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SUMMARY AND EVALUATION REPORT

MINA GOLD PROPERTY

MINERAL COUNTY, NEVADA

By

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RENO, NEVADA

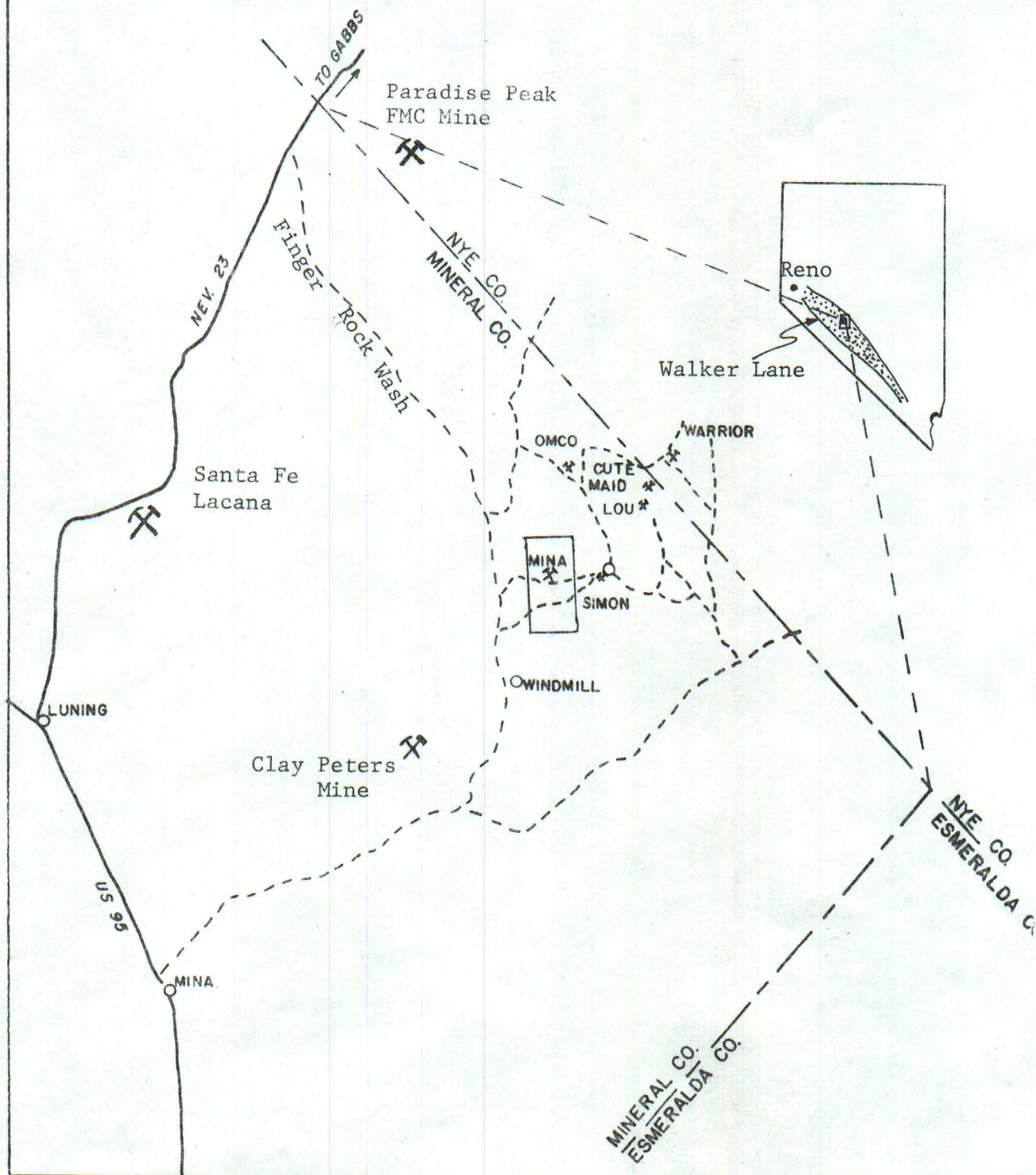
March 15, 1986

Rawhide
Kennecott

BELL
DISTRICT
1" = 4 miles



LOCATION MAP



CONCLUSION

There are 2,750,000 tons of partially drill-developed and indicated gold bearing reserves on the Mina Gold property in 6 areas. The average grade is .09 ounces of gold, with .12 ounces per ton silver. At these grades and assuming gold price at \$325/ounce and silver price at \$5.75/ounce the gross value of estimated reserves at Mina Gold is \$ 82,417,000.

