralization. This suggests that the other edges of this high could be exploration targets for additional mineralization. The high itself, for the most part, is probably caused by pyritization, or possibly graphite, within the Luning limestone.

Thibaud, in her interpretive report on the IP/resistivity results, noted that the high contained 5 pods, or sub-highs. She suggested that the IP high, particularly the pods, should be correlated with soil geochemistry results for potential economic type mineralization.

Pod #1, which is centered at (4400E, 8200N), is the strongest pod and correlates with a weaker silver and zinc anomaly that is 200 to 300 meters (660 to 1,000 feet) south of anomaly A. Therefore, at this point, this IP pod would not be considered to be of further exploration interest.

Pod #2 is centered at (4900E, 7700N) and correlates with a weaker arsenic and cobalt MMI anomaly and thus is also not considered to be of further exploration interest.

Pod #3 is centered at (4900E, 7400N) and correlates with a small molybdenum and cobalt MMI anomaly. However, gold anomalies C, E, and F occur around this pod but the pod itself is not of further exploration interest at this time.

Pod #4 correlates with one of the anomalies within MMI anomalous zone C. This anomaly consists of anomalous results in lead, copper, gold, cadmium, antimony and nickel and is thus considered to have enough exploration interest to be a drill target.

The MMI sampling did not extend far enough south to cover IP pod #5.

An IP high of lower intensity occurs within the west central part of the survey grid to the west of the main IP anomaly and centered at (3500E, 8300N). It is not mentioned

in Thibaud's report but it correlates with the western-most MMI anomaly within anomalous zone A and thus is anomalous in lead, zinc, silver, copper, gold, cadmium, arsenic, and antimony. This anomaly therefore would be considered to be a prime drill target.

Other sub-highs peripheral to the main high do not have, or only have weak correlation with MMI results.

*The magnetic survey* has revealed a strong magnetic high that occurs along the eastern edge of the survey area. This is a direct reflection of a granitic intrusive that occurs to the east of the Luning limestone and that may be the heat engine to the Simon mineralization.

In addition, a strong, lineal-shaped magnetic high striking in a west-northwest direction occurs within the northern part of the survey area. It may be reflecting an intrusive dyke consisting of the same rock-type as the granitic intrusive.

The magnetic field is significantly higher over the eastern part of the Luning limestone suggesting that the granitic intrusive may occur at depth below the limestone.

*The MMI survey* shows the Luning limestone to be high in nickel to the degree that it could almost be used to map the limestone. It is especially high to the west where it correlates with anomalous zones A and C. Normally MMI nickel results can be used to map basic or ultra-basic rock-types, but not normally limestone. The writer is unsure of what the significance of the nickel high occurring over the limestone is at this point.

MMI cerium results are often used to map acidic intrusives. The cerium within this survey area, however, appears to be very susceptible to slightly different sampling techniques between different soil samplers. However, a high within the northwestern corner of the grid area suggests an acidic intrusive, perhaps at depth.

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## **GEOPHYSICIST'S CERTIFICATE**

I, DAVID G. MARK, of the City of Surrey, in the Province of British Columbia, do hereby certify that:

I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

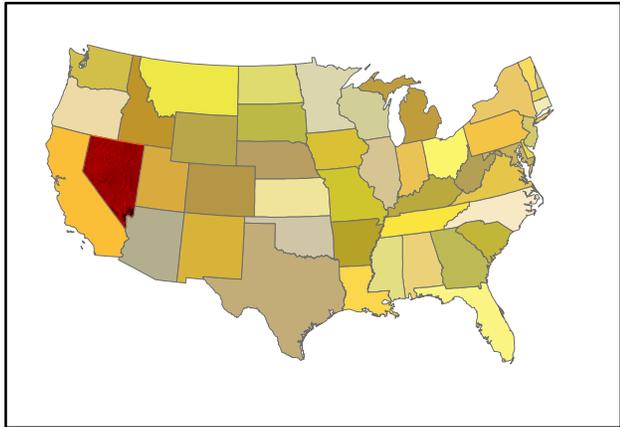
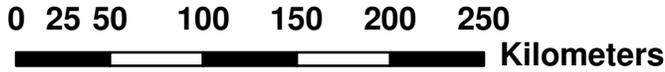
I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices at 6204 – 125<sup>th</sup> Street, Surrey, British Columbia.