LOCATION

The Mina Gold Mine is located in T 8 N, R 37 E, Bell Mining District, Mineral County Nevada. The property lies adjacent and west of the old mining camp of Simon, in the Cedar Mountains.

PROPERTY

There are 5 Patented mining claims and about 90 unpatented claims in the group. The property is owned by the F. W. Lewis Company, 120 Greenridge Dr., Reno, Nv. 89509, Phone 702/8262404. Title insurance has been issued on the patented property and the unpatented claims are in good order. There are two older trailers, 1 shop building, 1 old cabin, generator shack with a 16.5 KVA diesel generator, well with pump and pipe lines, a 100 by 300 ft. leach pad, preg and barren ponds, carbon towers capable of 150 GPM flow, and other facilities.

A contract has been let to mine 5000 tons of ore for a heap leach test.

MINERAL ACTIVITY IN THE AREA

There is intense mineral exploration, development, and mining activity in the area. Production has commenced 12 miles NW on the FMC Paradise Peak mine. About 12 miles west of Mina Gold advanced feasibility studies are being performed on the Santa Fe deposit by Lacana. Kennecott is similarly engaged at Rawhide, 40 miles northwest. A high grade prospect, 6 miles south, is being developed in a second phase drilling stage.

These mineral showings all occur in volcanic centers within the major northwest-trending structural and metallogenic belt known as the Walker Lane.

HISTORY

Small production occurred on the property in about 1912 when over 200 ounces of gold was produced from about 600 tons by vat cyanidation without the benefit of crushing. In the nearby Simon mine considerable production took place in the 1920's and again in the 1950's. The Olympic mine (OMCO), located about 4 miles north, had early day production from a flat-dipping vein amounting to over \$700,000 value in gold and silver.

The Mina Gold Mine was purchased by the F. W. Lewis Company in 1962. They prospected the property and it was leased to a

series of small Canadian stock companies each one of which drilled the property. The last company to drill the property was Amir Mines, Inc. They drilled 17 reverse circulation drill holes. The previous companies did a poor drilling job using conventional drilling methods which were inadequate in the soft fractured rocks that composed the ore zones. The poor recoveries compromise reliability of the assays of the earlier drilling. The Amir drill cuttings have been preserved and are stored on the property. Amir concentrated their efforts on the high angle vein structure visible on the Monster zone and by their estimates, outlined 300,000 tons of ore with an assay value of 0.11 oz/t of gold and 0.22 oz/t of silver.

GEOLOGIC SETTING

The host rocks containing precious metal mineralization on the Mina Gold property consist of mid-Tertiary flows and tuffaceous volcanics of intermediate to acidic composition. The main productive units are:

- 1) Rhyolite, tuffaceous, flow-banded and strongly bleached
- 2) Andesite, coarsely porphyritic, showing variable propylitic and argillic alteration.

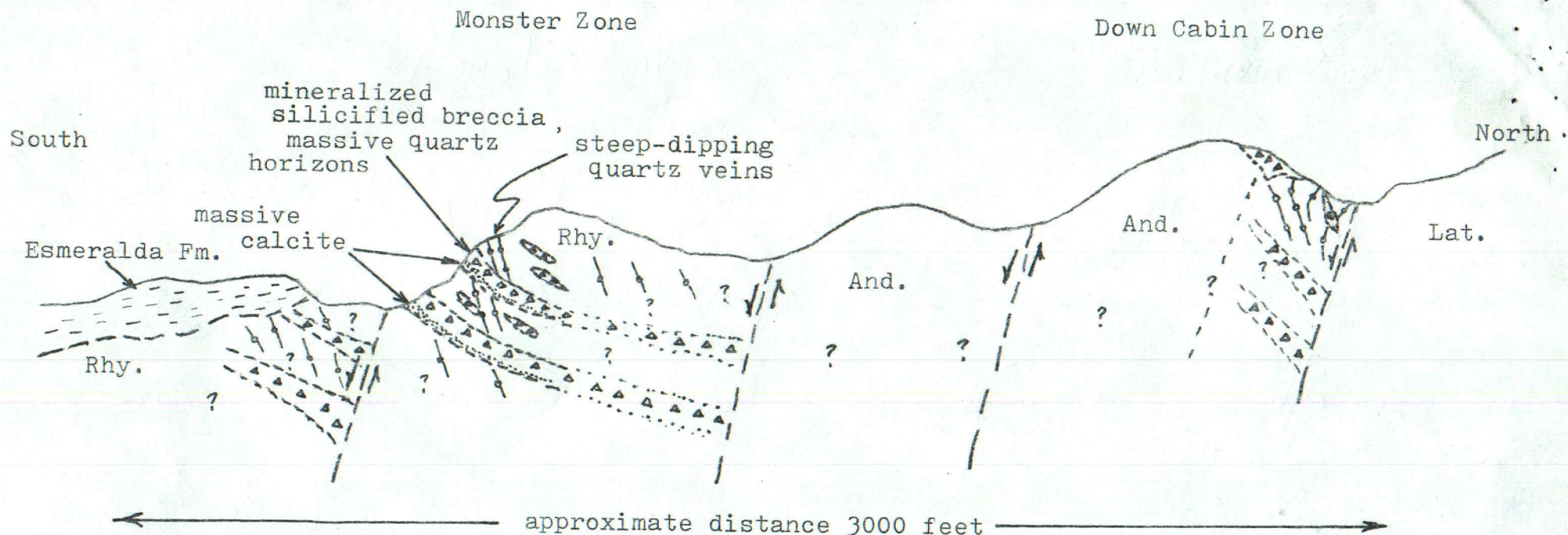
These units are segmented and repeated by significant normal fault displacement along west north west trending faults that suggest systematic uplift toward the northeast. Evidence of some significant north dipping low angle structures are indicated in a number of areas and appears to be the locus of subsequent calcite-quartz replacement and precious metal mineralization.