I further certify that:

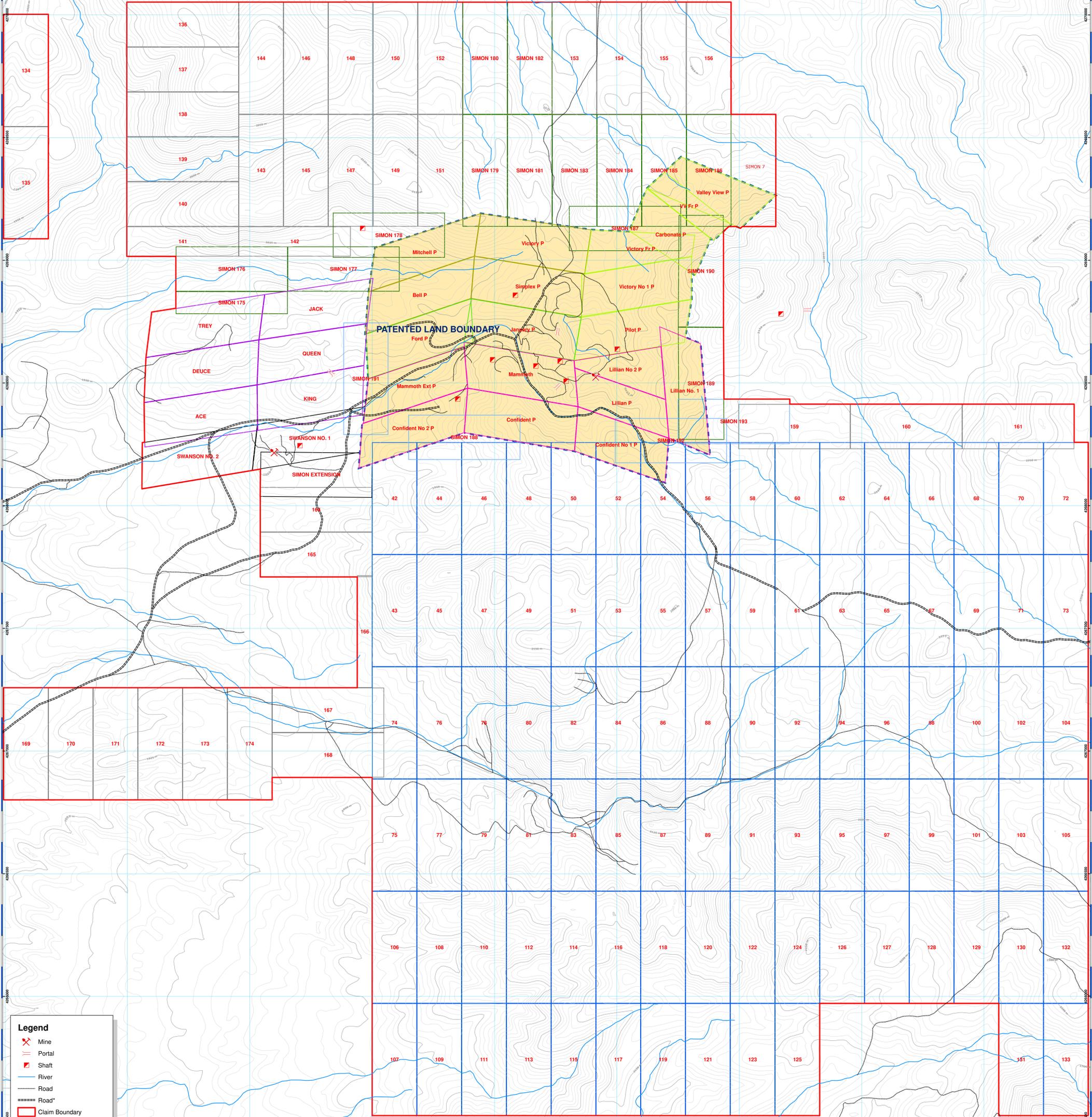
1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
2. I have been practicing my profession for the past 41 years, and have been active in the mining industry for the past 44 years.
3. This report is compiled from data obtained from (1) IP and resistivity surveys carried out by SJ Geophysics, (2) magnetic and MMI soil sampling surveys carried out by Geotronics Consulting, and (3) geological mapping carried out by Thomas L Evans, geologist, during the period of spring, 2007 to fall, 2008/
4. I own 20,000 shares of International Millennium Mining Corp., but do not hold any direct interest in any of the properties held by International Millennium, nor will I be receiving any interest as a result of writing this report.

David G. Mark, P.Geol.  
Geophysicist

June 11, 2009



<b>GEOTRONICS CONSULTING INC</b>		
<b>INTERNATIONAL MILLENNIUM MINING CORP.</b>		
Title:	<b>Simon Mine Project Location Map</b>	
Location:	<b>Mineral County, Nevada</b>	
Scale:	Design:	Figure:
As Shown	NAD 27 / Z 11	<b>1</b>
Date:	Drawing:	Rev:
Apr, 2009	TERRACAD LTD.	1.0



**Legend**

- Mine
- Portal
- Shaft
- River
- Road
- Road\*
- Claim Boundary

**Claim (Type)**

- Claim Ace King EIAI
- Claim MS4401
- Claim MS4402
- Claim MS4407
- Claim MS4408
- Claim (New Fracs 03 08)
- Claim Simon
- Claim Simon-New
- Claim Swanson EIAI
- Claim Proposed
- Claim Patents EIAI

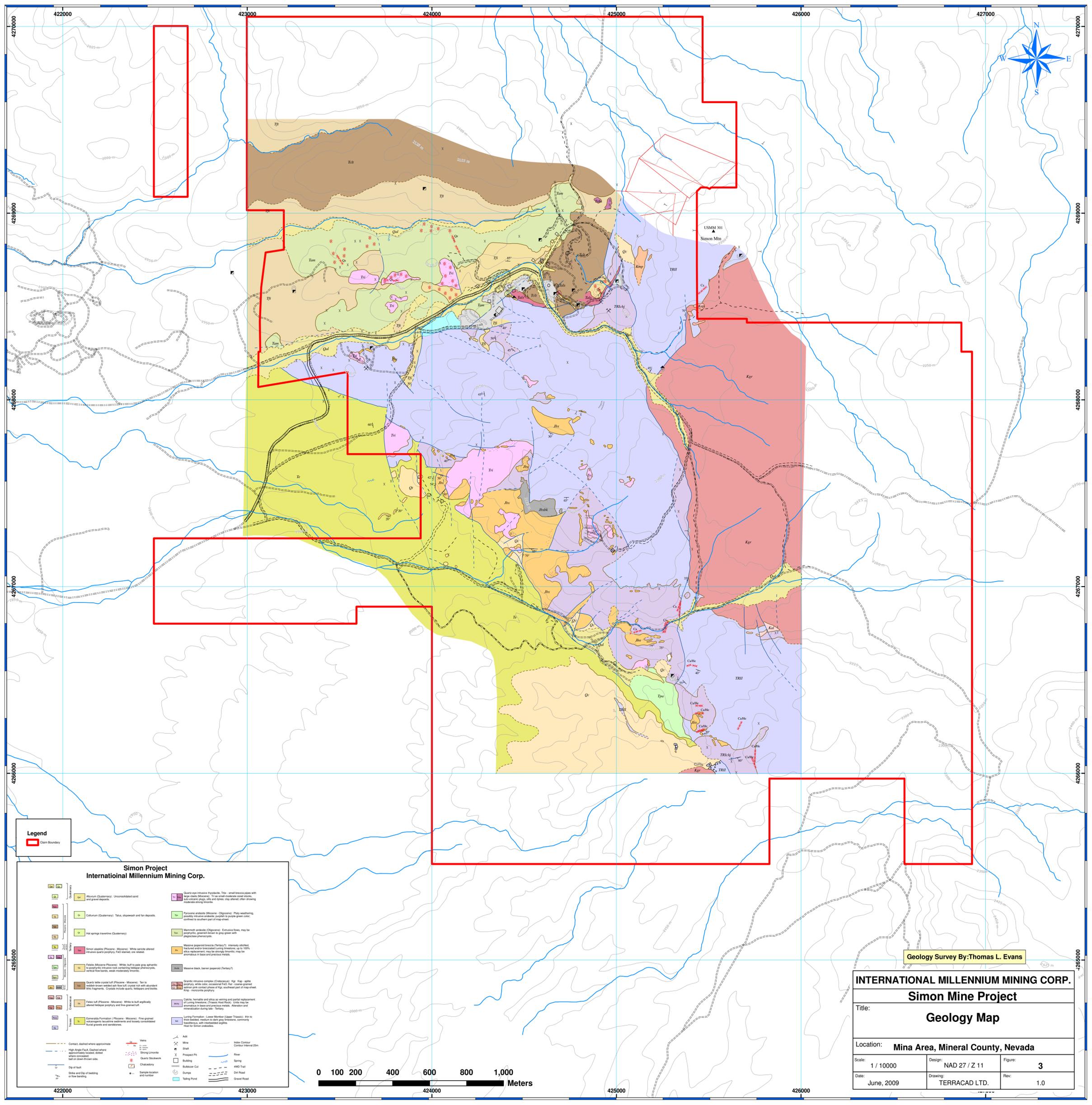


**INTERNATIONAL MILLENNIUM MINING CORP.**  
**Simon Mine Project**

Title: **Detailed Claim Map**

Location: **Mineral County, Nevada**

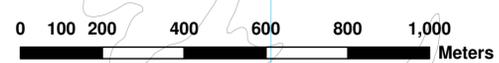
Scale: 1 / 5000	Design: NAD 27 / Z 11	Figure: 2
Date: June, 2009	Drawing: TERRACAD LTD.	Rev: 1.1



**Legend**  
 Claim Boundary

**Simon Project**  
**International Millennium Mining Corp.**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Alluvium (Quaternary): Unconsolidated sand and gravel deposits.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Collium (Quaternary): Talus, slopewash and fan deposits.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Hot springs tuffaceous (Quaternary)</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Simon shales (Pliocene - Miocene): White siltstone shales, interbedded with sandstone.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Felsic (Miocene) (Pliocene - Miocene): White to pink grey shales to argillaceous siltstone, locally containing fossiliferous, vertical flow bands, weakly metamorphic.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Quartz latite crystal tuff (Pliocene - Miocene): Tan to reddish-brown tuff with fine to medium grained silicic tuffaceous sandstone and locally conchoidal basal grains and sandstones.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Felsic tuff (Pliocene - Miocene): White to buff argillaceous siltstone shales and locally conchoidal basal grains and sandstones.