Unconformably overlying these volcanics and possibly post mineral in age are a sequence of dominantly light colored, thin bedded lake sediments known regionally as the Esmeralda Formation.

MINERALIZATION

The mineralization found on the Mina Gold property is typical of many epithermal gold-silver type deposits in that multiple generations of low temperature silica solutions invade and replace breccias and earlier calcite-filled fractures. In broad areas surrounding these mineralized showings strong clay, carbonate, and limonite comprise the alteration assemblage. In the absence of surface mineral showings this alteration essentially outlines the trace of mineralization. Two major parallel stockwork systems (Monster and Down Cabin zones) are exposed and generally trend N 60-80 W. The Monster zone is defined by a belt about 600 feet wide and over 4500 feet long. Similarly the Down Cabin zone with its extensions covers a width of about 300 feet and a length of over 3000 feet. Mineralized high angle and low angle vein types are visible in the Monster adit and open cut. Mineralogy of the ore consists of electrum, chalcedony and sugary quartz, clay, adularia, brown calcite, limonite, and traces of pyrite (more common in the Down Cabin veins). Silver to Gold ratios based on 184 samples averaged 1.4 to 1.0.

Results of 49 surface sample assays taken along the Monster



Rhy. = Rhyolite
 And. = Andesite
 Lat. = Latite

GENERALIZED CROSSECTION - MINA GOLD PROPERTY

Diagrammatic illustration of possible geologic relationships

vein system averaged .035 oz/t Au with a range from .003 to 0.148 oz/t Au. Exposures of ore material seen in the workings of the Monster adit reveal more moderate to flat northeast-dipping structures consisting of brecciated sugary quartz. Vein widths vary from 7 feet to over 12 feet as seen in the Monster adit stopes. An important local control of mineralization may be the presence of a 5+ feet wide, 20-30 degree northeast-dipping calcite rich horizon which in places is partially to entirely replaced by silica and elsewhere forms a footwall to irregular mineralization in dilation zones above it. Assay values from bulk sampling of this material from underground frequently yield values in excess of .10 oz/t of gold.

A structure-mineralized setting analogous to that exposed in the Monster adit may occur at the Monster shaft, which is 300 feet westerly of the Monster adit. Indicated width of mineralization on the Monster shaft area appears to range from 15 to 20 feet thick and dipping northeast, based on mapping and several shallow track drill holes.

Intercepts from a few of the deeper drill holes suggest that mineralized widths may be as great as 40 feet.

Re-examination of drill logs and assays from previous drilling on the Monster adit zone indicate that as many as 6 low angle mineralized flat features may occur in a vertical thickness of about 200 feet below the surface. This realization that low angle structures may have an important control on mineralization is conceptually significant for the increased tonnage potential and economics for open pit mining that it implies. Low angle structures are known to host precious metal mineralization at the OMCO mine and at Round Mountain.

Mineralization exposed on the Down Cabin zone consists of quartz limonite stockworks with scattered mineralized quartz breccia set in a strongly clay-altered andesite. A vuggy-silicified cap occurs immediately above and to the southwest of the stockwork veining. The diffuse pattern for mineralization in the Down Cabin area suggests a higher level epithermal setting than that present at the Monster zone.