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Emerald Formation (Pliocene - Miocene): Fine-grained interbedded siltstone shales and locally conchoidal basal grains and sandstones.</li> </ul> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Quartzite (Quaternary): Unconsolidated sand and gravel deposits.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Permian andesite (Miocene - Oligocene): Fine weathering, possibly rhyolite and andesite, purple to purple green color, contains silicified wood, fish, and other fossils; dip almost, often showing moderate to steeply folded.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Mammoth andesite (Oligocene): Extrusive flows, may be argillaceous, greenish brown to grey green with plagioclase phenocrysts.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Massive jasperoid breccia (Tertiary?): Intensely silicified, fractured, locally brecciated Luring limestone, up to 100% silica replacement; may be strongly brecciated; may be interbedded in base and previous units.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Massive black, barren jasperoid (Tertiary?)</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Granite intrusive complex (Cretaceous): Kgp - Kgp - light grey, medium to fine grained, occasional FAC; Kgr - coarse grained, medium grained, occasional FAC; Kgr - southeast part of map sheet; may be metamorphosed.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Calcite, hematite and silica as veining and partial replacement of Luring limestone; (Felsic Host Rock): Units may be interbedded in base and previous units. Alteration and mineralization during late - Tertiary.</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #90ee90; border: 1px solid black;"></span> Luring Formation - Lower Member (Upper Triassic): Sil to black shales, medium to fine grained limestone, concretionary, with interbedded argillaceous host to Simon shales.</li> </ul> |
|---|--|



Geology Survey By: Thomas L. Evans

<b>INTERNATIONAL MILLENNIUM MINING CORP.</b>		
<b>Simon Mine Project</b>		
<b>Geology Map</b>		
Title:		
Location: <b>Mina Area, Mineral County, Nevada</b>		
Scale: 1 / 10000	Design: NAD 27 / Z 11	Figure: 3
Date: June, 2009	Drawing: TERRACAD LTD.	Rev: 1.0