METALLURGY

Tests by the U S Bureau of mines, Kappes, and Legend Metallurgical Laboratory Inc., indicate that the Mina Gold ore will leach well with dilute cyanide solutions. Ores from the Monster adit contain abundant crushed quartz, and it should leach well and did in fact percolate well on two previous test heaps.

Portions of the deposit may have sufficient clay so that agglomeration will be necessary. The Bureau of mines test was run on rock crushed to 1 inch without agglomeration. 67% of the gold and 31% of the silver was recovered in 15 days. Longer leach times would indicate that more would be recovered.

Bottle roll tests indicated that 96% of the gold was extractable.

MINERALIZATION POTENTIAL

Previous work concentrated on the most visible exposures on the Monster zone. A considerable assay data base has been accumulated on this area. Over 152 samples have been taken underground in the Monster adit by several investigators with an average gold assay of .09 to .108 oz/t. Approximately 50 samples chipped from the surface along the same zone yielded an average of .035 oz/t of gold. This indicates a significant vertical enrichment of the zone within nearly 200 feet of depth. The presence of mineralized low angle dipping features in addition to some high angle veins offers a reasonable explanation for the mineralization observed on the Monster zone. Reverse circulation drilling on this zone with holes to 500 feet the full length and width of the zone will properly test the exact nature and extent of this mineralization.

On the northeast side of Monster hill is an altered area similar to that already tested above the Monster adit. This area may reflect a continuation or repetition of the mineralized structures from the adit or an entirely new target area.

Mineralization along the Down Cabin zone appears different from that of the main Monster zone. At the Down Cabin, complex stockwork feeder veins underlies areas of massive silicification. If this same type of system ever existed over the Monster zone it is now eroded away. At the Down Cabin mineralization consists of numerous close-spaced quartz veins and breccias with disseminated pyrite, trending generally N 60 W and variable northerly dip. Previous testing by trenching and by shallow drilling has not penetrated deep enough to adequately explore this area. Drilling should be planned in this area in order to test below the stockwork level and explore for possible mineralized low angle structures similar to that found on the Monster zone. Extensions of the mineralization from the Monster zone to the northwest and the southeast reveal significant bleaching, iron staining, and opaline quartz development. Besides these alteration indications, geochemical sampling shows strong gold and mercury anomalies. With this evidence for mineralization and the lack of subsurface data there is good cause to conduct serious test drilling in this area.

It should be noted on the following summary table of potential reserves that various tonnages are assigned to each of the target types and areas. Efforts were made to purposefully place limits on dimensions and give lower grades to err on the side of being more conservative. In consideration of this fact additional exploration in the vicinity of these targets could very easily increase the size of the estimated reserves. Besides the defined target areas there are a number of other subtle gold-silver anomalies in areas between the Monster and Down Cabin zones - each of which could turn into valid targets of yet undetermined size.



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POTENTIAL RESERVES - MINA GOLD PROPERTY

| <u>Target Area</u> | <u>Dimensions</u> Length-width-depth Feet | <u>Tonnage</u> | <u>Grade Au</u> oz/t | <u>Oz. Au</u> | <u>Grade Ag</u> oz/t | <u>Oz. Ag</u> |
|---|---|------------------|-------------------------|----------------|-------------------------|----------------|
| <u>MONSTER ZONE</u> | | | | | | |
| 1. Upper level, steep dipping vein system (drill indicated) | 1200x15x200 | 300,000 | .11 | 33,000 | .22 | 66,000 |
| 2. Deep level vein system, including low angle structures (width conservatively estimated as total width of 6 individual zones) | 1500x40x300 | 1,500,000 | .10 | 150,000 | .14 | 210,000 |
| 3. Northwest extension | 400x20x100 | 60,000 | .06* | 3,600 | .08 | 4,800 |
| 4. East zone extension | 1000x20x200 | 330,000 | .06* | 19,800 | .08 | 26,400 |
| <u>DOWN CABIN ZONE</u> | | | | | | |
| 5. Down Cabin main area | 1000x30x200 | 500,000 | .08* | 40,000 | .11 | 55,000 |
| 6. Far North area - (Northwest extension) | 400x20x100 | 60,000 | .06* | 3,600 | .08 | 4,800 |
| <u>TOTALS</u> | | <u>2,750,000</u> | <u>.09</u> | <u>250,000</u> | <u>.13</u> | <u>367,000</u> |
| | | tons | average | ounces | average | ounces |

*Grade arbitrarily lowered from .10 oz/t gold to be more conservative.